

Media and Digital Management

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1.1 The Need for “Media Management”?

This book is a college-level version of a longer volume aimed at graduate courses and the professional market. The basics are shared because the subject matter and its significance are the same. Everybody understands the importance of the media and information sector. It is a growing and dynamic field, encompassing content creation, distribution platforms and technology devices. The information industry sector in 2017 accounted for about \$1.7 trillion in the USA and \$6 trillion worldwide, about 6% of global gross domestic product (GDP). As a share of “discretionary income,” the share of the sector is closer to 20%; as a share of “discretionary time,” it is an extraordinary 30%. Per capita media consumption in the USA is 2100 hours annually, which translates to 5.7 hours per day. And it is not only quantity that counts. Media industries are also a driver of change, leading in technological innovation, testing new organizational practices, and transforming societal institutions and culture. Thus, there is no dispute over the centrality of the sector in advanced and developing economies and societies.

1.2 Approaches to the Study and Teaching of Media Management

Media management has traditionally had a strong reliance on experience and “gut” feeling. But life-long experience in one segment of this increasingly overlapping environment does not suffice. Media companies require managers who have an understanding of a variety of industry segments and functions. And young entrepreneurs, too, must cover many bases to be effective and to be taken seriously.

Media activities are being taught and practiced all over the world. A large number of communications students end up on the business side of media companies. Basically, the subject matter can be thought of as a two-dimensional matrix. The vertical dimension is that of the various industries—music, film, the Internet and so on.¹ The vertical elements tend to be taught or written about by sectoral experts in the particular industry “silo.” Yet, one of the defining characteristics of the overall sector is its increasing convergence.² The second approach has been to consider the horizontal dimension of the matrix, proceeding along disciplinary and functional lines, such as marketing,

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Video Games: Hotho, Sabine and Neil McGregor. *Changing the Rules of the Game: Economic, Management and Emerging Issues in the Computer Games Industry*. New York: Palgrave MacMillan, 2013. Wagner, Marcus, Jaume Valls-Pasola, and Thierry Burger-Helmchen. *The Global Management of Creativity*. New York: Routledge, 2017.

2 Vogel, Harold. *Entertainment Industry Economics: A Guide for Financial Analysis*, 10th ed. New York: Cambridge University Press, 2014; Van Tassel, Joan and Lisa Poe-Howfield. *Managing Electronic Media: Making, Marketing, and Moving Digital Content*. Burlington, MA: Focal Press, 2010; Albarran, Alan B. *Management of Electronic and Digital Media*. Boston: Wadsworth, 2013; Chaturvedi, B.K. *Media Management*. New Delhi: Global Vision Publishing House, 2009; Turow, Joseph. *Media Today: Mass Communication in a Converging World*. New York, Routledge, 2013; Lavine, John M. and Daniel B. Wackman. *Managing Media Organizations*. New York: Longman, 1988; Pringle, Peter K. and Michael F. Starr. *Electronic Media Management*, 5th ed. Boston: Focal Press, 2006; López, Juan Torres. *Economía de la Comunicación*. Madrid: Grupo Zero, 1985; Hollifield, C. Ann, Jan LeBlanc Wicks, George Sylvie, and Wilson Lowery. *Media Management: A Casebook Approach*, 5th ed. New York: Routledge, 2015.

1.4 · Outlook

financing or human resources across industries.³ Such approach follows the disciplinary specialties of their authors and are thus rarely interdisciplinary or holistic across business functions.

1.3 Outline of the Book

It is the goal of this book to overcome the limitations of this matrix and apply the major dimensions of a business curriculum—from finance to production to marketing to accounting, and more—to the entire media and information sector. In the process, communications students benefit from a business-oriented summary, while more generally oriented business students are introduced to the media and information sector. Both approaches afford a look at the main players and their challengers.

The book could be subtitled: *Management Study in a Nutshell*. It takes most major components of a business program, simplifies them, summarizes them, and applies them to the media and information sector. It covers these tools and approaches in a non-technical way. There are few equations. There are no prerequisites, though an introductory course in economics would probably help in terms of mindset.

1.4 Outlook

This leaves the question: Why be a manager in the media and information sector? It is a difficult business with an uncertain career path. Yet,

it is also an endlessly interesting, fascinating field that generates great enthusiasm. Creativity meets management. Imagination meets technology. Arts meet investment. Left brain meets right brain. Youth meets wealth. Media create the entertainment that forms our fantasies, shapes our styles and sets our role models. It provides our analysis of the world around us. It is the trendsetter that affects our tastes. It represents sweet imagination, seductive opportunity, rich possibilities, style, opportunity, fortune and fame.

The good news is that for those interested in the information resource—how to produce it, how to distribute it, how to use it—the present is the most exciting period, ever. The bad news is that it is also a period with the greatest uncertainty and risk ever. What does it take for success in the media business? Creativity, innovation and performance, of course. But that is not enough. It requires an understanding of technology, money, markets, audiences, pricing, global business, economics, managerial accounting, government relations, and the ability to nurture and lead talent. Our aim in this book is to help those in the media, information and media technology sector to become creative managers and managerial creatives. The purpose of this book is to make young managers in this field more knowledgeable and less blinded by hype. It aims to make the reader a more effective, more productive and more responsible participant.

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3 *Marketing and Distribution*: Eastman, Susan Tyler, Douglas Ferguson, and Robert Klein. Eds. *Media Promotion & Marketing for Broadcasting, Cable & the Internet*. Burlington, MA: Focal Press, 2006; Marich, Robert. *Marketing to Moviegoers*. Burlington, MA: Focal Press, 2013; Ulin, Jeffrey C. *The Business of Media Distribution: Monetizing Film, TV, and Video Content in an Online World*. Burlington, MA: Focal Press, 2013.

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The Information Environment

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2.1 Drivers of Change

2.1.1 The Setting

“Media” consists of three segments—distribution platforms, content production, and media devices (■ Fig. 2.1).

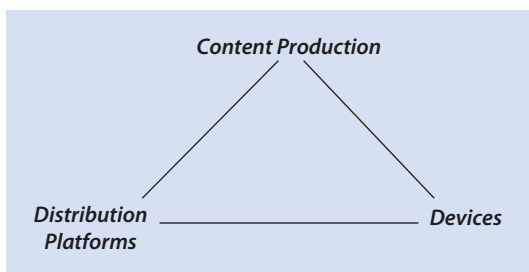
As mentioned, in 2017, the US information industry sector accounted for about \$1.7 trillion, of which content industries represented \$400 billion; distribution industries, \$1000 billion; and device industries, \$300 billion. Worldwide revenues for 2017 were \$6 trillion. This amounts to about 6% of the world gross domestic product. Growth has been rapid for a long time.

Media activities have been around since the dawn of humankind with its cave paintings, dancing, and singing. The Industrial Revolution began in England during the 1770s. Stripped to its basics, it was based on technologies that could extend human *physical strength*. The enabling technologies was the steam engine, which powered production machinery such as mechanical looms, and transportation devices such as trains and ships. Gasoline engines and electrical power followed a century later, leading to another spurt in industrialization.

The Industrial Revolution was characterized not only by mass production, rising living standards and urbanization, but also by social strife and environmental decline.

Today, we are in the midst of another economic transformation: the Information Revolution. This time, we are witnessing the extension of human *mental strength*. New devices enhance our capability with regard to memory, logical processing, communication, sensory cognition, storytelling and interaction.

Because brainpower is a more basic characteristic of humans than muscle power, this second revolution is even more fundamental than the first.



■ Fig. 2.1 The three legs of media

2.1.2 Technology

The technology driver of the Industrial Revolution was the steam engine. What is the equivalent for the Information Revolution? If we strip down the building blocks of information technology to their basics, the major technological driver is the *increased ability to manipulate sub-atomic particles* (electrons and photons). We have progressively gained the capability to harness these particles for useful applications. The scientific foundation was that of physics research and experimentation, which was paralleled by an engineering ability to produce means that enabled us to control these particles and then to string these devices together into systems. The prime example of such a linkage is the Internet. To facilitate operations and applications, all information and content is transformed into a code that can be processed by a variety of tools: a process we call “digitization.”

The swift spread of the technology was made economically possible by the rapid drop in the production cost of electronic micro-components. In 2017, processing power and computer memory (random access memory—RAM) cost less than one billionth of the price in 1971. These changes follow the pace of “Moore’s Law”: the observation that the capability of computer components is doubling every 18 months—i.e. increases at a rate of approximately 40%, per year.¹ With technology accelerating and prices dropping, the applications followed suit. In three decades, we have moved from the “kilobit” stage of individualized communications (in which the signals of digital 0s and 1s could reach us individually were measured in the thousands), through a “megabit” stage (a thousandfold increase), and we have now reached the “gigabit” stage—yet another thousandfold increase. It is a difference as dramatic as moving from animal-powered transportation to jet planes. And it has similarly fundamental impacts.

2.1.3 People

People are just as much a major driver of the Information Revolution as technology. There has been a huge increase in the number of information

¹ Even if this rate slows down, as every exponential process eventually does, we have still a long way to go.

producers. In one decade, the 1960s, the share of labor force employed in the “quaternary”, (or information) sector of the economy, working with paper and symbols rather than with muscles, went from one quarter to one half. More information workers lead to more information products. It has been observed that 90% of all the scientists who have ever lived are alive today.² This is also true for most, or even all, information-based occupations, whether screenwriters, architects, lawyers, engineers, MBAs and so forth. Every 30 seconds, a new book is published. Every hour, three new feature films are produced. In almost any scientific field, more research articles were written just this year than in the entire history of human beings before 1900. In the field of chemistry, within a span of 32 years (1907–1938), one million chemistry articles were written and abstracted. In contrast, it took less than 1 year for a million such articles to be produced in 2010.³

2.2 The Microeconomics of the New Media Economy

Media and information activities are subject to 12 fundamental economic characteristics and properties. Many of these factors exist in other industries, too, but not in the combination seen in the media and information sector.

2.2.1 Characteristic #1 of Media and Information: High Fixed Costs, Low Marginal Costs—Very High Economies of Scale

The first economic property is the fundamental cost structure of media products and services. They usually involve very high “fixed costs,” i.e. costs that remain constant independent of the number of units produced. At the same time, the “marginal costs” (the incremental costs required to produce the next unit) are relatively low. Media content is typically expensive to produce but cheap to reproduce.

2 Price, Derek John de Solla. See Cloud, Wallace. “Science Newsfront.” *Popular Science* 182, no. 3 (Mar 1963): 17.

3 Information production in the Western world has increased since about CE (Common Era) 1000, with a nadir during the Dark Ages when a significant part of the information accumulated in the period of Antiquity was lost.

Similarly, media distribution networks are expensive to create but cheap to extend to additional users.

Thus, average costs per unit become lower with the quantity produced. The more units that are produced, the lower the average cost per unit. Products that exhibit this property are said to have high economies of scale. We can observe these characteristics for films, TV programs, computer software, electronic networks, video-games, newspapers and semiconductors.

There are several business implications of the economic property of high fixed costs and low marginal costs. They include:

- The economies of scale lead to the emergence and predominance of large-sized companies in media, telecom and the Internet.
- There are incentives for companies to increase their size through mergers and to be a first-mover in a product in order to gain economies of scale early.
- There are incentives to achieve global rather than local operations.
- In competition, prices are very low due to the low marginal costs that determine price.
- In competition, there is a large consumer surplus (buyers having to pay less than they would be willing to) because of low prices.
- There is an incentive for companies to price-discriminate among customers in order to reduce such consumer surplus.

2.2.2 Characteristic #2 of Media and Information: Network Effects

The second of the frequent economic properties of media is a “network effect.” Individual benefits from media are often interdependent of those of other users. Network effects arise when users benefit by sharing a resource such as a network, or sharing the experience with each other. The value to an individual of connecting to a network of users depends on the number of other people already connected to that network. The larger that network, the more value it provides to its users and the more valuable it becomes itself. For Internet and telecom companies or for social network providers such as Facebook, the benefits to users rise with the number of other users on the network. On the content side, too, a major benefit of media consumption is to share the experience

with one's peers. To most individuals, the value of a film, TV show, music recording, or popular book rises as the experience is shared with many other people.

Network effects have several business implications. As in the economies of scale—which describe advantages to size on the *production* side—size is important also on the *consumption* side. For certain goods and services, the larger the firm's user base, the more value is provided to users. A song that gets attention on a large social network gains a cumulative advantage because many more want to be included in the experience.⁴ A firm that captures a relatively large share of an audience will often experience further demand growth, and can charge users a higher price.

2.2.3 Characteristic #3 of Media and Information: Excess Supply

We observed that media production has been increasing exponentially. Media consumption, however, increases only linearly and slowly. Excess supply is inevitable; it is accelerated by the increased ease of spreading globally through ever-cheaper electronic distribution and the proliferation of start-up content providers. The compounded annual growth rate of media production is about 12.0%, whereas the compounded annual growth rate of media time consumption is only 1.2%. Even that rate will decline. As mentioned, the average American citizen already consumes 2100 hours of media per year—5.75 hours per day.⁵ Given time for sleep, eating and work, that number will increase only slowly. Thus, the demand gap is growing at over 10% each year.

This has consequences for both content style and marketing.⁶ Attention is the scarce resource. As observed by Herbert A. Simon, the 1978 winner of the Nobel Prize in Economic Sciences, “a wealth

of information creates a poverty of attention.”⁷ New media consumption must be mostly supported by substitution from existing media in terms of time or full attention. Inevitably, this leads to competition for “mindshare” and “attention.” Compared with 1998, fewer than half of the new products make it to the bestsellers lists, reach the top of audience rankings, or win a platinum disc.

The business consequence is more competition and greater specialization in media content and technology. In addition, a greater product innovation and marketing effort is necessary. Together, costs rise per product.

2.2.4 Characteristic #4 of Media and Information: Price Deflation

A major economic property of media has been price deflation. In general, when price competition occurs, in any industry, the price of a good or service is driven toward its marginal cost.⁸ Marginal cost for many information products and services is near-zero. But that low price, the revenues do not cover total cost, which also includes the high fixed cost. The result of price competition with low marginal cost has been price deflation in information products and services. This is a good deal for the consumer but a difficult problem for the creators, producers and distributors.⁹ Price deflation toward marginal cost poses a threat to their long-term viability, since low prices make it difficult to cover costs and achieve profitability.

And that is, indeed, what has been happening. Information has become cheaper for many a decade. And it is becoming increasingly difficult to charge *anything* for it. Music and online content is increasingly free. Newspaper prices barely cover the cost of paper and delivery; the content is thrown in for free. As social media pioneer Stewart Brand said, “Information wants to be free.” Free in terms of content, but also free in terms of price.

4 Salganik, Michael J., Peter Sheridan Dodds, and Duncan J. Watts. “Experimental Study of Inequality and Unpredictability in an Artificial Cultural Market.” *Science* 31, no. 5762 (February 10, 2006): 854–856; *The Economist*. “The gazillion-dollar question.” April 20, 2006. Last accessed on August 2, 2012. ▶ <http://www.economist.com/node/6794282>.

5 Some of this consumption is while multitasking, e.g. while driving or working.

6 School of Information Management & Systems, University of California, Berkeley. “How Much Information.” 2000. Last accessed on May 14, 2008. ▶ <http://www2.sims.berkeley.edu/research/projects/how-much-info/summary.html#consumption>.

7 Simon, Herbert. “Designing Organizations for an Information-Rich World.” In Martin Greenberger. *Computers, Communication, and the Public Interest* (Baltimore: The Johns Hopkins Press, 1971), 37–72.

8 Strictly speaking, toward its *long-run* marginal cost, where all inputs are variable.

9 Collis, D. J., P. W. Bane, and S. P. Bradley. “Winners and Losers—Industry Structure in the Converging World of Telecommunications, Computing, and Entertainment.” In *Competing in the Age of Digital Convergence*, edited by D. B. Yoffie. Boston: Harvard Business School Press, 1997.

Price deflation is one of the fundamental economic trends of our time. The entire competitive part of the information sector—from music to newspapers to telecoms to the Internet to semi-conductors and anything in-between—has become subject to a gigantic price deflation in slow motion.

This price deflation leads to economic pressure, to price wars that squeeze out weaker companies, followed by the jacking up of prices, volatility of prices, and to instability in the entire information sector. Therefore, one main strategy for media managers is to avoid such price competition; rather, they focus on product differentiation, price discrimination (differentiation), consumer lock-in strategies, and industry consolidation.

Thus, it has been observed that the economics of information do not just frequently encounter imperfectly competitive markets, but that they actually require it.¹⁰ Without mechanisms that reduce competition such as patents or oligopolistic market structures, the creation of information such as media content and technological innovation becomes unprofitable.

2.2.5 Characteristic #5 of Media and Information: Convergence of Technology

A major factor in the recent evolution of media and information is the increasing convergence of such media. Historically, media industries used to be separate from each other. Newspapers, music, TV, telecom, computers and so on were realms of their own, each with its own technologies, companies, suppliers, distributors and industry culture. Starting in the 1970s, integration between sectors in the technology industry began to occur with increasing technical overlap of devices, components and software. Any content can be digitized—encoded as a stream of bits, and then processed, shared, distributed and displayed in similar ways.¹¹ In the 1980s, increased integration of technology extended the overlap also to consumer electronics and office equipment. For example, a smartphone

combines the technologies of telecom, computers, radio transceivers, consumer electronics, information vendors, TV players, video game consoles, calculators, cameras, music players, flashlights, dictaphones, e-books, navigation devices and more.

The implications are that industries and firms that used to fill their separate niches comfortably are increasingly facing competition from each other. It also means that companies can expand more easily to adjoining markets, which facilitates the emergence of media conglomerates. These “economies of scope” and “synergies” of operating across multiple markets and products are increasing. Production and distribution across several lines of media business are often more cost-effective—all other things equal—than separate activities in each segment.

2.2.6 Characteristic #6 of Media and Information: Importance of Intangible Assets

Many media and information activities are not based on physical assets but, rather, on “intangibles,” in particular on “intellectual assets.” There are multiple characteristics to this kind of capital: it is not inherently a scarce resource; it does not deplete with use; it can be shared; and it is hard to prevent others from using it. This is true for content as well as for technology. Coupled with the low marginal cost of copying, this invites appropriation by others and makes it difficult for the creator/producer/innovator to recoup their effort. Because this reduces the incentives to create and innovate, governments have created special property rights—in particular, patents and copyrights—and are engaged in the protection of these rights. Similarly, the distributors of information create protective technological and economic fences around their intellectual assets.

2.2.7 Characteristic #7 of Media and Information: The Presence of Non-Maximizers of Profit

Many individuals in the media field derive utility from the process of creating a product, not from profiting from its sale. They like to perform, to see a play produced, to distribute poetry or a short story, to publish a scientific paper, or to contribute

10 Evans, Philip, and Thomas S. Wurster. *Blown to Bits* (Boston: Harvard Business School Press, 2000), 15–21.

11 Shapiro, Carl, and Hal R. Varian. *Information Rules* (Boston: Harvard Business School Press, 1999), 1–18.

code to a collective software development. Producing the good is not a chore but a benefit. When this occurs, it is hard to distinguish production from consumption. In standard economic analysis, producers follow the incentives of profits while consumers maximize their “utility.” In media production, however, creators are often incentivized to maximize recognition, not profit. This means that they may give the product away; or, that they will aim to reach only a small segment of important arbiters of quality, since such acceptance elevates their status. In either case, profitability is secondary. Larger media firms operate on more traditional incentives but, nevertheless, they are affected, since they must compete against these non-economic participants, or incorporate them into their own production and distribution models.

2.2.8 Characteristic #8 of Media and Information: High Government Involvement

Governments are involved in most aspects of the media and communications sector. A private under-investment in the production of certain categories of useful information leads to government taking a role in assuring its creation (intellectual property rights) and supporting non-profit production (e.g. basic research, funding of universities, funding of the arts etc.). However, there are many other motivations for government involvement. Information distribution is considered essential and, hence, the government aims to make it widely available across geography and income classes, and to protect it against dominance by a private company. For instance, anti-trust and anti-monopoly rules have been established to limit mergers and price fixing. Regulatory policy also seeks to reduce distributor power over content providers.

The high impact of media companies on politics and culture is such that they are always controversial, highly visible, regulated and fought over. In consequence, there exists strong participation of and regulation by government in broadcasting, cable, satellite, telecom, mobile, film, IT and many other areas. Governments are involved in almost every aspect of media: in the protection of children and education, promotion of culture and national identity, economic growth and innovation, establish-

ment of infrastructure, protection against market power and opinion power, protection of intellectual property and so on. Considering the government’s strong regulatory presence, there is a need for media firms to be able to manage government relations.

2.2.9 Summary of Economic Properties

We have identified eight factors of the media and information industry which are not unique to media industries, but which, in combination, make its management different, in some ways, from management more generally.¹²

We can compress these factors into three broad categories:

- *Very high advantages to size;*
- *High uncertainty and market instability;*
- *Public good characteristics.*

These characteristics affect almost every media and information activity.

2.3 Review Materials

Issues Covered

In this chapter, we have covered the following issues:

- The factors that make the management of media and information organizations different;
- The technological and human drivers of the Information Revolution;
- How fixed and marginal costs of media products and services are distributed;
- How the excess in media supply and attention as a scarce resource influence content style and marketing;
- How network effects benefit the consumption and production side;
- How intangibles assets are protected and why they are important;
- Why price deflation impacts the information sector;

¹² Divergence in the cost trends in the value chain; Cumulative and accelerating returns; Non-normal distribution of risk; and Public good characteristics.

- How the convergence of technology and media channels creates the potential for synergy;
- Why many providers of media content do not follow the traditional economic concept of profit maximization;
- How the government is involved in the media and information sector.

2.3.1 Questions for Discussion

1. How should we define the information sector?
2. With information becoming a central part of the economy, should its production be left entirely to market forces? What is the role for the non-profit and governmental sectors in the distribution of information?
3. Extrapolating present trends for 20 years, what kind of economies will advanced countries have? What kind of industries and companies will succeed?
4. What were the success factors for business leaders in the Industrial Revolution and what are they for the Information Revolution?
5. Information technology progresses at the rate of Moore's Law, but business, personal and societal adjustments are much slower. What are the implications?
6. How does managing in the economy of things differ from managing in the economy of information?
7. How does the information revolution affect the process of globalization?
8. How has the relationship between producers and consumers of media changed in the past decade?
9. Why do media companies incur such high fixed costs of production? Has this changed in recent years? Have the marginal costs of distribution changed?
10. What are the causes and effects of price deflation in the media industry? How can media firms cope with it?

2.3.2 Quiz

1. To be profitable in the information business usually requires imperfect markets.
 - A. False.
 - B. True.
2. The economics of information production has a tendency toward:
 - A. Diminishing returns for an initial period to be followed by increasing returns.
 - B. Diminishing returns throughout.
 - C. Increasing returns throughout.
 - D. Increasing returns for an initial period to be followed by diminishing returns.
3. The basic technology of the Industrial Revolution can be seen as an extension of:
 - A. Information processing capabilities.
 - B. Assembly lines.
 - C. The Renaissance.
 - D. Human physical strength.
4. In terms of basic technology, what is the main driver of the Information Revolution?
 - A. Disaggregating systems by stringing segmented devices.
 - B. Ability to manipulate sub-atomic particles.
 - C. Both of the above.
 - D. None of the above.
5. Perhaps the last major constraint on media consumption is:
 - A. High price of media goods.
 - B. Ubiquity of media goods.
 - C. Bad programming.
 - D. Limited time for consumption.

6. Which is not a fundamental characteristic of knowledge today?
- Proliferation.
 - Innovation.
 - Specialization.
 - Scarcity.
7. Which is not an obstacle to the transition toward new media?
- Anti-P2P legislation.
 - Network effects.
 - Garnering the type of advertising revenue that the current mass media attracts.
 - All of them can be obstacles.
8. The shape of the new media establishment seems to be, as such:
- A sphere, with equidistant unlimited nodes, all with equal power—it signifies total decentralization.
 - A cube, with segments of equal reach—the symmetry signifies the balance between media producer and media consumer.
 - A pyramid, with a few mass producers at the top and numerous media venues supporting it at the bottom.
 - A simple arrow—projected toward an unknown and unpredictable future.
9. All these characteristics make media management different except for:
- Difficulty in predicting consumer preferences.
 - High fixed costs and low marginal costs.
 - Price deflation and public good characteristics of products.
 - Mostly scientific management methods.
10. Network effects lead to:
- An elastic demand curve.
 - Decentralization.
 - Barriers to entry.
 - Falling prices.
11. What makes the media industry so risky?
- Of products, 10% make most of the profit.
 - Price deflation.
 - Market instability.
 - All of the above.
12. What are the segments of the media industry?
- Media devices.
 - Distribution platforms.
 - Content production.
 - All of the above.
13. What makes the Information economy Schumpeterian?
- Rapid technological change and creative destruction.
 - Increasing returns to scale.
 - Decentralized economic actors.
 - Ease of communication and symmetrical information exchange.
14. What causes market failures in the information sector?
- High fixed costs and low marginal costs in a competitive environment causes firms to price at a loss.
 - Asymmetric information leads to adverse selection, so that only the consumers with the least to pay will read newspapers.
 - Government intervention has disrupted the market mechanism and is creating significant dead weight loss.
 - Positive externalities are not recognized by consumers of information products.
15. Which of the following is not a characteristic of an intellectual asset?
- Does not deplete with use.
 - Easy to price differentially.
 - Not inherently a scarce resource.
 - Can be shared.
16. Which of the following is not a consequence of high fixed cost/low marginal cost characteristics for a media firm?
- Large “consumer surplus.”
 - Incentives to piracy.
 - No incentive to price discriminate among customers.
 - Competitive prices are often unprofitable.
 - First-mover advantage.

17. Why do governments often take a role in supporting the creation of information?
- A. Solely to have a stronger influence on the information.
 - B. Information, as a public good, implies under-investments by private parties.
 - C. Information wants to be free.
 - D. Information, as a public good, implies over-investments by private parties.
18. Information assets often have a shorter economic life than tangible ones. Why?
- A. High employee turnovers.
 - B. As a society, we are getting smarter.
 - C. Exponential growth of information shortens usefulness period.
 - D. Can be shared easily.
19. What should be a main strategy for media managers in terms of pricing?
- A. Typically, keep price competition in favor of competition on features and quality.
 - B. Typically, avoid price competition in favor of competition on features and quality.
 - C. Cost-based pricing.
 - D. Marginal-cost pricing.
20. Managerial implications of price deflation in the overall information sector include which of the following:
- 1. Strong process and product innovation.
 - 2. Outsourcing of production.
 - 3. Short term sales contracts.
- A. 1 and 2.
 - B. 1, 2 and 3.
 - C. 1 and 3.
 - D. 2 and 3.
21. As the media sector is highly regulated by the government, what are the implications for media managers?
- A. Manage government relations as a business function.
 - B. Industry is more volatile.
 - C. Changing of pricing in mass media requires governmental approval.
 - D. Greater flexibility in decision making.

Quiz Answers

2

✓ 1. A

✓ 2. C

✓ 3. D

✓ 4. B

✓ 5. D

✓ 6. D

✓ 7. D

✓ 8. C

✓ 9. D

✓ 10. C

✓ 11. D

✓ 12. D

✓ 13. A

✓ 14. A

✓ 15. B

✓ 16. C

✓ 17. B

✓ 18. C

✓ 19. B

✓ 20. A

✓ 21. A



Production

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3.1 Media Production

3.1.1 Introduction

The media sector has three legs: content, distribution and devices. In this chapter, we will address content, its production and, specifically, the following questions:

- What are the ingredients of successful content production?
- How is content production being organized on an industrial scale?
- What management tools can be applied to media production?

When it comes to media content—movies, TV shows, music, books, newspapers—it seems that everybody is an expert. It has surrounded us since birth individually and infused our culture collectively. Media content is not merely art and entertainment. It is also a worldwide role model, a trendsetter and moodsetter. Media content exerts influence on our values, our attitudes, our politics and our lifestyles. It is the subject of intense public fascination and scrutiny. It is also an industry and, for the USA, among the largest export businesses.

Creativity is thought of as an individual activity, but it has become an organized business and social activity. Film, theater, opera and software development are all the result of highly organized collaboration and teamwork. Creative content is being created on an industrial scale—the “Dream Factory.” It is a complex process.

3.1.2 Content Production

Production management aims at a smooth and continuous flow of production. It must allocate resources to different activities. It aims to increase productivity. And it must have a system in place to measure and evaluate performance. Production activities in companies are often headed by the Chief Operations Officer (COO). The responsibilities of production management include: purchasing, inventories, and supply chain; process engineering; production scheduling and capacity planning; subcontracting; and locational choices. A sub-set is project management, which tends to be more limited in scope and time.

3.1.3 Special Characteristics in Content Production

The basic stages of content production are similar to those of production more generally. Typically, production requires the following steps:

- Market analysis;
- Concept creation;
- Selection;
- Funding;
- Product design;
- Development;
- Production planning;
- Procurement and deployment of inputs;
- Production and assembly;
- Post-production improvements and quality control;
- Preparation for distribution.

Each of these steps also exists for content production. However, there are indeed differences, as we discussed in ► Chap. 2 The Information Environment. These include:

- An unusually high level of *uncertainty* about the commercial success of content products.
- Extremely high fixed production costs and low reproduction costs. They require significant upfront capital to make the initial product. This means unusually high *economies of scale*, which are further increased by *network effects*: the users of a product partially increase the value of that product to other users.
- There often exist content producers who do *not aim to maximize profit*, which affects the nature of competition.
- Media content often has *public good* characteristics: its value goes beyond the immediate benefits to the producers, and it is often impractical to exclude non-payers from enjoying the content.

We will discuss, in particular, the film industry, as it has always been the most commercialized of content media, with dynamics that has often foretold those of other media. In order to understand the success factors for content production, we will explore why one particular content production center—Hollywood—has been so successful, for so long, in so many countries and, potentially, now the Internet. This is despite the fact that Hollywood is a high-cost producer and that it has usually lacked a long-term strategic vision (e.g. it

initially totally missed the significance of broadcast TV, cable TV, home video and the Internet). Also, Hollywood's success is despite the fact that many major international markets have only been partly open, with many of them imposing import quotas for almost a century.¹

Yet, none of this seems to have made a difference. Hollywood productions have remained predominant around the world throughout that time, despite countless efforts to support national production and to restrict Hollywood. In 1920, the Hollywood studios accounted for over 70% of the world's movie revenues. In 2016, they still maintain about the same market share, 67.7%.² During this time, pretty much the same six firms (Universal, Paramount, Disney, Warner Bros., Columbia, 20th Century Fox) dominated and produced the majority of films. (MGM and RKO dropped out; Disney joined.) Not even Houston's oil companies, New York's Wall Street and London's City financial clusters, or Detroit's automotive industry maintained such long-term global dominance. What does this tell us about the elements for success in content production?

3.2 Content Industries

3.2.1 Early Content

The production of what we now call “media content” goes back to the early days of humanity, when individuals and groups performed for their community or overlords. Over time, this became organized and institutionalized— theater in ancient Greece, gladiatorial spectacles in Imperial Rome, playhouses in Elizabethan London, opera stages in Italy. Some performers were individual content providers, such as bards, troubadours and minstrels. They provided entertainment and news. Others were teams organized as content companies that produced and performed spectacles, plays and music events.

In nineteenth-century America and Europe, popular entertainment was provided by theater, opera, circus and various kinds of burlesque

shows. But the economics were unfavorable—they were relatively expensive events to produce, and the limited potential for automation and mass production meant it was difficult to expand performances to larger audiences. The “craft”-style content production was ready to be replaced by a mass production model in the same way that print technology had industrialized the book medium after the sixteenth century. For music, this technology emerged after 1877 with the Edison phonograph; for moving visual imagery, film technology made a big splash after 1895.

3.2.2 Types of Production

Production is generally done in one of two basic ways: as a “job shop” or as a “flow shop.” A job shop means a specialized craft production. This approach creates special and highly varied products and uses general tools. In the media field, examples for job shop productions are plays, music events and books. Job shop productions typically require a relatively limited upfront capital investment to cover the relatively small upfront overheads, but they have relatively high variable costs of production for the individual item.

In contrast, a “flow shop” is a process of mass production that requires specialized resources. Flow jobs tend to be industrial productions, i.e. on a larger scale and repetitive. They are characterized by high fixed costs but low marginal costs. They are less flexible than a job shop production and require larger capital investment. Examples of flow shop productions are newspapers and magazines in content creation, and telecommunications services in distribution.

In media and technology, there are typically two stages of production. The first is the production of the “first copy”, which has job shop/craft characteristics; the second is the making of reproductions and their distribution, which have flow shop/industrial characteristics.

3.2.3 Cost Characteristics: Film Versus Theater

The basic economic advantage of film over theater is that its distribution cost per viewer is only 1% or less of the cost to distribute a similar item

1 For example, import quotas and restrictions were set in Germany and France in 1921.

2 Tartaglione, Nancy. “2016 Intl Box Office Sees Projected 3.7% Drop Amid Currency Shifts & China Dips—Studio Chart.” *Deadline Hollywood*. Last updated January 5, 2017. ► <http://deadline.com/2017/01/highest-grossing-movie-studios-of-2016-international-box-office-1201878861/>.

of content via live theater. This low cost facilitates distribution to audiences of many millions. However, to make millions of people want to see a particular film rather than any of its rivals, one needs to create a highly attractive product. This requires a higher upfront production costs for the film than is spent on a theatrical show.³ These costs can then be spread over the larger audience. Thus, content production costs for Hollywood films (the fixed costs) have risen, over time, to the remarkable figure of approximately \$10,000/second—500 times higher than for a typical commercial theater production.

Thus, film shifts costs away from the *variable* costs of distribution to the *fixed* costs of content production. The cheaper the distribution, the more elaborate the content production can become, since it is spread across more users. It is one of the economic characteristics of an industry with high fixed costs and low marginal costs that it has high economies of scale—large providers have cost advantages over small ones (provided they produce reasonably efficiently).

The same cost dynamics apply to a comparison of printed books with hand-written manuscripts. A printing press reduces incremental cost, but increases upfront investment in fixed costs. It is also the case for recorded music vs. live music, or for off-the-shelf packaged software vs. customized programs. It is the economics of industrial mass production vs. those of artisan production.

However, it is also a double-edged sword. Production with higher fixed costs and lower marginal costs is more profitable when the number of tickets or copies sold is large. Conversely, it can also lead to a much higher loss when the number of tickets sold is low. It is the higher-risk strategy. To deal with this downside, risk reduction therefore becomes a central management task in the content production of mass-market media.

A second management consequence is that a high-fixed cost, low marginal cost industry with its high economies of scale means a more concentrated industry structure, composed of a few large firms. These dimension of content production will now be discussed, with the film industry, which has pioneered many of the business models of media, as the main example.

3.2.4 History of the Film Production Industry

In the 1820s and 1830s, Nicéphore Niépce and Louis Daguerre, in France, and William Fox Talbot, in England, invented the process of photography, using glass plates. In the 1880s, George Eastman of the USA created celluloid film that could be rolled up, and he introduced cheap Kodak cameras. In 1891, Thomas Edison's laboratory invented the Kinetoscope, where the viewer stared into a box to see moving images. However, Edison's peep-show style display could only be viewed individually, or by small groups using a bank of consoles. In contrast, the brothers Louis and Auguste Lumière of Lyon, France, projected their moving images onto a screen, facilitating mass audiences. Their first film clip was *L'Arrivée d'un train à la Ciotat* (1895). Its first showing was in Paris in 1895 and can be counted as the beginning of the film medium as popular entertainment.

Almost immediately, new types of content began to emerge; film moved beyond novelty to a medium of considerable creativity. Already in 1902, *A Trip to the Moon*, a science fiction film, was produced in France with new special effects. Physical comedy emerged, and the antics of comedians such as Charlie Chaplin were distributed worldwide. The first Western film, *The Great Train Robbery*, was created, as was the first sexually suggestive film, *The Gay Shoe Clerk*. These and other productions could venture into content that theater could not accomplish technically or financially—special effects and genuine outdoor scenes.

The fundamental economics of the film medium led also to imitation, piracy and to attempts to monopolize markets. In 1908, in a bid to control the industry, the so-called “Edison Cartel” pooled the patents of the industry leaders Edison, Pathé, Vitagraph, Eastman Kodak, and Biograph, as well as the financial resources of J.P. Morgan. The cartel possessed patents, theaters, money, lawyers and connections. Yet, it was unable to suppress independent film entrepreneurs. These emerged from the popular entertainment industry (such as vaudeville) that catered to working-class audiences, or from retail and merchandizing trades. These pioneers established the film companies that continue to exist into the twenty-first century.

³ For theater, these upfront production costs include expenses up to the opening show, after which the costs are those of reproduction.



■ Fig. 3.1 Universal Studios lot 1936

As the industry grew, the studios organized factory-like production facilities and employed actors, directors, craftsmen, crews and equipment that could be used for many projects (■ Fig. 3.1).⁴ They moved into flow-type production, creating hundreds of films each year. The MGM studio in Culver City could shoot six different films at the same time. Feature films could be shot in less than a week.⁵ The legendary Cecil B. DeMille at times directed and produced two films simultaneously.

Today, the six major Hollywood film studios that dominate the film business are fairly similar in size, with market shares of about 10–15%, depending on the success of a particular season.

3.2.5 Production in Other Media Industries

3.2.5.1 Books

After the emergence of print technology in the fifteenth century, early printers at first also functioned as publishers by selecting and commissioning content. Printing centers emerged, such as Venice and Amsterdam. In the early eighteenth century, publishing separated from printing and became a profession in its own right. Publishers such as Weidmann (Leipzig) and Longmans (London) have continued into the twenty-first

century. In the USA, the structure of the book industry, after a period of fragmentation and easy entry, stabilized in the 1920s and centered on a handful of major publishing companies surrounded by thousands of small firms. The large publishers were McGraw-Hill, Random House, Simon & Schuster, Little Brown, HarperCollins, and MacMillan, and were mostly located in New York.

The book industry has fairly high marginal costs and moderate fixed costs; its economies of scale are therefore moderate. This has contributed to an industry with numerous small publishers (about 3000), and to a huge number of individual products, most of them with a small production run. Combined with the rising supply of authors, the number of titles published has grown strongly. Publishers need to make numerous managerial decisions beyond the editorial ones and are the central node in book production. They select authors and manuscripts; improve the product; oversee printing and manufacturing in-house or outsourced, and determine the quantity; they market the book, set prices, secure copyrights and license subsidiary rights; they manage the distribution channels; and collect sales proceeds and distribute them to claimants such as authors.⁶

3.2.5.2 Newspapers and Magazines

In the richer countries, newspaper penetration used to be high but it has been steadily declining. In the USA, 78% of the adult population read a daily paper in 1970. That number dropped to 51.6% by 2005, 33.7% by 2014^{7,8,9} and 28% in 2016.¹⁰ Some countries have a newspaper system

4 The Studio Tour. "Universal Studio 1936 Aerial." Last accessed July 18, 2017. ► http://www.thestudiotour.com/ush/frontlot/images/1936_aerial.jpg.

5 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publication, Ltd., 2005. This highly informative book was a frequent source for factual information for this book.

6 Bailey, Herbert S. *The Art and Science of Book Publishing*. Athens, OH: Ohio University Press, 1990.

7 Newspaper Association of America. "Newspaper Readership & Audience by Age and Gender." *NAA.org*. Last updated March 18, 2013. ► <http://www.naa.org/Trends-and-Numbers/Readership/Age-and-Gender.aspx>.

8 Newspaper Association of America. "Daily Readership Trend – Total Adults (1988–2005)." *Newspaper Association of America*. (1988–2005). Last updated October 2005. ► http://www.naa.org/marketscope/pdfs/Daily_National_Top50_1998-2005.pdf.

9 Pew Research Journalism Project. "Newspaper Readership by Age." *Pew Research Center*. Last updated July 2014. ► <http://www.journalism.org/media-indicators/newspaper-readership-by-age/>.

10 Edmonds, Rick. "Newspaper declines accelerate, latest Pew Research finds, other sectors healthier." *Poynter*. Last updated June 15, 2016. ► <http://www.poynter.org/2016/newspaper-declines-accelerate-latest-pew-research-finds-other-sectors-healthier/416657/>.

based on large, nationwide newspapers; examples are Japan and the UK. Other countries have a system of local/regional papers, for example, the USA and Germany. The newspapers distributed in the USA nationally are *The Wall Street Journal*, *USA Today*, and *The New York Times*. Aside from such presence, in most US cities newspapers operate in a near-monopolistic local market structure. In 2014, only 20 American cities were served by two or more separately owned competing local dailies. The city population needed for the general assurance of a single local paper in the year 2000 was above 100,000 whereas, in 1980, this figure had been only half that number. To sustain more than one daily local newspaper required, on average, a population of more than one million, double the figure in 1980.¹¹

In many countries, the market share of the top newspaper publishing company is quite high: Mexico (O.E.M. 49.4%); Turkey (Dogan 63%); Australia (News Corp. 58%); Chile (Mercurio 55%); Ireland (INM 52%); South Africa (Naspers 36%); Argentina (Clarín 45%); France (Amaury 30%); and the UK (News Corp. 35%).¹² In the USA, the largest newspaper company is Gannett, with a market share of 12% in 2016.

Given the historically central role of newspapers in political and commercial communications, there has been a great deal of concern about the decline of newspapers. The continued trend toward local market newspaper monopoly, the mergers of newspaper groups, shrinking circulations and the emergence of the Internet as an effective delivery platform of free news and targeted advertising have raised worldwide alarms about the future viability of newspapers. Newspaper firms responded by further consolidation, using technology to streamline production and distribution processes, and the cutting of editorial costs (and often quality). But, in particular, newspapers “repurposed” their content in new electronic ways to compete for consumer attention and advertiser support.

Magazines do not include up-to-the minute news and are able to rely on more leisurely

delivery systems than newspapers.¹³ Magazines rapidly adapt to changing interests and activities in society; as a result, the industry has faced a less steep decline than daily newspapers. The major magazine groups tend to publish dozens of different titles, with economies realized in the physical production and distribution more than in content production. In the USA, these groups are Advance Publications, Meredith, and Hearst, each with about 7–9%. Internationally, aside from the Government of China and the three US groups mentioned, the largest groups are the commercial publishers Abril and Globo (both in Brazil), Bauer, Axel Springer, Burda, and Bertelsmann (Germany), Lagardere (France), Sanoma (Finland) and Bonnier (Sweden).

3.2.5.3 Music

The recorded music industry is internationally concentrated and integrated with other media. Three major music groups own large numbers of specialized and national labels worldwide, each with its own character and specialties. The Universal Music Group, owned by the French company Vivendi, has a global market share of 33.5%, Sony (Japan) holds 22.6% and the Warner Music Group (USA) 17.1%. For a traditional music CD, the production activities (artist, songwriter, composer, copyright, producer, recording, manufacturing, and allocated overheads and profit) account for about 53% of overall revenue. Distribution accounts for 37%. For online music, production gets about 44% of revenues.¹⁴

3.2.5.4 Television Content

Much TV content has a short half-life, especially news and sports events. “Disposable television” includes talk shows, award galas, and so on. However, a short economic life has advantages, too, since it attracts less piracy. Other major parts of TV entertainment content are serials and

11 Noam, Eli. *Media Ownership and Concentration in America*. New York: Oxford University Press, 2009, 142.

12 Noam, Eli. *Who Owns the World's Media?* New York: Oxford University Press, 2016

13 Compaine, Benjamin M. and Douglas Gomery. *Who Owns The Media?* 3rd ed. Mahwah, NJ: Lawrence Erlbaum Associates, Inc., 2000, 147–193.

14 For online music, the retailer—such as Apple iStore—takes about 30%; the distributor (for encoding, submission and so on) 8%; the producer/label 28% (the latter includes marketing 11%, production 10%, administration/overheads 5%, and profit 2%); advertising intermediaries 16%; the artist 10%; songwriter and composer 6%.

“made-for-TV” films. These have increasingly become part of subsequent distribution over the Internet.

The world’s largest producers of TV content are state-owned broadcast entities (such as in China, Egypt and Russia), and national public service broadcasters such as BBC (UK), RAI (Italy), NHK (Japan), and ARD and ZDF (Germany). Large commercial TV producers are Globo (Brazil); Televisa (Mexico); NTV, TV Asahi, Fuji, TBS (Japan); SBS (Korea); Bertelsmann (Germany) and Fininvest (Berlusconi, Italy). In the USA, the largest TV content producers in 2013 were Disney (29.0%), Viacom/CBS (20.1%), Universal (Comcast, 16.3%), 21st Century Fox (Murdoch, 7.8%), Time Warner (10.7%) and Sony (4.5%). Almost all these companies not only produce, but also operate broadcast and cable channels. Market shares vary from year to year based on the success of particular shows.

3.2.5.5 Video Games

Video games, though distributed by game publishers, are actually written by different types of developers: in-house teams of the publishers, independents who may self-publish and self-distribute, and third-party contractors. When self-developing, the distribution forms hire programmers, game designers, artists, sound engineers, producers and testers.

Major games cost easily \$10 million and more to produce, plus \$10 million to market. Game platforms are subject to a five-year hardware cycle of technology generations, and game companies must redesign most of their game software on the same schedule to conform to the enhanced technological capabilities of the new-generation platforms.

The video game industry has moved to economics similar to those of Hollywood. This includes high budgets and a reliance on blockbusters.¹⁵ The industry introduced in-game advertisements similar to TV commercials.

3.2.6 The Global Success of the Hollywood Production Industry

We now return to a discussion of the film industry. For several centuries, the flow of culture—books, theater and music—flowed largely in one direction: out of Europe to the colonies and the rest of the world. Then, however, the direction of the flow reversed for the youthful medium of film. Starting in 1910, American films accounted for over half of the box office in Europe, exceeding domestic products even in France, Germany and the UK, and this percentage grew in the 1920s. In response, protective import quotas and restrictions on the repatriation of box office earnings were speedily established in the major European countries. In effect, this was an early regulatory measure against cultural globalization—which, until then, had been acceptable in music and literature. Content protectionism serves three functions: to shelter a country’s national culture and identity, to support the influential cultural production sector and its workforce, and to help project a country’s visibility worldwide. The measures employed were direct governmental subsidies, import quotas, screen and broadcast quotas, and tax breaks. Many of these policies have persisted in one form or another for almost a century. Even so, of the top 40 grossing films worldwide in almost every year almost all were Hollywood productions. In most countries, audiences prefer domestically produced films. Imported Hollywood films follow behind as the second most popular and, as they are more numerous, they thus dominate. The key problem is that films from third countries—including films from neighboring countries—are much less popular outside their own country. In 2004, only 8% of film revenue in Europe was from European films shown outside their own national market in other European countries.¹⁶

What, then, are the reasons for Hollywood’s success as a content production center? The answers may help to identify the main success factors for content production more generally.

15 Nussenbaum, Evelyn. “News and Analysis; Video Game Makers Go Hollywood. Uh-Oh.” *New York Times*. August 22, 2004. Last accessed April 11, 2017. ► <http://www.nytimes.com/2004/08/22/business/news-and-analysis-video-game-makers-go-hollywood-uh-oh.html>.

16 European Audiovisual Observatory. *Focus 2004 – World Film Market Trends*. Cannes: Marché du Film, 2004. Last accessed August 7, 2012. ► http://www.obs.coe.int/online_publication/reports/focus2004.pdf.

3.2.7 Case Discussion

Canal Plus and the Hollywood Advantage

France is the birthplace of film and is also a significant market for the medium. In 2016, 209 million tickets were sold; 34.5% of admissions were for French films, while 53.6% were for American films, an increasing number over 2011 when it was 48%;¹⁷ and 211 French films were released,¹⁸ which made France the largest film producer in Europe.

Canal Plus (or Canal+) is the major French film distribution and production company, a subsidiary of the multi-media firm Vivendi. It has its own production arm (StudioCanal) and distribution channels in France, Europe and Africa.

Cinema in France

To understand the present and future of Canal Plus, one must understand its past. For several decades, French film had been a relatively weak exporter. In other cultural markets, French cultural products have been highly successful around the world. Paris is the capital of fashion and cuisine; its books are read worldwide. In popular French music, dance music group Daft Punk has become highly successful. Its album *Random Access Memories*, released in 2013, sold half a million copies and was number one in the Billboard album chart. Another famous French musician is the rock star Johnny Hallyday, who has sold more than 100 million albums worldwide.

For decades, many of the major French films were elaborate productions of classic novels of French culture. This “cinema of quality” was supported by government funds. Critics covered it gently. Outside of France, it left no mark. A dissident group of

gifted writers and critics centered around the journal *Cahiers du Cinéma*, including Francois Truffaut, Jean-Luc Godard, Eric Rohmer and Jacques Rivette, and attacked this tradition. Starting in the late 1950s, they began to make their own movies.

The result was a major renaissance in French filmmaking. 120 first-time directors made full-length films in the years 1958–1964. Governmental or public-service TV usually supported these films. This era is known as the French New Wave—*Nouvelle Vague*. Other French filmmakers in those years included Claude Chabrol, Jean Renoir and Alain Resnais.¹⁹ Soon, however, the New Wave crested. Financial success was less frequent, and younger audiences did not follow the 1960s generation in enthusiasm. By the late 1970s, French film had declined again.

To deal with this decline, the French government created a financial support mechanism. Its most notable element was through the creation of the new pay-TV channel Canal Plus in the mid-1980s. Previously, under conservative French presidents de Gaulle and Pompidou, French TV was totally owned and controlled by the government, for which it was the mouthpiece. De Gaulle’s influence rested on his direct TV addresses to the nation. A new socialist president, Francois Mitterand, himself long a victim of such state TV, opened the medium, and created the first pay-TV channel, Canal Plus. But, staying within the paradigm of state control, it was guided by Andre Rousselet, the President’s

closest advisor, chief of staff, regular golfing partner, campaign finance director and the executor of his will. Rousselet became head of the largest French advertising and media company, Havas, which then received from the government a monopoly license to transmit pay-TV in France, as Canal Plus. Being the state-licensed monopolist of pay-TV, Canal Plus was able to charge prices that would have failed in more competitive markets. In 2014, it charged almost \$53 per month. In contrast, HBO or Showtime in the USA charge \$11–\$17. In return for its profitable exclusivity²⁰ in pay-TV, Canal Plus had to agree to allocate 10% of its revenues to the production of French films. This revenue source became the major funder of French cinema.

Vivendi—The Parent Company

Vivendi is the largest European media company. Its origin is the French municipal water utility *Compagnie Generale Des Eau*, created by edict of Napoleon III in 1853. Eventually, water distribution led to waste management, construction, energy, cable TV distribution and mobile telecom. The media part was renamed “Vivendi.” Its president, Jean-Marie Messier, was a highly entrepreneurial leader who admired the American media CEO model. He made the company a major vehicle of growth.

Vivendi diversified by buying the second French cellular telecom operator, the videogame companies Activision and Blizzard Games, and Canal Plus. It then acquired the major Hollywood studio and music companies Universal Pictures and Universal

17 Centre National du Cinema et De L’Image Animee. “Theater Admissions—Estimates for February 2017.” Last modified March 3, 2017. ► <http://www.cnc.fr/web/en/theater-admissions>.

18 The Numbers. “Movies Produced by France and Released in 2016.” Accessed April 11, 2017. ► <http://www.the-numbers.com/France/movies/year/2016>.

19 Grant, Barry Keith. *Schirmer Encyclopedia of Film*. Detroit: Schirmer Reference, 2007, 235.

20 Canal Plus briefly got competition for terrestrial pay-TV, 30 years later, when the French government licensed SelecTV, which, however, went bankrupt after a short time.

Music in 2000. Eventually, however, Vivendi over-extended itself and faced huge debt obligations and insolvency. The losses in 2001 stood at \$11.2 billion. Messier was fired, and Vivendi sold off some of its acquisitions, including most of Universal Pictures. Messier was charged with securities violations and, a decade later, was slapped on the wrist to pay a fine of €150,000.

Vivendi became a classic vertically integrated multi-national mass media and telecommunication company with activities in music, television, film, publishing, telecommunications, the Internet and video games.²¹ Its market share in the film market in France is 26.8%, far ahead of others, including Hollywood firms whose combined share was about 50%. In 2016, Canal Plus accounted for 23% of Vivendi's profits.²²

Canal Plus has a stake in two-thirds of French film production and is the prime provider of original cable TV content in France. It is Europe's largest film distributor (over pay-TV) and film producer, and it wants to export worldwide, including to the USA. The question is, how this might be done? How can Canal Plus become a global content producer? What kind of content should Canal Plus produce, and how?

3.3 Conventional Arguments for Hollywood's Success in Production

3.3.1 Supposed Advantage: Market Size? Language?

Many explanations have been offered for Hollywood's enduring success as a center for content production. The most frequent reasons given are the large scale of the market, as well as political and economic power; superior access to talent; and vertical integration of production and distribution. These factors will now be discussed, as they are relevant to all types of content industries.

The conventional argument for content success is that a large domestic market must exist before exporting the content worldwide. Thus, the US population is about 318 million, whereas the French population, for example, is only 66 million. A 2013 compilation finds that English as a first and second language was understood by 840 million people. For French, the number was 486 million; for Spanish, 430 million; for Portuguese, 310 million; and for Arabic, 620 million. It is highest for Mandarin at 1036 million and Hindi/Urdu at 850 million.²³ Thus, English by sheer numbers is not a radical outlier, though

it is clearly by far the most influential and global language, and is spoken by an economically affluent slice of the world's population.

But is market size, even when weighted by income, determinative of production success? If it were, this would relegate small countries into permanent roles as importers. However, such "two-stage" thinking, in which exports are only a subsequent second step after domestic success, makes no sense for a business firm. With such economic logic, there would be no major industry of making watches in Switzerland, chocolate in Belgium, software in Israel and Ireland, or video games or consumer electronics in Korea. All these countries are relatively small. None possesses unique natural resources. But they are major exporters of their products despite (or, perhaps, because of) their limited national markets. In the modern economy, producers must plan from the beginning to sell in a world market, rather than only domestically.

That it can be profitable for media companies from small or medium-sized countries to become large in global terms can be seen by the world's largest commercial book publishers. In 2009, these had been #1 Bertelsmann (Germany); #2 Lagardère/Hachette (France); #3 Fininvest/Mondadori (Italy); #4 Planeta (Spain); followed by a US company (Harper Collins) as #5, controlled by the long-time Australian Rupert Murdoch's News Corp. All of these companies made a substantial part of their business outside their home base.

But an exports orientation also has an impact on content. If export revenues rise in importance, the incentives for content in terms of themes and style will be more global and less local. Therefore,

21 Vivendi. "Vivendi in Brief." Last accessed April 12, 2017. ► <http://www.vivendi.com/en/vivendi-en/>.

22 Vivendi. *Vivendi 2016 Annual Report*. Last accessed April 12, 2017. ► http://www.vivendi.com/wp-content/uploads/2017/02/20170223_Financial_Report_and_Consolidated_Financial_Statements_FY_2016.pdf.

23 Simons, Gary F. and Charles D. Fennig. Eds. *Ethnologue: Languages of the World*, 20th ed. Dallas, TX: SIL International, 2017. Online version: ► <http://www.ethnologue.com>.

content that aims at export will most likely shed some of its domestic distinctions in favor of a wider global appeal. “Mid-Atlantic” or “mid-Pacific” content emerges. An extreme example, in the late 1960s, was the highly successful films out of Italy known as “Spaghetti Westerns,” which emulated American cowboy films. Given the worldwide popularity of the genre at the time, these Italian-made films were hits everywhere. But they were not particularly Italian in content. Similarly, television content, for worldwide success, becomes export-oriented. Endemol, a Netherlands-based firm, developed TV formats that were then widely franchised, such as “Big Brother” and “Fear Factor.” There are few elements in it that are distinctively Dutch or Western European.

The same dynamics affect American content. Not all content is equally exportable. Films with action, adventure, physical comedy and special effects generally travel well to other countries. In contrast, comedy films are more difficult to translate in terms of language and subtext. Social controversies such as race themes do not export well, either. In consequence, the tastes of foreign audiences affect American film themes and casting. In the casting of films, an increasingly multinational set of performers is chosen for their marketing appeal.

A large domestic market helps content production. But it can be overcome by a firm that “thinks globally” in its content production strategy rather than locally, and on a scale that goes beyond its domestic position. It must not think of exports as an aftermarket but as *the* market. This, however, means a reduction of the national character of the content in order to appeal to a wider audience, through themes, styles and costs. (There will, of course, be a few exceptions in which the very “foreign-ness” of content is its attraction.)

3.3.2 2nd Supposed Advantage: Vertical Integration of Content with Distribution?

Many people believe that the success of content producers requires that they control distribution channels, which gives them advantages over competitors. There are two major kinds of vertical

integration for media. The first, *backward* integration, is when a distribution company such as a TV network produces its own inputs such as TV shows. By doing so, the company controls the costs and quality of inputs. The other kind of vertical tie-in, *forward* integration, is when production firms control distribution channels. This ensures distribution, markets and supply, while also helping to create product synergy. Examples are when a music company or book publisher operates its own distribution through retail stores or “media clubs.”

The major distribution companies handle products created by their own affiliated production companies, but they also distribute content produced by independent and foreign producers, and even by competitors. This is true for film, TV, music, or videogames. It is also the case, in some instances, for book, newspapers and magazine publishing.

What are the business reasons for the vertical integration of production and distribution?

- Vertical integration is advantageous to a content producing company in order to control the release of its products and their prices through a “release sequence” of different outlets, different timings, coordinated planning and different prices.
- The cross-marketing of multiple products and a cross-platform distribution are facilitated, thereby reducing transaction costs.
- To a distributor, it is advantageous to have assured access to products it controls, and to favor those products over those of others. Attractive content may be scarce, and superior access to it provides a distributor with market power.
- Through vertical integration, market power can be extended from one stage of the value chain to another, e.g. from distribution to production, and used to foreclose markets to competitors.
- Rivals can be subjected to a vertical “price squeeze” in which the wholesale market price for their product is kept low by their rival’s domination of wholesale distribution. The vertically integrated rival then shifts its profit to the wholesale sector from the production sector. The same can be done by a company that dominates retail.

That said, economists are generally skeptical about these alleged business advantages of vertical integration. (The exception exists when high market power in one stage is extended into a competitive stage. An example of this would be Microsoft using its market power in operating systems – i.e. Windows – to gain market share in related applications programs such as word processing.) Generally, favoring one’s own product is sensible only if it is a stronger product. It is not economically rational for a distributor to reject another producer’s blockbuster and push its own less popular product into distribution. Similarly, it is not economically rational for a distributor to be a captive buyer for an inferior product of its own production company. Disney, as a TV show producer, should sell any of its new programs to the highest bidder, not to only to its own TV network ABC. And the ABC network, similarly, should buy the most attractive programs at the best price, not specifically those produced by Disney companies.

Vertical integration works where market power lies in one segment and is expanded to a competitive segment, thus foreclosing markets to competitors. But the source of the advantage is the market power in a segment, not the vertical integration itself. When it comes to advantages such as cross-marketing, timing of release and so on, a media firm can achieve through contracts most of the same results. The existence and magnitude of “synergies” have been exaggerated by empire-builders and deal brokers. The actual performance of the vertically merged entities has often been disappointing.

To conclude the wider point of the discussion so far: the conventional explanations for success as a content producer—as exemplified by Hollywood—have been: domestic market size, and vertical integration of production and distribution. These factors are helpful, to some extent, but are not the core reasons for success. They should not deter other film producers and distributors. Instead, the major factor for a content company’s sustained economic achievements is the effectiveness of its production system and product development. These are key elements that are not exclusive to Hollywood. They will now be discussed.

3.4 Organizational Success Factors for Content Production

There are three factors for a superior production process for content:

- A. Organizational structure;
- B. Risk reduction;
- C. Product development.

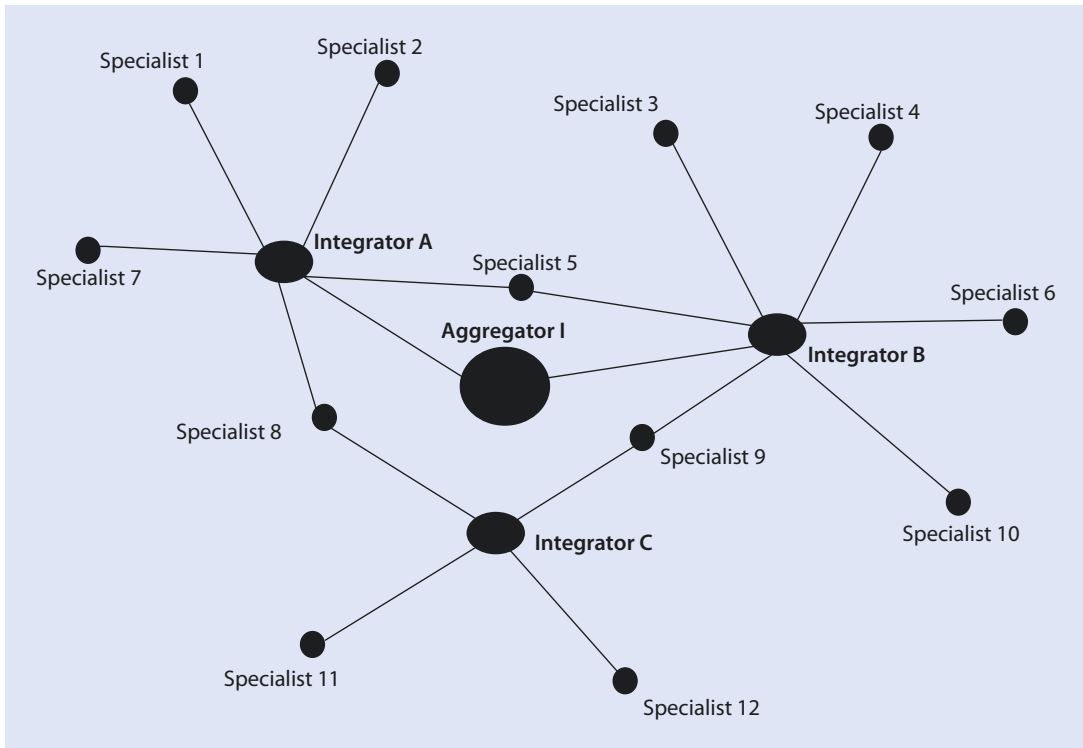
3.4.1 Organizational Structure

3.4.1.1 Networked Production

When people discuss film production they tend to talk about the “studios” that they are producing all “Hollywood” movies. This is not so. A production process can be one in which all activities are conducted in-house or, alternatively, by outsourcing many activities, with the firm being more in the nature of assembling the pieces and functioning as a marketing brand. This is true for consumer electronics just as it is for content production.

Up to the 1950s, the Hollywood film studios were integrated mass producers, like automobile makers or oil companies. In consequence, they operated with high overhead costs. The invasion of television forced the Hollywood studios to re-engineer themselves in the 1960s. The main strategy was, first, to position themselves at the high-end of the product spectrum and leave cheaper mass production (B-movies) to TV. Second—and this has been much more important in management terms, even if it is less noticed by film fans—was to lower overhead costs by shifting to a project-based organization. The studios moved from mass-producing commodity content along the “flow-shop” model of production to a customized production model—a “job shop”—based on ad hoc specialists and a networked production system. Contributors to a project—such as actors, writers, musicians, cinematographers, editors and financiers—became free-lancers. Over 100,000 of the film industry’s workers are now independents, or work for tiny companies with fewer than 10 people.²⁴ What

24 Kotkin, Joel and David Friedman. “Why Every Business Will Be Like Show Business.” *Inc.* March 1, 1995. Last accessed April 12, 2017. ► <https://www.inc.com/magazine/19950301/2182.html>.



■ Fig. 3.2 Networked production

the major Hollywood studios do is provide back-office support for production teams, some financing, and distribution/marketing. This structure has several benefits: it is relatively low on bureaucracy, low in capital overheads and low on employee fringe benefits such as pensions and health plans.

These trends restructure an industry from vertically integrated production companies with in-house employee talent and skills to a system of horizontal specialists for hire. These specialists are brought in for in-house projects, or by specialist outsourced companies. It was an early version of a “gig-economy” based on freelancers and independent contractors. This decentralized organizational model was adopted by other leading industries. High-tech companies in Silicon Valley are a good example. The former chairman of Intel, Andy Grove (former CEO of Intel), compared the software industry to the theater, where producers, directors, actors, technicians and

others are brought together briefly to create a new production.²⁵

A networked structure for production emerges, shown in ■ Fig. 3.2.

In this illustration, there are three levels of hierarchy in content production: aggregators, integrators, and specialists. The aggregator (I) is a distributor TV network, or online platform that put together packages of content. The integrators (A–C) are the film and TV producers and entrepreneurs who create specific content products by bringing together specialized talent (1–12) and management. There may be a fourth level, when the specialists are themselves firms that put together individual talent. A fifth level may exist when multiple aggregators (networks) are combined in a larger platform such as cable TV or an online film website.

²⁵ Rifkin, Jeremy. “When Markets Give Way to Networks...Everything Is a Service.” *The Age of Access: How the Shift from Ownership to Access is Transforming Modern Life*. London: Penguin, 2000, 361–374.

Such network structures exist, or are emerging, in many content media, including film production, software development, video game development, recorded music, book publishing and many magazines.

3.4.1.2 Clustering

Specialization both encourages and feeds on geographic clustering. Clustering enables specialization. It also leads to a disaggregation of the production process into multiple firms and providers that are assembled for each project into an ad hoc organization. Clustering is prevalent in the media and information sectors.

Major reasons for the formation of economic clusters are:

- Positive network effects: The various specialists encourage each other, and this attracts yet more specialists, in a “virtuous” cycle.
- Clusters encourage investment in reputation for high-quality and cooperative behavior. This is because there are repeated interactions among the parties in a cluster.

Film clusters exist in other countries. But the Hollywood cluster is the largest. Companies outside this cluster therefore have to make more of an effort to link up with it, and benefit from its scale and network effects. Electronic communications make this easier—and, in the process, are broadening the geographic footprint to a virtual one. Nevertheless, the person-to-person aspect remains important for creativity, deals and the informal bonds that reduce transaction costs.²⁶

To conclude: this, then, is the organizational structure of Hollywood:

- Entrepreneurial specialization and fierce competition in production;
- Oligopoly in distribution.

There are also similar structures—though less developed—for music labels, book imprints, and video games.

3.4.2 Funding and the Reduction of Risk

The second major economic factor in content production is money. This is often described as “access to capital,” and Hollywood is said to possess such access. But “access” is a meaningful concept only in association with a price. The price of money is the interest rate (explicit or implicit); it is determined by the perceived risk to the investor that must be compensated. Such risk can be reduced by managerial actions. Thus, the access to capital is ultimately a matter of risk management.

Risk reduction is a major factor for superior production. According to a 2013 study by the British Film Institute, of 613 UK films made between 2003 and 2010, only 7% made a profit and, of low budget films, only 3.1%. For big budget films, it was still low at 20%. There have been cases where a film flop ruined an entire movie studio, such as the tradition-rich studio United Artists, through *Heaven’s Gate*, and the upstart studio Carolco, through the disastrous *Cutthroat Island*. 20th Century Fox was nearly sunk by *Cleopatra*.

The probabilities of success have become still lower. As platforms and productions expanded, the probability of reaching the top of a week’s audience rankings (for movies), or to platinum status (for music), or the bestseller’s list (for books) declined by half. Of new US primetime TV series, only one-quarter survive beyond the first season, whereas in the 1980s, it was one-third.²⁷

At the same time, content production became more expensive. Factors that have increased the production cost of media include rising wages. Audio and video media copyright licensing fees increased by 8.32% per year, from 2010 to 2014.²⁸

With costs rising, rivals abounding, and attention fragmenting, risk reduction is a crucial management task in the media production process.

27 Aris, Annet and Jaques Bughin. *Managing Media Companies: Harnessing Creative Value*, 2nd ed. West Sussex: Wiley, 2009.

28 Bureau of Labor Statistics. “May 2013 National Occupational Employment and Wage Estimates United States.” Last accessed April 18, 2017. ► https://www.bls.gov/oes/2013/may/oes_nat.htm; Marybeth Peters. “Analysis and Proposed Copyright Fee Adjustments to Go into Effect on or about August 1, 2009.” *Register of Copyrights*. March 15, 2009. Last accessed April 18, 2017. ► <https://www.copyright.gov/reports/fees2009.pdf>.

26 Kotkin, Joel and David Friedman. “Why Every Business Will Be Like Show Business.” *Inc.* March 1, 1995. Last accessed April 12, 2017. ► <https://www.inc.com/magazine/19950301/2182.html>.

There are various ways to reduce risk:

- Market forecasting;
- Insurance;
- Shift of risk to others;
- Diversification;
- Hedging.

3.4.2.1 Market Forecasting

Can the success rate of media products be improved by market research? Some of this is discussed in ► Chap. 9 Demand and Market Research for Media and Information Products.

3.4.2.2 Insurance

Typically, about 1.5% of a film's budget is spent on general insurance that covers the production if something goes wrong. "Errors and Omissions" insurance protects production companies against lawsuits for libel, slander and copyright infringement. For movies with outside funding, banks or investors require a "completion bond" to ensure that investors do not lose everything if the film runs out of money. "Completion bonds" are similar to insurance. They are purchased from a guarantor. Major bonding companies are owned or backed by large insurance companies. The guaranty fee is typically 3–6% of the production budget.

3.4.2.3 Step-Wise Investment (Option Contacts)

One major way to lower risk is to decompose a project into several phases, each with a different risk level, with the option to proceed or not to proceed to the next phase. Such arrangements are common in venture financing, as well as for film and music investments. For example, a producer might acquire rights to a book under an option contract for \$10,000, and commission a screenplay from a writer for another \$40,000–\$100,000. The producer and distributor, at each step, can proceed under pre-negotiated terms that give them an exit strategy in case they choose to get out of the project and cut their loss.

3.4.2.4 Risk Shifting

Content producers and distributors will reduce their risk by shifting it to others, in particular to:

- *Outside investors*, by sharing potential losses with them when they are sequenced into a late position on the ladder of those receiving payments. Being last to be paid, they bear a disproportionate share of losses.

- *Talent and performers*, by compensation based on profit-sharing, which makes them be a part of the downside risk. Here, too, they may be last in line for their payout for the upside, whereas the producer receives "first dollar" which is less risky. Risk can be shifted through control over the accounting of profits, in which direct costs and overheads are inflated, while revenues are understated. Fewer than 5% of released films show a profit for "net profit participation" purposes.
- *Suppliers*, by pushing inventory-holding requirements to them.
- *Buyers*, by requiring foreign distributors and other distribution platforms to "pre-buy" as yet unproduced projects.

Together, these techniques may make a content project profitable to the producer itself, even if it is a loss to others involved.

3.4.2.5 Content Portfolios and Diversification

If risk reduction is the key for the lowering of capital cost, diversification is the central element of such reduction. Financial theory shows that an investment can achieve a lower risk by being part of a portfolio. This is called diversification.

The first type of diversification is a "product extension," where a company uses its expertise in one area to extend into a related area. For example, the publisher of a business newspaper may also create a real estate magazine. The second type of diversification is that of a portfolio creation. If there is a slate of four movies, A–D, each with a different probability of success, the expected value of the overall outcomes is the sum of the products of the probability times the result.

In the media world, portfolio diversification is created all the time, for example by a music group owning dozens of labels, (each of which, in turn, may have dozens of artists), or by a publishing company with numerous magazine titles, or by a book publishers with many "imprints" (sub-brands) and titles.

There is a third dimension of risk reduction by diversification. It is based on the possibility that the separate items are not independent of each other but, rather, are correlated. People tend to plan seeing a movie on a weekend. If they decide against film A, the likelihood that they will see film B increases, and vice versa. A and B are negatively correlated.

The incremental risk of an asset depends on whether its returns tend to vary with or against the returns of the other assets held. If it varies against, then it reduces the overall variability of a portfolio's returns. As long as returns on assets are negatively correlated (when one does poorly, the other does well), a portfolio may have a low overall volatility even with extremely volatile individual assets.

Finance theorists have used the concept of “beta” to describe stock portfolios. Beta describes the sensitivity of a stock portfolio to broad market movements. The overall stock market (represented by an index such as the S&P 500 or FT-100) is assigned a beta of 1.0. By comparison, a portfolio which has a beta of 0.5 will tend to participate in broad market moves—but only half as much as the market overall. In contrast, a portfolio with a beta of 2.0 will tend to benefit or suffer from broad market moves twice as much as the overall market.²⁹

An arrangement in which studios distribute numerous films, or music groups own multiple music labels, or print publishers own multiple magazine titles, and so on, reduces risk by pooling many risky projects into a much less risky portfolio. This makes their aggregate cash flow much safer for the lenders and, hence, lowers their cost of capital. By reducing risk, portfolios reduce the cost of capital for media companies and increase their access to financing. This is one of the major factors for a content company's success: to deal with high-risk projects at a medium-risk financing cost.

3.5 Product Development

As presented above, organizational structure and risk reduction are two major factors for advantages in production. Product development is the third key factor and will be discussed now.

3.5.1 Concept (Style)

A product's design needs to be based on an understanding of users and the market. For innovative products, the design may be ahead of market demand. A product will often fail if it is too far ahead. This is true for media technology as well as for media content. Originality is important for

success but radical originality will often miss the mass audience. To be one step ahead of mass taste is innovative, to be three steps ahead is risky in business (and artistic) terms.

Media products typically aim at either a mass market or niche market.³⁰ Mass-market media products will be near the center of the taste distribution. They are typically short-term oriented and marketing-driven.³¹ Niche products will be more at the edges of the distribution, seemingly with low demand. However, the center is likely to be crowded with other products, while niches may well be less contested. Niche audiences may therefore be just as high, while higher prices may be achievable and shelf life is longer.

Book publishing has always combined a niche orientation with a mass-market orientation (“best-sellers”). An orientation toward specialization is obvious for professional books. But, even in fiction, publishers have ventured far to attract niche audiences through finely tuned sub-genres.³²

The divergence of the “popular culture” approach from the “niche” approach is one of the differences of Hollywood film vs. “artsy” films. In film, there are two major perspectives on style. The Hollywood orientation on popular style is that of the business culture: “film is show business. No business, no show.” In several other film centers, greater reverence is given to the creator than to the audience. The filmmaker's orientation is to critical success (*succes d'estime*), and even disdain for the general public. The famous French-Swiss filmmaker Jean-Luc Godard put it provocatively: “Who is the enemy? The audience!”³³ This dichotomy is not new. Alexis De Tocqueville, the French political thinker, wrote in 1830, after visiting America: “In aristocracies a few great pictures [paintings] are produced; in democratic countries a vast number of insignificant ones.”³⁴

30 A third category is “true talent,” products which are driven by exceptional artists whose performance cannot be readily replaced. See Aris, Annet.

31 Aris, Annet and Jaques Bughin. *Managing Media Companies: Harnessing Creative Value*, 2nd ed. West Sussex: Wiley, 2009.

32 For example, Atria, an imprint of Simon & Schuster, publishes erotic African American romance novels. Another romance novel sub-genre is the Hispanic historical genre. Danford, Natalie et al. “Toujours L'Amour.” *Publishers Weekly*. December 1, 2003. Last accessed April 17, 2017. ► <http://www.publishersweekly.com/pw/print/20031201/29546-toujours-l-amour.html>.

33 Glazebrook, Phillip. “Movies versus films.” *The Spectator*. May 31, 1997, 39.

34 De Tocqueville, Alexis. “In What Spirit the Americans Cultivate the Arts.” In *Democracy in America Volume II*. Charlottesville, VA: University of Virginia. Last accessed April 18, 2017. ► http://xroads.virginia.edu/~HYPER/DETOC/ch11_11.htm.

29 RiskGlossary.com. “Beta.” July 9, 2009. Last accessed Aug 2, 2012. ► <http://www.riskglossary.com/link/beta.htm>.

3.5 · Product Development

Elements of “popular culture” in film (as well as popular novels, where applicable) include:

- Brisk pacing;
- Sexual tension;
- Episodes of action, violence, and suspense;
- Special effects;
- Intrigue;
- Mood music;
- A novel approach to an old fable;
- Happy ending or “wow finish.”³⁵

There is no inherent reason why other countries’ studios cannot produce similar popular content. Most European, Japanese, Indian, Korean, Australian and Egyptian films are not “artsy” but aim at popular taste, too. In other words, they, too, often try to be commercially successful but succeed less in doing so, at least when it comes to exports. (Usually, only the “high-culture” films get exported, thus creating a skewed image of quality.) The Indian film industry, known as “Bollywood,” aims squarely at popular taste, where (chaste) love conquers all. Bollywood films rarely mention politics, poverty, or the grim social realities of India.³⁶ They were produced mostly for audiences in South Asia, yet have been moving toward globalization, paralleling the broader shifts in the Indian economy. Both Hollywood and Bollywood succeed with audiences because their orientation is demand-driven and popular.

3.5.2 Product Selection

Selection among content ideas is a key media industry function. The typical investment per content production is significant at the level of major media companies.

- Hollywood film: \$70 million;
- Network TV series/pilot: \$8 million;
- Video game: \$10 million;
- CD with hit potential: \$1million;
- Book with best seller potential: \$0.5 million.

Any project competes for access to funding and to other scarce resources such as management

attention, marketing and promotion priority, production facilities and release timing.

The main phases of such a process are:

- Understanding the market and identifying needs;
- Attracting, receiving, or generating ideas;
- Selecting the project;
- Monitoring, testing, and modifying the product;
- Feedback.

It is claimed that, of 10,000 theater scripts, one play is being produced; of 5000 proposals for TV shows, one is chosen; of film scripts, one in 5000; and of novel manuscripts, one in 15,000. The president of the Doubleday book publishing house reported that of 10,000 submissions he received “over the transom” (i.e. unsolicited) each year, only three to four were accepted. Fox claims to receive 10,000 film screenplays, treatments, books and oral pitches yearly.³⁷ Of these, 70 to 100 projects move into development. Of these, only 12 films are created.³⁸ And, if only 20% of films break even, that would mean that about 2 are ultimately successful out of 10,000 that enter the pipeline.

For TV program selection, out of thousands of proposed ideas for series, in the USA about 600 are chosen each year for further development. Of those, only several dozen make it to the “pilot” stage test production. About 15 shows are then picked for regular programming by each major network. Most of these shows are not renewed due to insufficient audience success.

Business factors for selection are:

- Artistic quality.
- If based on a play, concert, or, a book, the sales history in that medium.
- Associated talent: directors, producers, authors, stars and their track record.
- The potential for sequels, merchandise, and movie-related books and video games.
- Competitive offerings.
- Fit with the company’s brand.
- Fit with the company’s portfolio.
- Pre-existing financing deals.³⁹

35 Wasko, Janet. “The Magical-Market World of Disney.” *Monthly Review* 52, no.11, April 2001: 56–71.

36 Mehta, Suketu. “Welcome to Bollywood.” *National Geographic*. February 2005, 52–69.

37 One must be somewhat skeptical about all these numbers.

38 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce*. Cambridge: Harvard University Press, 2000.

39 Levison, Louise. *Filmmaking and Financing: Business Plans for Independents*. New York: Focal Press, 2013, 47–49.

- Anticipated marketing effort (hard sell? likely word-of-mouth?).
- How promising the author/artist is for future creations.

3

In any selection process, there will inevitably be wrong calls followed by finger-pointing. Universal Pictures, after spending more than three years developing the script of *Shakespeare in Love*, decided in the end to pass on it. Disney's subsidiary Miramax then bought the rights and produced it, and the film went on to win seven Oscars, including for Best Picture. To avoid taking blame, there may be a built-in incentive to play it safe by accepting projects associated with well-known producers, directors and stars.⁴⁰

Of course, designing an effective selection system is important. But, any selection system, whatever it may be, will be denigrated by many of those left out as being biased, prejudiced and ignorant. And since, inevitably, most projects will be rejected, any selection mechanism will be unpopular within the artistic community.

In practice, the screening is a logistical challenge. The initial screening requires so many hours of professional attention that firms are trying to cut the effort (and cost) required. As a major screening mechanism, many publishers, film producers, or music labels do not accept submissions unless they come pre-screened through a trusted intermediary, such as an agent or a person whose judgment is valued. These agents, in effect, endorse the scripts. They are filters for quality, as well as legal firewalls. They have to do repeat business with a media company and hence must protect their own reputation by maintaining a balanced and objective perspective about their clients' work, while at the same time promoting it.

Given the large number of submissions and the need to keep track, a database must be created with relevant pieces of information. A book manuscript/proposal is then reviewed by an acquisitions editor or similar professional. The screener will write an internal report on projects that they recommend, and possibly also on those that require significant revision or rejection.⁴¹ The report may include an estimate of market

potential and production cost. An author's future potential is factored in.⁴²

In film and TV, some companies try to use computer tools to do the initial screening on the script. Scripts that pass are then reviewed by a studio reader who creates a "coverage" report, which very succinctly summarizes concept, plot, principals, commercial prospects and evaluation. This is reviewed by managers in charge of creative affairs and, if it proves to be suitable, is passed up the chain for approval. The script may go through a dozen executives. Input must also include that of marketers and financial managers (a sensitive issue for creators).

3.5.2.1 Economic Tools for Product Selection

Project selection takes place in every industry; it is not particular to commercially-oriented content industries. Most common is the technique that considers net "present value" (NPV) of a stream of income.

$$NPV = \sum_{t=1}^n \frac{C_t}{(1+r)^t}$$

C_t is the net cash flow in year t , r is the discount rate (the lower value of future cash (next year) over present cash), and t is the time of the cash flow.

Consider a film in which the total production costs come to \$7,000,000. The revenue, after the theater's share of half of the box office receipts, decrease each year by half, from \$5 million in the first year to \$2.5 million in the second year, and so on. We assume a discount rate of 12%. ■ Table 3.1 shows revenues and their discounted value.

Total net present value is:

$$\begin{aligned} \sum_{t=0}^4 \frac{C_t}{1.12^t} &= 7,921,516 - \$7,000,000 \\ &= \$921,516 \end{aligned}$$

The film is profitable, with a return on investment of about 13% (\$0.921 million/\$7 million).

40 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

41 Curwen, Peter. *The World Book Industry*. New York: Facts on File, 1986.

42 Autonomy. "How book publishers decide which books to publish." Last accessed June 13, 2014. ► <http://autonomy.com/writing-tips/how-book-publishers-decide-which-books-to-publish/>; Legat, Michael. "What Do Publishers Want?" *Writer Services*. 2001. Last accessed April 18, 2017. ► <http://www.writerservices.com/resources/what-do-publishers-want/>; Zacharius, Steven. "To Publish or Pass: The Editorial Meeting & Selecting Books for Publication." *The Huffington Post*. Last updated March 8, 2014. ► http://www.huffingtonpost.com/steven-zacharius/to-publish-or-to-pass-the_b_4542548.html; Bennett, Jeffrey. "How Publishers Choose Manuscripts." *Ezine Articles*. February 10, 2007. Last accessed June 13, 2014. ► http://ezinearticles.com/?How-Publishers_Choose-Manuscripts&id=449959.

Table 3.1 Net present value of a film project

Year	Cash flow, discounted	Present value
$t = 0$	−\$7,000,000	−\$7,000,000
$t = 1$	$\frac{5,000,000}{1.12}$	\$4,464,286
$t = 2$	$\frac{2,500,000}{1.12^2}$	\$1,992,985
$t = 3$	$\frac{1,250,000}{1.12^3}$	\$889,725
$t = 4$	$\frac{625,000}{1.12^4}$	\$397,199
$t = 5$	$\frac{312,500}{1.12^5}$	\$177,321

The problem with this tool is that the future-oriented revenue numbers are highly uncertain. Statistical tools for project selection were therefore developed to improve the odds on prediction. The problem is that they basically mimic whatever has worked before. Generally, these models do not work well in the selection process. If they did, the success rate of films or books would improve, and production companies not using such models would suffer, and there is no evidence for that.

3.5.3 Product Development

“Development” is the process by which a story idea or editorial concept is written, revised and improved. For technology projects, it is the “D” in “R&D”. According to one estimate, in 2002 the six Hollywood studios and their subsidiaries had more than 2500 ideas in some stage of development with producers. Most do not get produced in the end. For example, 90% of projects under development by Paramount failed to be green-lighted. Projects that fail to be green-lighted are either put in “turnaround,” which gives the producers the right to sell them to another studio, or are simply abandoned. The basic idea for a piece of content must be developed into a full outline of a work. The process is divided into defined stages, with an option at each step to continue for

another round. A film screenplay goes through a dozen of drafts, and is rewritten as late as during the shooting or in the editing process.⁴³ The original writer often has no role or say in the changes. (For Broadway theaters, labor union contracts gives playwrights veto rights.⁴⁴) High end “script doctors” may be paid high fees for last-minute emergency revisions.

Feedback to content designers is constant. Films are tested through “sneak previews” to help make changes. In theater, plays and production are tested through public performances.

The development process is even more structured for technology-based content, for example, software for a videogame. Here, the process starts with a lead designer/visionary, who is responsible for the game concept. The game is then broken down into a series of levels and missions for a player to complete.⁴⁵ The specialized tasks are managed by level designers, software planners, lead architects, and managers responsible for art, sound, and quality. A game design plan includes an overall budget, a schedule⁴⁶ and sub-schedules for engineering, art, various features, testing and so on.⁴⁷ Most video game console development teams require 20–50 people, and some over 100.

3.5.3.1 Market Research

Especially for expensive products, the development process will often be dominated by marketability, rather than art. This will include a search for appealing endings, and special effects with a “wow-factor.” The studios will also use test screenings and focus groups to fine-tune the film before the “final cut” version. That said, audience research often misses successes or failures. For example, opinion surveys predicted that the film *Fight Club* would be a flop—yet, it grossed more than \$100 million.⁴⁸

43 Vascieck, Donald L. “How to Choose a Good Script Consultant.” *Don-Vascieck.com*. October 13, 2010. Last accessed June 13, 2014. ▶ <http://donvascieck.com/screenwriting/how-to-choose-a-good-consultant/>.

44 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce*. Cambridge: Harvard University Press, 2000.

45 Newman, James. *Videogames*. New York: Routledge, 2004.

46 Long, Starr. “Online Product Development Management: Methods and Madness.” Presented at the Game Developers Conference, San Jose, California, March 4–8, 2003.

47 Bethke, Erik. *Game Development and Production*. Plano: Woodware Publishing, Inc., 2003, 19–95.

48 Barnes, Brooks. “Solving Equation of a Hit Film Script” *New York Times*. May 5, 2013. ▶ <http://www.nytimes.com/2013/05/06/business/media/solving-equation-of-a-hit-film-script-with-data.html>.

One type of market research is to recruit a focus group and preview audiences for in-depth interviews, or more general survey responses. The demographic makeup is either random or selected. Test audiences are often used for film in advance of its release. There are two types of such film “previews:” for production and for marketing. Production previews help filmmakers fine-tune the movie while it is being made, whereas marketing previews study an audience’s reactions to complete films and assess marketing strategy.⁴⁹

Many popular movies have been altered after being shown to test audiences. Originally, Glen Close’s character in *Fatal Attraction*—that of a vindictive, spurned woman—survived; however, audiences hated her and the ending was therefore changed to see her die.⁵⁰ Conversely, in the movie *ET*, the lovable alien space traveler character originally perished before test audiences rescued him and sent him back to his galaxy. Thankfully, test audiences do not always prevail. *Wizard of Oz* test audiences complained that “Somewhere Over the Rainbow” slowed down the movie but the song stayed and became a classic.⁵¹

These audience analysis tools are not used only by electronic media concerned with audience maximization. Newspaper editors, too, use various types of audience analytics to help shape their selection and placement of stories. On the Internet, it becomes much easier to track the popularity of individual stories, the time spent reading them and the potential for sharing with others. This tracking can be correlated with other data about each reader. Experiments become much easier on the Internet. If Amazon.com wants to find out whether a new webpage design increases sales, it can run a controlled experiment. It will show the design to, say, every hundredth visitor. Determination of whether the new design increases sales can be made within a few days.⁵²

3.6 Production Planning

3.6.1 Operational Challenges for Content Production

3.6.1.1 “Scientific Management”

“Scientific management” was a concept conceived in the early twentieth century by Frederick Taylor. He envisioned the firm as a well-oiled machine, with defined process rules, a clear hierarchy and each component being replaceable. Taylor introduced the stopwatch measurement of the time required for various tasks and, indeed, for each body movement. Taylor was lionized in his time, but his examples and stories were later revealed to be factually and analytically weak. Yet, the basic concept of a management of company operations based on models and numbers has survived.

Tools of operations management are:

1. Budgeting;
2. Production design;
3. Supply chain;
4. Inventory control;
5. Scheduling.

Software programs aim to guide managers by using internal and external data, and various analytical modules. Manufacturing resource planning (MRP) systems are used to organize production.⁵³ They use models of operations-research business process management and economic/finance analytical business models. But, to reach the proper judgment, a manager needs to understand the elements of such programs. This will be the subject of the next sections.

3.6.2 Budgeting

For a successful development process, a firm must balance three essential variables: budget, time and quality (■ Fig. 3.3).⁵⁴

49 Friedman, Robert. “Motion Picture Marketing.” In *The Movie Business Book*, 3rd ed. Ed. Jason Squire. UK: Open University Press, 2006, 282–298.

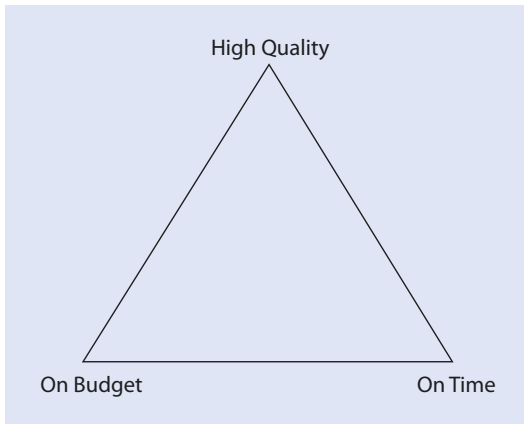
50 Bay, Willow. “Test Audiences Have Profound Effect On Movies.” *CNN*. September 28, 1998. Last accessed April 18, 2017. ► <http://www.cnn.com/SHOWBIZ/Movies/9809/28/screen.test/>.

51 Bay, Willow. “Test Audiences Have Profound Effect On Movies.” *CNN*. September 28, 1998. Last accessed April 18, 2017. ► <http://www.cnn.com/SHOWBIZ/Movies/9809/28/screen.test/>.

52 Varian, Hal R. “Kaizen, That Continuous Improvement Strategy, Finds its Ideal Environment.” *New York Times*. February 8, 2007. ► <http://www.nytimes.com/2007/02/08/business/08scene.html>.

53 Investopedia. “Manufacturing Resource Planning – MRP II.” Last accessed April 19, 2017. ► <http://www.investopedia.com/terms/m/manufacturing-resource-planning.asp>.

54 Based on Bethke, Erik. *Game Development and Production*. Plano: Woodware Publishing, Inc., 2003, 19–95.



■ Fig. 3.3 Tradeoffs in the development process

In the real world, projects tend to achieve only two of these goals.⁵⁵

1. On budget and on time, while sacrificing quality;
2. High quality and on budget, but requiring more time;
3. High quality and on time, but requiring extra spending.

The challenge to production planners is how to reduce overspending, while maintaining the schedule and the required quality.

To create a budget, one needs to know comparative data for similar projects and activities. Some are available to the producer or publisher from their own past activities, others must be found in databases, trade papers and industry magazines.⁵⁶ The rest need to be calculated based on specific cost items, hours, pay levels, rental fees and so on.

An example is the budget of several types of theater in New York City (■ Table 3.2). Theater productions and their budgets vary greatly according to the nature of the production itself—whether it is a Broadway show (premium commercial), an off-Broadway show (commercial or non-profit), or off-off Broadway (low-budget, non-profit).⁵⁷

For the high-budget theater categories, advertising/marketing and the physical production account for about 40% of the cost. Within physical production, “scenery” is the largest expense (12.5%) of the entire budget.⁵⁸

One particular thorny issue in budgeting is how to allocate costs among several different activities. Most media organizations pursue, at any given moment, more than one project. How, then, does one separate their revenues, costs and investments? This is discussed in ► Chap. 13 Accounting in Media and Information Firms. Here, we introduce one element, that of “activity-based costing” (ABC) or “activity-based budgeting” (ABB).

ABC enables budget accounts for various activities based on cost allocation for those activities. The full cost of each activity is calculated, and “cost drivers” are established that link cost elements to the various activities of the firm. ABC breaks down overall costs according to how many resources a particular activity consumes. ABC differs from traditional cost accounting, which assumes that the volume of the end product is the only driver of costs. ABC thus helps an organization to analyze which activities create what cost, and enables firms to control their costs based on tangible activities rather than general accounting reports.

An example for activities-based costing is provided in ■ Table 3.3.

Suppose a company makes music CDs as well as video DVDs. CDs are sold for \$10 wholesale, and DVDs for \$16. Of each type of disc, 20,000 are sold each week. Both use the same factory, the same workers and the same materials. One would therefore think that DVDs are the more profitable product line, with a sales price of \$16 vs. \$10 for CDs. But, before reaching such a conclusion, one would have to allocate the various costs associated with production.

The two products have the same cost for a jewel case and the underlying disc. But the DVD manufacturing also requires a patent license fee per unit, whereas the CD patents have expired. Also, the space requirements for DVD stamping are four times as high as those for CDs, and rent should be allocated accordingly. The overall wage bill (\$160,000) should also be allocated among the

55 Bethke, Erik. *Game Development and Production*. Plano: Woodware Publishing, Inc., 2003, 19–95.

56 Levison, Louise. *Filmmakers and Financing*. 4th ed. Oxford: Elsevier, 2004, 153–168.

57 The figures were compiled for the year 2001 and no updates have been published.

58 Brown et al. *Wonderful Town: The Future of Theater in New York*. New York: National Arts Journalism Program, 2001.

Table 3.2 Theater budgets (Subcategories partial)^{a, e}

Production type	Broadway	Off-Broadway (Commercial)	Off-Broadway (Nonprofit)	Off-Off-Broadway
Capacity	1350 seats	287 Seats	165 seats	60 seats
Length of run	Open-ended	Open-ended	56 performances	15 performances
Ticket price	\$25–\$70	\$47.50–\$50	\$40	\$15
	Cost \$/%			
<i>Physical production</i>	\$418,250 (20.9%)	\$66,500 (11.1%)	\$34,050 (15.5%)	\$1250 (16.7%)
Scenery	\$250,000	\$37,500	\$18,000	\$900
Costumes	\$50,000	\$7500	\$2000	\$250
Lighting	\$50,750	\$11,000	\$3000	\$100
<i>Fees</i>	\$179,300 (9%)	\$42,789 (7.1%)	\$22,500 (10%)	\$3150 (42.1%)
Director	\$50,000	\$9138	\$3800	\$1000
Author	n/a	\$7000	\$3600	\$0
Designers	\$100,300	\$14,388	\$10,000	\$1300
<i>Salaries</i>	\$161,288 (8.1%)	\$40,050 (6.7%)	\$51,180 (23.3%)	\$0 (0%)
Actors	\$75,120	\$24,000	\$23,760	\$0
Understudies	\$30,048	\$2108	\$0	\$0
Stage management	\$36,670	\$5958	\$9770	\$0
<i>Rehearsal expenses</i>	\$187,000 (9.4%)	\$55,100 (9.2%)	\$12,900 (5.9%)	\$1000 (13.4%)
Stagehands, load-in	\$130,000	\$15,250	\$11,500	\$0
Rehearsal space rent	\$13,000	\$5000	\$0 ^b	\$1000
Workshop expense	\$0	\$28,500	\$0	\$0
<i>Front of house</i>	\$40,000 (2%)	n/a ^c	\$12,730 (5.8%)	\$120 (1.6%)
Box office	\$40,000	n/a	\$9460	\$0
Programs	\$0	n/a	\$750	\$120
<i>Advertising/marketing</i>	\$469,000 (23.5%)	\$165,500 (27.6%)	\$57,300 (26.1%)	\$1955 (26.1%)
Publicist	\$8000	\$5500	\$2400	\$1000
Opening night	\$60,000	\$7500	\$2500	\$0
<i>General admin.</i>	\$211,162 (10.5%)	\$75,459 (12.6%)	\$15,423 (7.2%)	\$0 (0%)
Payroll taxes	\$28,778	\$10,727	\$9323	n/a
Insurance	\$25,000	\$5000	n/a ^d	n/a
Legal	\$20,000	\$16,000	\$0	\$0
<i>Contingency</i>	\$166,500 (8.3%)	\$100,000 (16.6%)	\$0 (0%)	\$0 (0%)

Table 3.2 (continued)

Production type	Broadway	Off-Broadway (Commercial)	Off-Broadway (Nonprofit)	Off-Off-Broadway
<i>Union bonds</i>	\$167,500 (8.4%)	\$54,602 (9.1%)	\$13,678 (6.2%)	\$0 (0%)
Actors equity	\$150,000	\$27,882	\$11,014	\$0
ATPAM	\$10,000	\$2740	\$0	\$0
<i>Total (pre-opening)</i>	<i>\$2,000,000</i>	<i>\$600,000</i>	<i>\$219,761</i>	<i>\$7475</i>
Per-week expenses	\$223,281	\$50,000	\$5000–\$11,000	\$937.50

^aBrown et al. *Wonderful Town: The Future of Theater in New York*. New York: National Arts Journalism Program, 2001, 49;

^bCompany pays annual rent;

^cFront-of-house expenses accounted for under other categories;

^dIncluded in annual company budget.

^eBudget sub-categories of “Other” are omitted.

Table 3.3 Activities-based cost allocation

Sales revenue	\$10/CD	\$16/DVD	TOTAL
(20,000 sold in each product line)	200,000	320,000	520,000
Costs of goods sold			
\$.60 jewel case	12,000	12,000	24,000
\$1.60 disc	32,000	32,000	64,000
\$1.60 special license for DVD	0	32,000	32,000
Total cost of goods sold	44,000	76,000	120,000
Gross margin	156,000	244,000	400,000
Operating expenses			
Rent	20,000	40,000	50,000
Wages	45,720	114,280	160,000
Energy	8,000	32,000	40,000
Total operating expenses	63,720	186,280	250,000
Net profit	92,280	57,720	150,000

two product lines. Suppose it takes longer to make a DVD because 50 steps are required, whereas CDs require 20 steps. To calculate the share in wages, one first determines the number of total steps for making the CDs (20,000 CDs • 20 steps) = 400,000 and the number of steps for making

a DVD = 20,000 DVDs × 50 steps = 1,000,000. The share of work steps in overall is, for CDs, 400,000/1,400,000 = 28.57% of the total labor steps, and correspondingly 71.43% for DVDs. The total labor cost of \$160,000 is then allocated accordingly.

Energy cost is allocated in a simpler fashion. Suppose that DVD machinery uses four times as much electricity. The percentage allocation then would be 80% for DVDs and 20% for CDs.

The results, after the ABC allocation are done based on our assumptions, show that the simpler and cheaper product, the CD, is more profitable in total (\$92,280 vs. \$57,720) and on a per unit basis (\$4.61 vs \$2.89).

3.6.3 Location and Supply Chain

An important management decision about production is its location and the extent of its outsourcing. Whether it is the assembly of electronic media devices or the editing of book manuscripts, production activities have been decentralized within highly developed countries and have also migrated to other countries. Factors are labor costs, taxes, local resources, market size and access to it, proximity, distribution costs, regulatory environment and governmental support.

Book publishers, too, have moved production activities, especially to India. For example, Springer Science Publishing employs 1200 Indian typesetters and editors for English and German language works.⁵⁹

Outsourcing to other firms allows firms to concentrate on their core activities while benefiting from the economies of scale of specialist firms.⁶⁰ For example, the UK public service broadcaster BBC, since 2001 has not been engaged in the technical aspects of actual broadcasting but has used the transmission service company Red Bees (a commercial BBC spinoff that also transmits for Virgin Media TV, Channel 4, Canal Plus, Channel 5, RTE and others.).⁶¹ This has lowered costs for the BBC, and has gained access to

updated broadcast technology and infrastructure with expert engineering support.

One must also recognize the downsides: most outsourcing relationships end up being unsuccessful. The failure rate is said to lie between 40% and 70%.⁶² For building solid relationships with suppliers, particularly those in distant countries with different legal systems, trust is a crucial element.⁶³ Such a relationship develops slowly. Typically, the first contracts with a new supplier will be on a project-by-project or shipment-by-shipment basis, and lengthens and deepens from there. A contract would have service level agreement (SLA) between the buyer and the supplier. If the supplier fails to meet agreed levels of service, SLAs usually provide for compensation, often in the form of price rebates.

Such an agreement is followed by constant coordination and careful attention.⁶⁴ It requires that:

- The production schedules of the buyers and the vendors are coordinated.
- Vendors are updated on strategic changes or new products early on.
- Forecasts of sales are shared in real time.
- A purchase order system is used to monitor the purchases.
- Bills are paid promptly.
- Vendors and buyers integrate each other's inventory planning or forecasting systems, electronic data interchange (EDI) and enterprise resource planning (ERP).

A typical way for a buyer to lower cost is to use several vendors to split orders and to rotate among them. However, multiple sourcing can also include hidden costs. Relationship handling costs are multiplied, and suppliers will have lower economies of scale and hence a higher cost.⁶⁵

59 Srinivasan, S. "German publisher Springer to shift 1,550 jobs to India." *Rediff*. September 14, 2005. Last accessed April 19, 2017. ► <http://www.rediff.com/money/report/jobs/20050914.htm>.

60 Outsourcing has different categories. Business process outsourcing (BPO) is the outsourcing of a specific operational task, such as payroll or invoicing. Knowledge process outsourcing (KPO) involves technological, analytical and R & D skills. In production process outsourcing (PPO), a contractor provides manufacturing.

61 "Outsourced Broadcast." *Cable & Satellite Europe* no. 261 (September 1, 2006): 1. ► <http://ezproxy.cul.columbia.edu/login?url=http://search.proquest.com/docview/221819396?accountid=10226>.

62 Overby, Stephanie. "The ABC's of Outsourcing." *CIO*. June 8, 2007. Last accessed April 19, 2017. ► <http://www.cio.com/article/2438784/outsourcing/the-abcs-of-outsourcing.html>.

63 Outsourcing requires considerations beyond direct cost. There are legal considerations: who is liable if a product causes harm? What is the recourse in the event of a dispute (which will be frequent)? How reputable is the supplier?

64 Board of Trade of Metropolitan Montreal. "Manage Your Suppliers." *InfoEntrepreneurs*. Last accessed May 22, 2014. ► <http://www.infoentrepreneurs.org/en/guides/manage-your-suppliers/>.

65 Gadde, Lars-Erik and Ivan Snehota. "Making the Most of Supplier Relationships." *Industrial Marketing Management* 29 (2000): 305–316.

3.6.4 Inventory Management

Operation research (OR) is a collection of mathematical and statistical techniques for decision making and management tasks. It often incorporates stochastic elements of uncertainty and random variables.

An example is the management of the supply chain, i.e. how to obtain the inputs for the production process. A firm must find and select suppliers, provide storage for its inputs, and store the finished products while awaiting distribution. The challenge is to reduce an expansive inventory sitting around without creating value, but incurring cost. At the same time, the inventory level must be consistent with the risk levels the firm seeks.

Perhaps the best-organized supply chain system is the renowned Japanese just-in-time (JIT) system. A JIT system requires major coordination and the reliability of all participants, with constant communication and interaction. It reduces inventory and waiting time. It favors production clusters that are geographically proximate.

The computer manufacturer Dell has an inventory strategy where it basically has no inventory at all. “Inventory is a four letter word at Dell.”⁶⁶ The company claims that it turns over inventory 107 times per year. CEO Kevin Rollins says, “The longer you keep it the faster it deteriorates—you can literally see the stuff rot...Cutting inventory is not just a nice thing to do. It’s a financial imperative.” Dell used to carry 20 to 25 days of inventory in a network of warehouses. It created a Japanese-style JIT manufacturing model, and this cut costs drastically. On the other hand, it makes the company more vulnerable to future labor strikes, natural disasters and other disruptions.

3.6.5 Production Scheduling

A major operational challenge for content production is scheduling: production timetables, release dates, sequencing and so on. Software packages make this easier and faster. For film, in particular, planning must be elaborate. Each

day of production costs a great deal of money. For example, the film *Terminator 3* was running a daily operating cost of \$300,000. Stars may become unavailable after certain dates. It is therefore important to organize the process of production.

In the James Bond film *Tomorrow Never Dies*, while the main star Pierce Brosnan was playing the 007 hero in London, a stuntman playing James Bond was being filmed at another English location. A third “Bond” was parachuting out of a plane in Florida, a fourth “Bond” was piloting a speedboat in Bermuda, and a fifth “Bond” was shooting a swimming scene in London. The coordination of these scenes and their logistics requires elaborate planning, especially since they included many uncertainties, such as weather.⁶⁷

An important function of production management is thus the scheduling of facilities and people. In a flow job operation, with a high and standardized process, this is a more predictable task. A rotogravure printing company, for example, will schedule the various magazines it prints very tightly in order to optimize the very expensive machine. In order not to create problems for other magazines with their varying distribution schedules, they absolutely must adhere to these times.

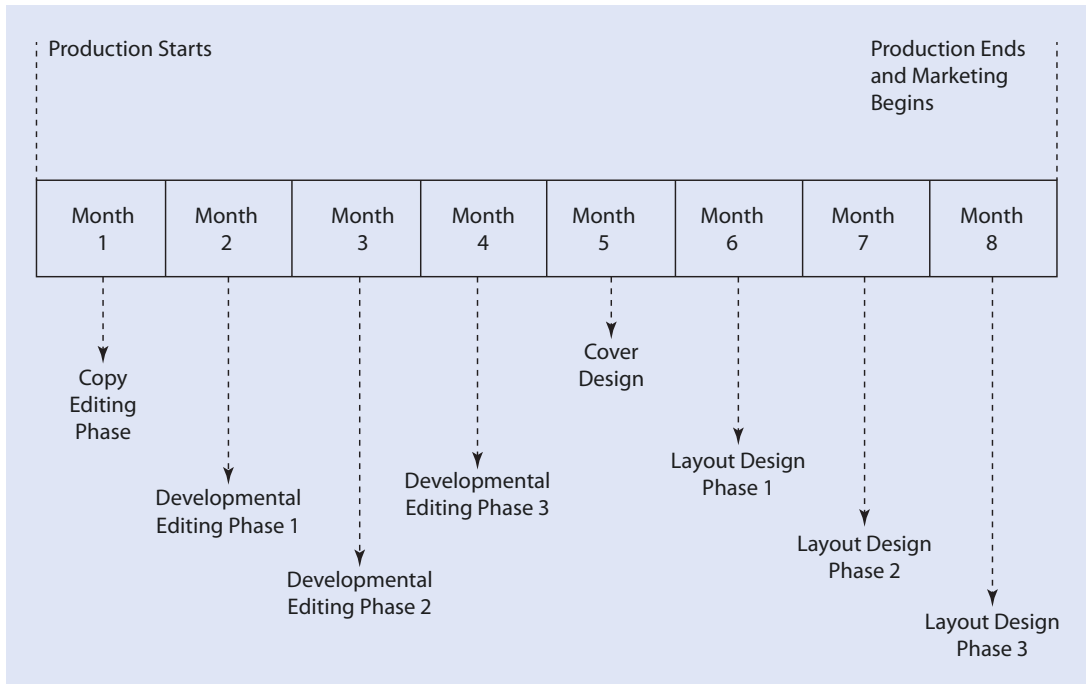
For a film, the script is broken down into scenes. Each scene must be planned in a “breakdown sheet”, which includes locations, cast, props, wardrobe, extras, stunts, visual and special effects, animals, vehicles, and so on.⁶⁸ It also incorporates the number of work days required at each location. The length of each scene is estimated by its page count, measured in eighths of a page.

Planning is similar for a monthly magazine, with tasks that need to be done by specific days prior to publication. For example, the editorial copy may get started 49 days before the publication date. The first stage of editorial work must be completed 41 days before publication. The pages are then proofed and finalized, and that copy goes to the printer 31 days before publication, and back to editorial on day minus 24, and so on. The schedule incorporates other items, such as the cover, advertising, printing and delivery.

66 Breen, Bill. “Living in Dell Time.” *Fast Company*, November 1, 2004. Last accessed April 19, 2017. ▶ <http://www.fastcompany.com/magazine/88/dell.html>.

67 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

68 Honthamer, Eve Light. *The Complete Film Production Handbook*. Burlington, MA: Focal Press, 2010, 57.



■ Fig. 3.4 Gantt schedule for book production

3.6.5.1 Gantt Chart

A popular planning tool is the Gantt chart, which displays how a project proceeds over a timeline, and where the project stands in terms of overall completion.⁶⁹ An example, as applied to book production, is ■ Fig. 3.4.⁷⁰

3.6.5.2 The Critical Path Method

A different tool used for scheduling is the critical path method (CPM). The chemical company DuPont developed the critical path methodology in 1957. CPM displays a timeline of the project development, but additionally prioritizes the different parts of the project. It identifies activities that can delay the entire project.

A hypothetical example for a CPM diagram is the production of a new microchip (■ Fig. 3.5).⁷¹ The project comprises the tasks of: (A) wafer preparation—three days, (B) micro-electrode production—four days, (C)

photolithography—one day, (D) etching—two days, (E) electrode assembly—two days and (F) metal deposition—three days. These tasks have their own start and end dates. Activities C and D cannot be started unless activity A is completed. It means that if the task A is delayed, tasks C and D will be delayed, too, as would be the entire project. Conversely, there is no point in tasks D and E being completed, as they are, in days 5 and 6 and then sit idle while F is scheduled to be completed only after seven days, even without delays. Therefore, the project manager has to accelerate the finish of activity F by one day, possibly by using resources from activity D which would slow down that activity by one day. This juggling would result in all tasks being completed at the same time, on day 6.

CPM works best as a scheduling tool for projects with fairly high certainty as to the completion times of the various stages. Applications include the scheduling of magazines, books and regular TV series, where the estimated completion times tend to be predictable. Many other projects, however, present uncertainty for their completion times. Here, a closely related methodology, the product evaluation and review technique (PERT) is applied.

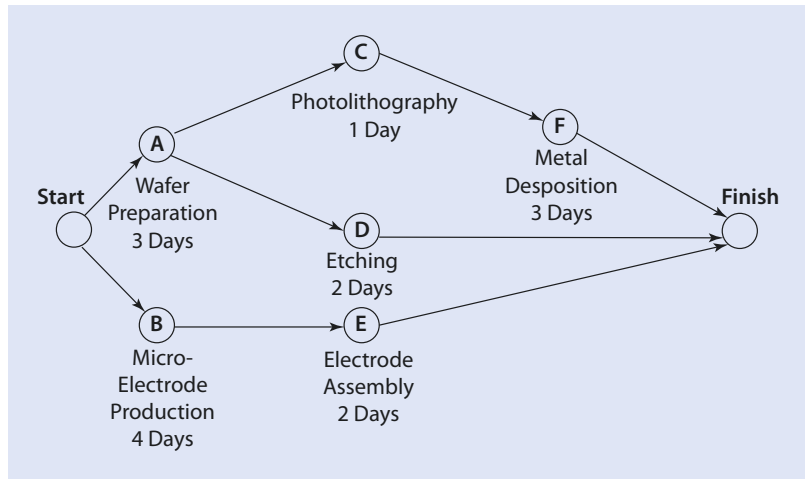
69 Gantt, H. L. *Work, Wages and Profit*. New York: The Engineering Magazine, 1910.

70 Based on McKay, Hannah. "The Production Timeline." *Shadow Time Writers*. May 30, 2014. Last accessed April 19, 2017. ▶ <http://shadowtime-writers.com/tag/production-timeline/>.

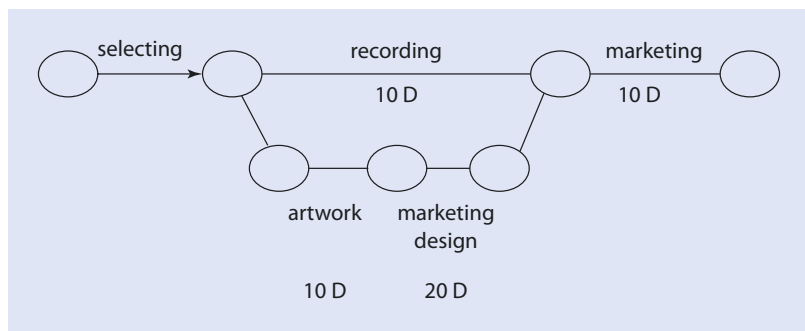
71 Figure based on NetMBA. "CPM Diagram." *NetMBA Business Knowledge Center*. ▶ <http://www.netmba.com/operations/project/cpm/>.

3.6 · Production Planning

■ Fig. 3.5 Critical Path Method (CPM)



■ Fig. 3.6 PERT chart example for music video production (schematic)



A PERT chart approach helps to plan where different activities are involved. It defines the required activities that are part of the project, their estimated completion period, with a certain probability, and whether they are a prerequisite to other steps.⁷² The methodology was initiated in the 1950s for large defense systems where hundreds of contractors were required to fulfill thousands of tasks, each contributing to a project with a certain probability distribution for completion. For each activity, the expected time is approximated by incorporating the most optimistic, the most pessimistic, and the most likely, in this weighted average:

$$\text{Expected time} = (\text{Optimistic} + 4 \times \text{Most Likely} + \text{Pessimistic}) / 6$$

An example for a PERT chart is how to produce an online music video (■ Fig. 3.6). The process is

broken down into five activities: selecting, recording, artwork, planning marketing and marketing. Each of these activities has an expected length of time (in days) to be accomplished.⁷³

The expected time is based on an optimistic scenario (O), a pessimistic scenario (P), and the most likely scenario (L). $E = (O + P + 4L) / 6$.

For example, suppose that for recording the scenario would mean, in days, either 8 (optimistic), 16 (pessimistic), or 9 (most likely). The expected time would be: $E = (8 + 16 + (4 \times 9)) / 6 = 60 / 6 = 10$.

In a similar way, the other expected times can be estimated for each operation. Two parallel tracks are designed for the production. While recording is taking place, artwork and marketing design is taking place. Their expected time is $10 + 20 = 30$. This is a considerably longer time path than the expected time for recording, which is 10. Thus, the recorded music would have to wait

72 NetMBA. "PERT." *NetMBA Business Knowledge Center*. Last accessed April 19, 2017. ► <http://www.netmba.com/operations/project/PERT/>.

73 Figure based on McGraw-Hill Technology Education. "Multimedia: Making It Work." *Lesson 15-Planning and Costing* (2003): 14. ► <http://ewibowo.files.wordpress.com/2009/02/10-planning-costing.pdf>.

for 20 slack days for the other necessary tasks to be completed. The only way for the two tracks to converge in time would be for recording to perform according to the worst-case (pessimistic) scenario (20 days), while the marketing design and artwork perform according to the most optimistic scenario (5 and 15). This is a conceivable scenario, but highly unlikely. Its probability is:

$$\left(\frac{1}{6}\right) \cdot \left(\frac{1}{6}\right) \cdot \left(\frac{1}{6}\right) = \frac{1}{256}, \text{ i.e. 4 chances in 1000.}$$

The alternatives would be to speed up the artwork and the marketing design to match the expected recording activity time, which could be expensive, or to deliberately slow down recording (for potential cost savings but slower output), or to create a parallel track for artwork and marketing.

This is a simplistic example, of course, but imagine its extension to a more complex project such as making a film, with numerous activities, some of which that can be in parallel, others that must be sequential, and all with a varying likelihood of on-time performance.⁷⁴

3.7 Production Control

To control and run the success of a business or product, one must be able to measure performance. Traditionally, performance measurement has been financial, going back to the double-entry book keeping of fourteenth-century Venice, and to cost accounting adoptions by Josiah Wedgwood and Alfred Sloan as part of modern cost accounting. Measurement techniques became more refined for the continuous-flow type of production.

3.7.1 Budget Control

Monitoring of actual time used, cost of various activities, performance, and a comparison of planned (“budgeted”) and “actual” figures helps to decide whether corrective action is needed. There are several cost tracking techniques. For a “job shop” production, job-costing is used, which compiles direct costs (materials and labor) as

well as a share of overheads and indirect costs attributed to each project. “Flow shop” firms that repetitively produce homogenous goods use process costing, and calculate unit costs or total costs divided by the number of units.⁷⁵

Budgeting needs to be continuously adjusted. Software packages make this easier and faster.⁷⁶ To control cost, high-budget activities such as film shoots utilize daily production reports. They state how many minutes were filmed or recorded, the estimated running time of the film created, the hours of all crew and cast members, and the events on the set.⁷⁷ One measure of production effectiveness is the “shooting ratio,” which is the footage that is to be used for post-production editing relative to the footage shot.⁷⁸

A daily cost overview is provided in [Table 3.4](#) as an example.

What does this daily cost sheet show? It was the fourth day of shooting the film *Another Day, Another Dollar*. During the day, four scenes, accounting for 4 and 5/8th pages of the script were completed. However, this was two scenes and 6/8 pages behind the schedule. At the same time, cost ran over by \$21,088, chiefly due to an extra hour of shooting, which also led to various other charges. A few budgeted items such as extras and meal penalty, however, came in at less the cost, and slightly offset the day’s deficit. Thus, on that particular day the production was behind schedule, took longer, and cost more than planned.

3.7.2 Productivity Measurement

“Productivity” describes how efficiently a company transforms inputs into outputs. It measures the units of product or service produced per inputs such as employees or unit of time, space and capital investments. This can be expressed, in principle, by the ratio $\frac{\text{Output}}{\text{Input}}$.

The higher the ratio, the greater the productivity.

74 Manchester Metropolitan University. “PERT Analysis Toolkit.” *MMU*. Last accessed April 19, 2017. <http://www2.mmu.ac.uk/media/mmuacuk/content/documents/bit/PERT-toolkit-v1.pdf>.

75 Wild, Ray. *Production and Operations Management*. London: Cassell, 1995.

76 Honthaner, Eve Light. *The Complete Film Production Handbook*. Boston: Focal Press, 2001, 27–34.

77 Patz, Deborah S. *Surviving Production: The Art of Production Management for Film and Television*. Studio City: Braun-Brumfield, Inc., 114–122.

78 Kindem, Gorham and Robert Musburger. *Introduction to Media Production*. 2nd ed. Woburn: Focal Press, 2001, 55–60.

■ **Table 3.4** Example for daily cost overview accounting

Show _____ <i>Another Day, Another Dollar</i> _____			
Prod. # _2777_____			
Date ___07/05/2017_____		Day# _4_____	
Start Date: _07/01/2017_____			
Scheduled finish: _07/18/_2017_____ Revised Finish: _07/20/2017_____			
	Per call sheet	Shot	Ahead/behind
# of scenes	6	4	2 behind
# of pages	5 3/8	4 5/8	6/8 behind
	<u>Budgeted</u>	<u>Actual</u>	<u>Cost overrun (-)</u>
Cast overtime	<u>\$5,000</u>	<u>\$6,500</u>	<u>\$1,500-</u>
Shooting hrs.	<u>12</u>	<u>13</u>	<u>\$20,000-</u>
Meal penalty	<u>\$500</u>	<u>\$300</u>	<u>\$200</u>
Extras	<u>\$632</u>	<u>\$577</u>	<u>\$55</u>
Catering	<u>\$840</u>	<u>\$960</u>	<u>\$120-</u>
Technical equipment	<u>\$2,250</u>	<u>\$1687</u>	<u>\$563</u>
Unanticipated	Add'l prop asst.	10 hrs. @ \$22/hr.	<u>\$242-</u>
	Fringe		<u>\$44-</u>
		Total for today _____ \$21,088-	
		Previous total _____ \$4,000-	
Grand total _____ \$25,088- (over)			

Table based on "Daily Hot Costs" figure from Honthaner, Eve Light. "Basic Accounting." *The Complete Film Production Handbook*. New York: Elsevier, 2010.

■ **Table 3.5** Film investments, revenues, and ROI

	Investment/film (US\$ million)	Worldwide tickets/film	Worldwide tickets/ investment	Overall Revenue/ investment	Return on investment
USA	70	17	0.24	1.27	0.27
Europe	7.5	0.6	0.08	0.40	-0.60
India	1.5	3.5	2.33	1.19	0.19

Operationalizing this, the following are measures for such an output/input relationship:

1. Revenues/employee;
2. Value-added/employee;
3. Revenues/cost of inputs;
4. "Total factor productivity" (output not caused by individual inputs).

Different methods of measuring productivity yield different insights, as ■ Table 3.5 shows, which compares productivities for film for the USA, Europe and India. When outputs are measured in physical units (i.e. films or TV shows), Hollywood's productivity is much lower than that of India or Europe. The investment required

per unit produced is \$70 million per film in the USA vs. \$7.5 million in Europe and \$1.5 million in India. But, when output is measured by tickets sold per invested dollar, India shows the highest number per dollar, at 2.33, while Europe is very low at 0.08. The USA is in between at 0.24. The Hollywood big budget is spread over a much larger audience, and its production budget per actual viewer is, hence, smaller than for a European film. For each ticket that is sold, Hollywood spends significantly less than its European counterparts. Its budget is much higher, but so are the number of ticket sales it generates per film.

On a per-ticket basis, Bollywood is even more efficient. But, when output is defined as revenues generated per investment, Hollywood at \$1.27 per dollar of investment becomes more productive than India (\$1.19), and much more productive than Europe (\$0.40). In Europe, films on average thus lose 60 cents on the dollar, and the deficit is made up by non-theater revenues, subsidies and co-production with TV networks. In India, films return 0.19 cents on the dollar, while in the USA they return 0.27 cents on the dollar.

When it comes to the productivity of individual creators, this is difficult to measure and such measurement is deeply unpopular with creatives. It is most accepted for software programming, where metrics for measuring productivity in software development exist, and data can be tracked and collected fairly easily.

For other types of writing, one method of measurement involves tracking production *output*, such as articles or pages completed by journalists, scriptwriters, or editors.⁷⁹ A daily one-hour soap opera episode requires the production of⁸⁰ about 75 pages of script per day by a writer or a team. However, such an output-oriented approach lacks considerations of quality or of difficulty. It takes much less effort for a journalist to cover a routine sports event than to break a local corruption story. Other ways to measure journalistic productivity therefore include measuring *input* activities undertaken by journalists, such as interviews conducted. A third and more recent approach, made possible by online publishing tracking technology,

is to count ‘clicks,’ ‘hits,’ or time spent by readers; in other words, measuring the *ratings* of a story in terms of its audience. What size readership does the writer generate? Neither of these approaches is particularly satisfactory for an individual story or day—let alone for the quality of journalism—but, over time, the numeric aggregates may reveal trends.

3.8 Revenue Shares of Producers in Media

The overall revenues of a medium must, in the final analysis, be split up among producers, creators, distributors, suppliers, wholesalers, retailers and so on. For all of their efforts, what is the approximate share that the producers receive from the overall consumer spending for their medium? ■ Table 12.2 in ► Chap. 12 Distribution of Media and Information shows the average numbers for various media industries.

On average, for 18 media industries, the share in revenues that is going to producers is above 44%—by far the largest share, much higher than for retailers, wholesalers and creators. However, a producer’s share also covers various inputs, components, and materials bought from suppliers.

For theatrical film, the producers’ net share is low at 14%, the share for distributors (i.e. the studios) is 30%, for theaters (exhibitors) 45% and for creators 11%. A film producer’s share rises to 20% for pay-TV and to 22% for online distribution. These increases can be explained by the lower share for retailers.

3.9 Content Production in the Next Generation of Technology

Although the cost of production hardware has declined, thus enabling the entry of small independent producers, it would be a mistake to believe that overall production costs have therefore dropped. Hollywood’s average “negative costs” for a film rose from \$47.7 million in 2001 to \$88.6 million in 2011. This rise in production costs will be even greater with next-generation content based on broadband and ultra-broadband connectivity throughput. These elements will create entertainment experiences with user immersion, user participation and some user control.

79 Picard, Robert G. “Measuring and interpreting productivity of journalists.” *Newspaper Research Journal* 19, no. 4 (Fall 1998): 71–84.

80 Allen C. Robert. *Speaking of Soap Operas*. Raleigh, NC: University of North Carolina, 1985, 46–73.

3.10 • Case Discussion

The lower costs of technical equipment apply to everybody and, as a result, much more content is being produced and supplied. As content supply grows relative to the fairly steady stock of attention, the general expectations on production quality standards rise, and with them the cost of production. There will thus be an even greater pressure for “blockbuster” content that stands out from the crowd, and for content that makes the most of the multi-media and interactive features of broadband communications.

To produce such content is expensive. It requires creativity, programmers, performance testing and the continual generation of new versions. The production of the film *Avatar* required 900 graphic designers.⁸¹ Such content exhibits strong economies of scale on the content production side, and strong network effects on the demand side.

At the same time, the broadband Internet means that such content can be distributed globally at a relatively low cost. This has been termed “the death of distance.” People in Peru, Panama and Portugal can select, click and download. The protection of distance is thus giving way, as are many of the protections of regulation and licensing.

The content itself exhibits strong economies of scale. Once produced, it can be reproduced at almost no cost. Of course, there will also be opportunities for other producers to create and distribute specialized programs for niche and general audiences. Providers and producers will

also emerge in other production centers, such as India, Europe, or Japan. They will be based on the cultural, technological and financial resources of those regions.

There is also room, in creating innovative content, for new ideas on content, format and interactivity to come from new directions and new firms. New types of content production specialists will emerge on the technology side, often in the Silicon Valley cluster of innovation.

The major audiences will still be attached to big-budget and technically sophisticated productions that combine glitz with technology. In this environment, Hollywood will be even stronger, because it will have a more direct link to global audiences. It does not have to go through the intermediaries of TV networks, and will pass through fewer regulations of governments. It has also the ability to fine-tune prices. And it can also deploy in its network of specialists the talent and creativity from anywhere—animators from Japan, special effects software in India, post-production in Shanghai, venture finance in London, technologists in Silicon Valley and advertising companies in New York.

Such a networked firm structure can cope with change and innovation. It is strengthened by more powerful communications pipes, since the clustering can spread beyond those of geography. Thus, “Hollywood” will become less of a description of geography and more of an industry structure.

3.10 Case Discussion

Canal Plus and the Hollywood Advantage

In the pursuit of claiming a global role in content production comparable to that of the Hollywood content companies, Canal Plus has strategic options, or a combination thereof:

1. Buy Hollywood (and European) studios;
2. Seek governmental support;
3. Vertical integration of content and distribution;
4. Multi-platform integration;
5. Expand language reach;
6. Globalization of content;
7. Sign up stars;
8. Advanced technology;
9. High budgets;
10. Cheap and large financing;
11. Diversification;
12. Shift to a two-tier system of independent producers and co-producers.

Strategy 1: Buy Hollywood (and European) Studios

In the early 1990s, Canal Plus bought the library of the failing Carolco Studio in Hollywood. More significantly, in 2001, the parent company Vivendi bought Universal Film and Universal Music—both of them top American and global media firms. But, in 2004, in financial distress, Vivendi sold 80% of

81 Webneel. “3D Animation Movie Making Process and Behind the Scenes – Avatar.” Last accessed April 19, 2017. ► <http://webneel.com/3d-animation-movie-making-process-and-behind-scenes-avatar>.

Universal Film to the American conglomerate General Electric (GE) in return for \$14 billion and a 20% partnership in NBCUniversal, which GE created by combining its NBC TV subsidiary with Universal. In 2011, Vivendi sold the remaining 20%, for \$5.8 billion to GE. Thus, this strategy proved unsuccessful for Vivendi.

Strategy 2: Seeking Governmental Support

The French film industry is subsidized in a variety of ways. The Centre Nationale de la Cinematographie (CNC) contributed about \$500 million per year. There is also support by several regional governments. France requires theaters to reserve 20 weeks of screen time per year for French (now European) films. DVDs cannot be sold or rented out for six months after the end of theatrical distribution.

There are also subsidies from the EU. EU support has a budget of €1.46 billion for the Creative Europe Programme. Although publicly advocating an absence of national support programs, in 2013 the EU Commission, in *New State Aid Rules for Cinema*, adopted new film-support rules that permitted aid to be “limited” to 50% of the production, distribution and promotion budget. Co-productions funded by more than one Member State may receive aid of up to 60% of the production budget. There are no limits on aid for scriptwriting or film-project development, or for “difficult” audiovisual works, and definitions were left open. Territorial spending obligations are permitted as long as they do not exceed 80% of the production budget.⁸² There are also film subsidies in other countries where Canal Plus films are being created. But perhaps the largest support element are the tax shelters known as Sociétés de financement de

l’industrie cinématographique et de l’audiovisuel (SOFICA) where wealthy investors can write off 40–50% of the investment against their tax obligations.

The strategy enlisting government support for cultural activities is traditional in France, as it is in many countries. Canal Plus has been effective in making use of this and extending it, and receiving significantly more governmental financial and tax support than Hollywood studios. This has raised French film production above that of other European countries. But it also has drawbacks. In that system of subsidies, in effect, various bureaucratic bodies decide what will be produced. As one young director put it—anonously, since he did not wish to offend the funding committees—“Every one seems to have a suggestion on what to do—add a character here or there, change the ending, etc.”⁸³

Strategy 3: Vertical Integration of Production and Distribution

A common view is that Hollywood firms dominate through their greater vertical integration. Canal Plus therefore set out to do the same. It became the predominant French and European distribution system (through pay-TV and film distribution), and a major producer of filmed content. There are similar vertical integrations of production and distribution in Germany (Bertelsmann with its divisions RTL and Ufa) and in Italy, with Mediaset and its film and TV production, including the large Dutch TV producer Endemol Media. Canal Plus/Vivendi has been successful in pursuing this strategy to provide its pay-channels with in-house content. But such content would have been forthcoming anyway from other providers, given the dominant role in retail pay-TV distribution which

Canal Plus has. Neither European nor American content can easily bypass Canal Plus, and this, not the vertical integration, gives Canal Plus an economic advantage.

Strategy 4: Multi-Platform Integration

A common view is that Hollywood content providers dominate through their greater horizontal multi-platform, multi-media integration.

Actually, no Hollywood company has been as horizontally (and vertically) integrated as Canal Plus and its parent Vivendi. Vivendi’s activities include (or included) music, television, film, publishing, telecommunications (mobile and wireline), the Internet and video games. For example, Vivendi acquired video game leader Activision Blizzard, which created successful franchises such as *Call of Duty* and *World of Warcraft*.⁸⁴ Vivendi acquired the film businesses of Universal and also the Universal Music Group, the leading music producer in the world with more than 20% of the global market.

In advertising, Vivendi took control of Havas, one of the world’s largest advertising groups. In telecommunications, Vivendi acquired SFR, France’s second largest mobile telecommunications company and a major Internet provider. Vivendi also acquired Maroc Telecom, Morocco’s leading mobile, landline phone and Internet provider. Obviously, these platforms could be used for content distribution. However, the platforms cannot discriminate against other content providers and distributors. Neither would Canal Plus limit its content exclusively to SFR subscribers and leave out the other 75% of French mobile subscribers. That would make

82 Katsarova, Ivana. “An overview of Europe’s film industry.” *European Parliamentary Members’ Research Service*. December 2014. ► [http://www.europarl.europa.eu/RegData/etudes/BRIE/2014/545705/EPRS_BRI\(2014\)545705_REV1_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2014/545705/EPRS_BRI(2014)545705_REV1_EN.pdf).

83 Briançon, Pierre. “Politics fade from French Cinema.” *Politico*. Last updated November 2, 2015. ► <http://www.politico.eu/article/politics-fade-from-french-cinema-movies-culture/>.

84 Hall, Jessica and Scott Hillis. “Guitar Hero meets Warcraft in Vivendi-Activision deal.” *Reuters*. December 2, 2007. Last accessed June 4, 2013. ► <http://www.reuters.com/article/2007/12/02/us-activision-vivendi-idUSN0236714920071202>.

sense only if its content would be so important that the mobile subscribers of Orange and others would switch their subscription to SFR just to get that content. And this is unlikely. It is therefore not surprising that, in 2014, Vivendi sold 80% of SFR to the French telecom and cable company Altice for \$23 billion.⁸⁵ Additionally, Vivendi acquired GVT, the leading high-speed Internet and connected television company in Brazil.

Subsequently, Vivendi came under the control of the French billionaire Vincent Bolloré, a close friend of former French president Nicolas Sarkozy. Bolloré, a major investor in Africa, also started the Direct 8 TV station and *Direct Soir*, a free newspaper. Bolloré then acquired enough shares in Vivendi to become its largest stockholder and, in 2014, was appointed chairman of the board.

In comparison, major US media companies also have a conglomerate structure, but not as strong and diverse as Vivendi's. But did this create much success for Vivendi? There is no evidence that conglomerate ownership of music, or games, or mobile phones have strengthened Vivendi beyond making it a more powerful presence as a company. The multi-platform integration, while it may make for an interesting story, did not seem to create much of an advantage in terms of synergy. Indeed, it is possible to argue the opposite—that the conglomerate structure ended up dragging Vivendi down financially. After billions of Euros in losses, Vivendi sold or spun off SFR, GVT, Havas, Activision Blizzard, Universal Pictures and Maroc Telecom. It explained these deals not as being based on financial revenue but,

rather, as a way to “unlock” shareholder value. At the time, its P/E (stock price to earnings) ratio was 3–6, whereas US media companies had a multiple of about 10. In other words, Vivendi was undervalued by investors.

It is left with the music group UMG, possibly because the music business has dropped so much that no one is willing to buy UMG at a decent price. And it is not clear how ownership of music labels and distribution helps Canal Plus or a film. This leaves Vivendi with one major asset—the Canal Plus group. That unit is strong, but not because of a conglomerate structure.

Strategy 5: Expanding the Language Reach

Film companies in smaller language markets are often said to be disadvantaged in comparison with those of English-language countries. Traditionally, the French government has made major efforts to spread the French language. Canal Plus, however, took the opposite approach with a strategy to join the widespread English-language market, rather than fight it. In 2006, when Olivier Courson became StudioCanal's CEO, 90% of StudioCanal's films were in French but, by 2012, 70% of its films were in English.⁸⁶ To deal with the criticism of cultural language advocates, Courson argued that StudioCanal's goal was to add a “European touch” to English-language films. The strategy—successful, on the whole—illustrates the point that reaching world export markets can be achieved by companies from a smaller language market, but that it requires a reduction of country-specific characteristics such as language and national culture components.

Strategy 6: Content Mainstreaming and Globalization

Courson began to support international co-production and local films that could be distributed globally to a bigger market.

StudioCanal's stated production priorities are:

1. International co-production;
2. Family entertainment;
3. Elevated genre (such as *The Last Exorcism*) and complex films;
4. Local productions with international appeal.⁸⁷

Of these priorities, 1, 2 and 4 are export-oriented and focus on popular films, whereas 3 is more culturally ambitious. StudioCanal still presents its brand as aiming at audiences with intellectual and artistic tastes. But its focus has increasingly become films that have mass appeal. Inevitably, this has led to a blockbuster orientation in which the revenue successes of its films are touted. Officially, the shift to a commercial orientation was downplayed. Courson stated that, “We at [StudioCanal] are developing more entertaining movies, but we also keep the link we have with auteurs.”⁸⁸

StudioCanal was a senior partner in the film *My Piece of the Pie* (2011) (*Ma Part du Gateau*). The film is about a single mother who loses her factory job and moves to Paris, where she is employed to clean the apartment of a rich broker. The film was not well received in the USA and an American critic, expecting a “French movie,” noted that it was just “another glossy coffee table book of a film, presenting familiar content through handsome, instantly forgettable images.”⁸⁹

Thus, StudioCanal's films may have become less “French movie”

85 Altice tried to acquire the remainder of SFR with a stock swap but was blocked in October 2016 by the French securities regulator.

86 Pereira, Miguel Mendes. “Vertical and Horizontal Integration in the Media Sector and EU Competition Law.” Presented at The ICT and Media Sectors within the EU Policy Framework, Brussels, April 7, 2003. http://ec.europa.eu/competition/speeches/text/sp2003_009_en.pdf

87 Hopewell, John. “Financial Sense Yields Solid Results.” *Variety*. May 11, 2012. Last accessed April 19, 2017. <http://variety.com/2012/film/awards/financial-sense-yields-solid-results-1118053320/>.

88 Barraclough, Leo. “Canal Plus at 25.” *Variety*. November 2, 2009, A27-A28.

89 Sachs, Ben. “My Piece of the Pie.” *Chicago Reader*. February 2, 2012. Last accessed April 19, 2017. <http://www.chicagoreader.com/chicago/my-piece-of-the-pie/Film?oid=5502884>.

for critics, but their global box office (not including the USA and Canada) increased by 32% over five years (2007–2011).⁹⁰ In France itself, in 2014, five of the top ten box-office hits were US movies. And the top three French movies were two light comedies, one of which was *Lucy*, a Luc Besson film starring the American actors Scarlett Johansson and Morgan Freeman. The film was considered “French” only because it was partially shot and produced in France.

Strategy 7: Technology

Canal Plus adopted some of the content and special razzle-dazzle effects which Hollywood employs. Audience interest led StudioCanal to finance and distribute one major 3-D computer-generated animated film per year, jointly with the Belgian 3-D company nWave. This resulted in *Sammy's Adventure* (2010), *Sammy's Adventure 2* (2012), and *House of Magic* (2013), which had a substantial production budget at \$34 million.⁹¹

Strategy 8: Sign up Stars

A stereotype is that “European films are less concerned with A-list actors.”⁹² But, quite to the contrary, to broaden the appeal of Canal Plus films, its productions and co-productions include foreign stars in its own films or co-productions. Thus, Canal Plus has taken a similar approach to casting as do the Hollywood studios, by anchoring its marketing appeal on expensive big-name stars.

Strategy 9: Large Budgets

European films typically have much lower budgets than Hollywood films. But StudioCanal's budget

range is now \$15 million–\$25 million—lower than Hollywood but higher than in the past.⁹³ In several co-production deals where it was the junior partner, the budget was much greater, for example, *The Tourist* (2010), was a big budget film that cost \$100 million to make.

Strategy 10: Financing

When it comes to financing, it simply cannot be said that there have been no commercial funding sources for films in France aside from the government. Crédit Lyonnais was France's largest bank in the 1990s. It was owned by the French state, but became a leading lender to Hollywood in the 1980s. Crédit Lyonnais's top entertainment finance executive was Frans Afman, whose projects included deLaurentiis movies (*Serpico*, *3 Days of the Condor*) and various Cannon Films. *Pirates*, with Roman Polanski and Jack Nicholson, cost \$40 million and garnered a box office of \$5 million. Crédit Lyonnais also financed other independents—Carolco, New World, Vestrom, Hemdan—and many of them went to bankruptcy or reorganization. Crédit Lyonnais often funded second-rate films by second-rate production companies, often with big names past their prime but impressive to the bankers.⁹⁴ These included Katherine Hepburn, Charles Bronson, Robert Mitchell, Faye Dunaway, Shelly Winters, Elliot Gould, John Voight, Brooke Shields and Bo Derek. It also financed Grancarlo Parretti's disastrous takeover of MGM. After losing \$5 billion, the bank had to be bailed out by the government. Crédit Lyonnais

filed for bankruptcy in 1993. In 1996, its headquarters burned down and, with it, its data archives.

Canal Plus also diversified its funding beyond its own subscriber base. In 2011, it departed from the traditional use of bank loans and engaged in Europe's first slate financing to fund films.⁹⁵ In that slate deal, rather than buy a single film project, investors bought into a whole portfolio of films.⁹⁶

Strategy 11: Diversification

The stereotype is that only Hollywood has the scale to diversify in content and platforms. Yet, StudioCanal currently releases around 40 movies per year in European countries, and owns rights to around 5000 movies.

StudioCanal distributes around 15 feature films each year in France directly to theaters. Distribution activities include marketing, publicity, theater owner relations and transactions, TV/cable/VOD deals, and video releases. More than 2000 StudioCanal films are available online. StudioCanal also provides films for mobile phone viewing. Thus, the company has considerable diversity in distribution and volume.

Strategy 12: A Two-tier System with a Shift to Independent Producers and Co-Producers

Just as Hollywood has created dependent-independent producers, in France Canal Plus distributes dependent films to theaters—in a shift to a two-tiered structure. With these independents, StudioCanal's involvement is mainly that of financing and distribution, but the company also makes decisions

90 MPA. “Theatrical Market Statistics: 2012.” *Motion Picture Association of America, Inc.* Last accessed March 29, 2013. ► <http://www.mpa.org/Resources/3037b7a4-58a2-4109-8012-58fca3abd1b.pdf>.

91 Hopewell, John. “StudioCanal works ‘magic’ on sales.” *Variety*. February 7, 2013. Last accessed April 17, 2017. ► <http://variety.com/2013/film/news/studiocanal-works-magic-on-sales-1118065857/>.

92 Dautrey, Adam. “Euros Create Hits on Their Own Terms.” *Variety*. May 10, 2010, A14, A33.

93 Hopewell, John. “Variety's Achievement in Int'l Film Award: Olivier Courson.” *Variety*. May 11, 2013. Last accessed June 4, 2013. ► <http://variety.com/2012/film/news/creative-punch-meets-biz-savvy-1118053319/>.

94 Stadiem, William. *Moneywood: Hollywood in Its Last Age of Excess*. New York: St. Martin's Press, 2012.

95 Saigal, Kanika. “Slate financing: StudioCanal signs Europe's first slate financing.” *Euromoney*. November 2011. Last accessed April 19, 2017. ► <http://www.euromoney.com/Article/2928950/Slate-financing-StudioCanal-signs-Europes-first-slate-financing.html>.

96 The main investor was the European media fund, Anton Capital Entertainment, which put in about \$200 million. Other investors included US-based Falcon Investment Advisors and the Bank of America, as well as the Union Bank of Switzerland and various European institutional investors representing private parties.

about the script and other artistic aspects, and may also provide technical support.⁹⁷

Government film policy in France pursues the goal of helping artistically minded independent film producers flourish. By law, 2.125% of its considerable revenues (17% of the 12.5% that Canal Plus must invest into other films) must be allocated to films that have a budget of less than a \$5.2 million per year. That comes to a pool of about \$140 million per year. Canal Plus could thus cover half of the budget of 50–100 such films per year. Independent film producers account for 95% of films made in France.⁹⁸ Canal Plus helped finance at least 64% of French films, plus any films that may have been licensed or acquired later in “negative pickup deals.” On one level, such support of independent producers is a positive contribution. On the other hand, when Canal Plus supports two-thirds of French film productions it also creates major dependencies and enormous cultural power. If its orientation in picking projects to support is increasingly commercial, then it also affects the entire content direction of the French film industry and, thus, French culture.

Conclusion: How Does it All Add Up for Canal Plus?

Canal Plus and its production subsidiary StudioCanal became Europe’s closest counterpart to a major Hollywood studio. It is rooted in a new financial model—a pay-TV near-monopoly of a commercial company based on a de facto exclusive government license.

The official mission of Canal Plus is to create “mainstream auteur films that have audience punch without sacrificing artistic ambition.” Officially, Canal Plus is trying to merge the popular and artistic, but is “mainstream auteur” yet another oxymoron? Canal Plus has said that “StudioCanal needs to avoid dependency to any one market and develop line-ups that are common for each of the three main European markets that it serves.”⁹⁹ Translation: less French. It is also declared that it also needs to further focus on UK productions, which are popular throughout Europe. Translation: content that is more American-style. StudioCanal adopted a “mixed model of coordination and decentralization.” This means StudioCanal works with other distribution and production companies and often outsources

production duties. Translation: the Hollywood production model.

Though this will usually be denied, CanalPlus in the process is becoming indistinguishable from a Hollywood major. (The main difference, is that it has a government-granted virtual monopoly over pay-TV, allowing it to charge high prices. There is also a government-mandated support quota for independent filmmakers. In effect, it is a system that forces French consumers to subsidize French independent filmmakers.)

Thus, for the production and distribution of film content, certain fundamentals seem to operate. Hollywood majors, too, have moved in a direction that embraces more foreign stars, locales, themes and funding. On both sides of the Atlantic, we observe a convergence from national to global. There is also a counter-trend to more small independent filmmaking, made possible by cheaper digital equipment and online distribution. But the main viewing around the world is that of expensively produced premium products, and these have their distinct business dynamics.

3.11 Conclusion: Success Elements for Content Production

What does it take for success in content creation and production? Creativity and originality, of course. But that is not enough. Content production requires “organized creativity.” The image of content creation is one of individualism. The reality, once one moves beyond an initial flash of inspiration, is one of collaborative effort, in the same way that individual inventors have largely been superseded for major innovation by

organized R&D efforts by development teams of large or specialized firms.

In the media and communication sector, content creation has been an increasingly organized team effort. Newspapers, for example, rely on reporter teams, editors, a newsroom and so on. Performance arts—such as theater, dance and music—depend on troupes, orchestras and bands. Software and game companies rely on large development teams. In novels, the author (still largely the solitary creator) works with teams of editors and marketers. Other

97 StudioCanal. “Activities.” Last accessed May 29, 2013. ► <http://www.studiocanal.com/en/activities/france>.

98 Goodfellow, Melanie. “French Producers Boycott CNC over Crew Pay Deal.” *ScreenDaily*. March 21, 2013. Last accessed June 17, 2013. ► <http://www.screendaily.com/news/french-producers-boycott-cnc/5053189.article>.

99 Hopewell, John. “Variety’s Achievement in Int’l Film Award: Olivier Courson.” *Variety*. May 11, 2012. Last accessed May 30, 2012. ► <http://variety.com/2012/film/news/creative-punch-meets-biz-savvy-1118053319/>.

books—such as educational, reference and “how-to” books—do not depend on an individual creator but, rather, rely on author and editor teams.

Content creation is a high-risk activity, trying to meet the great but unpredictable audience demand for entertainment and information. There is intense competition for audience attention. Film may be the forerunner and path-breaker for most types of content creation. By analyzing Hollywood, we may find the success factors for content production more generally. Understanding them helps established media organizations, and independents and start-ups who seek their niche.

So, what do we deduce to be the elements of success for commercial content production? People can imagine dark conspiracies that keep Hollywood successful. Instead, they should look at it as a different business model. For most of its elements, artistry is only of secondary importance, the greater importance is managerial.

Key success factors for media production are diverse and can be grouped by focus:

Risk Reduction Techniques

Enable expensive production under uncertainty and risk through:

- A system of risk financing;
- Portfolio diversification;
- Transformation of discrete projects into a flow model.

Product Development

- Popular-taste oriented style and niches;
- A strong pipeline of project proposals;
- A strong system of selection and testing;
- Budget and cost tracking.

Organizational Structures

The most important success factor of content business is its evolving business model. That business model is important to all industries and all companies, not just in the media and digital sector.

- Project-based, ad hoc organizations with low fixed costs, and high project entrepreneurship;
- Skewed reward system as incentive to creators.

Put Together, the formula seems to be: *Competitive Creation and Oligopolistic Distribution*

The elements of content production reinforce each other. There is geographic clustering, as well as constant artistic and business interchange, as well as interaction and information exchange. There is also a physical agglomeration of activities, which creates proximity to skills and restructuring (disintegration) of content production. We can see these developments now moving to the breakup of electronics and other companies, with some specialist firms doing the design, others making the components, yet others manufacturing, and still others doing the marketing. Hollywood has developed this model not because of its superior access to management gurus, but because it has been engaged in a Darwinian process. Each year, about 200 major films are produced. Each of the major films costs about \$70–\$100 million to make, and \$40 million or more to promote. Many of these films disappear within days. Thus, under the pressures to sink or swim, companies and business practices evolved and re-engineered themselves continuously.

In that model, the Big Six Hollywood studios are mostly in the business of distributing films made by small independent or semi-independent firms. The studios also finance some of them, fully or partly. They may rent them production facilities, but their share in the actual production of the major films they distribute keeps declining, and is probably less than 20% now. (There are many gray shades between outright studio production and truly independent production.)

The studio companies (and similar companies in other sectors of media) are the integrators of this system, but they themselves are small relative to their activity level: low-central bureaucracy, low overheads, low levels of risk assumption, and low employee benefits to support. Even much of management staff is project-based.

Thus, content production in film today involves hundreds of small independent production companies—some established, some ad hoc and some start-ups—that, in turn, use hundreds of specialized firms with special skills. This has restructured the industry from one of vertically integrated firms with in-house skills to one based

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on specialists for hire. It forces the central media companies to concentrate on the coordination of multiple skills and elements, with an emphasis on multi-national, multi-cultural, and multi-media orientation. Their other major roles are in financing production and managing the distribution of the product.¹⁰⁰

Such a model of the project-oriented, increasingly “virtual” production firm may be the forerunner model for many business operations in general, which integrates creativity with business needs:

- Decentralized;
- Networked;
- Virtual;
- Freelance;
- Global.

The major content firms, then, are mainly coordinators, integrators of the specialist firms, and branders of the final products. This may be, for many industries, the business model of the future. It would not be the first time that media has led the way for a general business transformation. The printing press led the way for an industrial mass-production system. Perhaps the film industry model, created in the Darwinian process described, is a forerunner for the next stage: the global post-industrial production system and economy.

3.12 Review Materials

Issues Covered

In this chapter, we have covered the following issues:

- What we can learn from Hollywood regarding success factors for content production;
- What the future industry structure of content production looks like;
- The role of print publishers;
- The role of music producers and video game companies;

- Whether vertical integration plays a role for the success of content producers;
- How specialization and clustering shape media industries;
- What different types of risk-reduction strategies exist;
- How diversification can lower the risk of content portfolios;
- What the development process for content looks like;
- What factors play a role in the selection and development of projects;
- How budgeting and financing impacts the production of content;
- How to set budgeting and cost control among production activities;
- How to measure productivity for content production;
- How the next generation of technology impacts content production;
- What the future of content and content production looks like.

Tools Covered

We described these tools to deal with some of these issues:

- Options approach to project selection;
- Project valuation;
- Activities-based costing (ABC);
- Release sequencing;
- Gantt charts;
- PERT;
- Critical path methods;
- Portfolio diversification of content;
- Markowitz frontier of efficient risk-reward tradeoffs;
- Process flow diagrams;
- Production and cost functions.

3.12.1 Questions for Discussion

1. What is the effect of vertical integration of production with distribution and supporting industries (books, toys, music, games) on the success of Hollywood?

¹⁰⁰ Rifkin, Jeremy. “When Markets Give Way to Networks...Everything Is a Service.” *The Age of Access: How the Shift from Ownership to Access is Transforming Modern Life*. London: Penguin, 2000, 24–95.

2. What media production industry (book publishing, Hollywood, TV, video games) is least dependent on the others? Why? Is that an advantage or disadvantage?
 3. Which characteristics of major non-Hollywood industries (automobiles, manufacturing, services) should Hollywood adopt to better itself?
 4. How can one define and measure productivity in content production? Is it increasing?
 5. How will advancements in technology influence the future of film production? Newspaper production?
 6. How can the European film industries become more financially successful? Why, in contrast, are European book publishers more successful?
 7. Is the Hollywood production model a suitable model for other industries of the economy? What is an example?
 8. What are the ingredients of successful content production in music? What do they suggest for content production in general?
 9. Can content production be organized on an industrial scale? How can mass-production accommodate individualized creativity?
 10. Where can industrial production processes be applied to the content industry?
2. When did Hollywood produce the most films annually?
 - A. 1950s and 1960s.
 - B. 1990s and present day.
 - C. 1920s and 1930s.
 - D. 1970s and 1980s.
 3. The television and the film industries have always worked together to maximize their profits.
 - A. False.
 - B. True.
 4. The video game industry is becoming more creative with their products and taking more financial risks.
 - A. True.
 - B. False.
 5. Of the choices below, which country annually produces the most films per population?
 - A. France.
 - B. Italy.
 - C. United States.
 - D. Germany.
 6. Films with which ratings are the most profitable for Hollywood?
 - A. R-rated.
 - B. PG-13 rated.
 - C. PG-rated.
 - D. G-rated.
 7. Which of the following is *not* a 'negative cost' for a production company?
 - A. Printing.
 - B. Paying "below the line" cost.
 - C. Film editing.
 - D. Script development.

3.12.2 Quiz

1. Of the following answers, which one is *not* a reason for the unfavorable economics of theater?
 - A. Expensive to promote.
 - B. Difficult to create special effects.
 - C. Expensive to produce.
 - D. Expensive to distribute.
8. Which of the following is a disadvantage of vertical integration?
 - A. Raising of entry barriers for competitors.
 - B. Cross-marketing possibilities.
 - C. Alternative distribution for independent films.
 - D. Creation of captive suppliers and buyers.

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9. What structure is today's media production firm taking on?
- Market model of the firm.
 - Centralized firm model.
 - Network firm model.
 - None of the above.
10. In Hollywood, along with the music and video game industry, which is more important?
- Cost reduction.
 - Revenue generation.
11. Which of the following is *not* a reason for Hollywood's project selection success?
- Hollywood has learned to influence legislation.
 - Hollywood has a superior selection system to other film industries.
 - Hollywood has first pick of the best projects.
 - Hollywood has available investment funding for development.
12. A strong financing structure to invest significant capital in movies is missing from the European film industries relative to the structure of Hollywood financing.
- True.
 - False.
13. Which of the following is not a risk-reducing strategy in production?
- Insurance.
 - Higher pricing.
 - Step-wise investment.
 - Diversification.
14. Which of the following statements is true of the magazine publishing industry?
- Despite the recent mergers of global media companies, companies that publish magazines only can still prosper as only 160 of over 22,000 magazines have a circulation over 500,000.
 - With the mergers of global media companies, there are only a handful of companies which print 22,000 consumer magazines.
 - Both are true.
 - Neither is true.
15. Which factor influences the production budget of music recording?
- How many recordings the label thinks it can sell of the artist.
 - Reputation and experience of artist.
 - Genre of music.
 - All of the above.
16. The primary coordinator for a new film in many countries outside the United States are:
- The distributors.
 - The talent agency.
 - The executive producer.
 - The director.
17. Which of the following is *not* a media product content category?
- Profit-driven.
 - Segment-driven/niche.
 - Talent-driven.
 - Marketing-driven.
18. What are the limitations of the program evaluation and review technique (PERT)?
- May only be a guess.
 - Consistently under-estimates the expected project.
 - Activity time estimates somewhat subjective.
 - All of above.
19. In a Broadway theater production, what two aspects make up nearly 40% of the budget?
- Physical production and advertising/marketing.
 - Advertising/marketing and salaries.
 - Physical production and salaries.
 - Salaries and general administrative.
20. What is not a way to reduce risk in content production?
- Market forecasting.
 - Insurance.
 - Shifting of risk to others.
 - Specialization.
 - Hedging.

Quiz Answers

✓ 1. A

✓ 2. C

✓ 3. A

✓ 4. B

✓ 5. A

✓ 6. D

✓ 7. A

✓ 8. D

✓ 9. A

✓ 10. B

✓ 11. B

✓ 12. A

✓ 13. B

✓ 14. A

✓ 15. D

✓ 16. D

✓ 17. A

✓ 18. D

✓ 19. A

✓ 20. D

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4.1 Technology Drivers and Trends

The media sector consists of three broad segments: content creation, content distribution and media devices. This chapter focuses on the devices and their development, and, more generally, on the technology of media and communications that underlie distribution networks and content production. The key question of technology management is how to reconcile an unpredictable and disruptive process of innovation with organized business management.

The issues addressed are:

1. How does a media company organize its technology function?
2. How does technology innovation affect media industries?

Technology transforms our lives, our work, and the way we produce and consume media. For media firms, technology is destiny. Or, at least, it is a trajectory, a direction. Technology has always initiated big media innovations. The printing press created the publishing industry. The telegraph spawned global wireline networks. The phonograph created the music recording industry. Broadcast technology and TV screens shifted mass media to the home. More recently, personal computers, cellular mobile networks and the Internet have been rapidly transforming media.

As mentioned, in the Industrial Revolution, the main technology driver was the ability to create machine-based power as a substitute for human and animal muscle power. For the Information Revolution, the main technology driver is the increased ability to create machine-based information processing as a substitute and complement for human brainpower. This was achieved through the ability to manipulate sub-atomic particles (electrons and photons) through a variety of devices, followed by an ability to string these devices together to create systems and applications that could process all forms of information based on binary signals.

Not long ago, the various types of media employed specialized technology devices: text-based media such as newspapers used the printing press, audio-based media such as music used spinning vinyl records, film had its celluloid photographic technology, TV broadcasting transmitted various analog waveforms, while telephone networks enabled two-way audio signals over copper lines. Each of these media types was based

on separate technologies, devices, suppliers, producers, industries and regulatory systems. But, more recently, all are increasingly based on common technical elements:

- Semiconductor electronic components;
- Software programs and modules;
- Radio-frequency transmission and receiving devices;
- Information processors;
- Display screens;
- Optical signal devices;
- Storage devices and components;
- Battery technology;
- Fiber transmission and distribution links;
- Signal switching and routing devices;
- Information coding methods.

Because these components are usable across most types of media devices, the expectation was that this would also lead to a convergence in the underlying media technologies in media industries and firms, and thus of media themselves.

“Media convergence” thus became a concept much bandied about, but was slower to emerge in reality. In the 1980s, the conventional wisdom was that the future electronic environment would be dominated by a titanic struggle between the giants AT&T and IBM, then dominant in their respective sectors of telecom and computers. Both were making big electronic boxes that were interconnected worldwide, and which generated and controlled flows of digital information. Inevitably, they would become each other’s greatest rivals. Soon, however, business reality set in. IBM withdrew from the telecommunications sector, while AT&T abandoned its business in computers after incurring huge losses. There were other instances where successful companies moved beyond their core area and failed. Time Warner, in a major merger with AOL, wanted to enter the Internet; Microsoft made major investments in cable TV; the Japanese consumer electronics giant Matsushita (Panasonic) bought a Hollywood film studio; Bertelsmann moved into online activities. The outcomes were disastrous for the companies involved.

Will the same happen to a new set of media-tech companies, in particular Google, Apple, Amazon, Facebook and Samsung? Beyond company-specific issues, the more fundamental reason is that convergence is not the only business

trend. A second powerful trend is the acceleration of innovation, and with it the incentives to specialization and differentiation in order to succeed in a highly competitive environment. While technology has been converging, few firms have

succeeded in keeping up with the pace of change in multiple fields. Why this failure? To answer that question, we will discuss throughout this chapter a major “convergence firm”—the Japanese electronics and entertainment company Sony.

4.1.1 Case Discussion

Sony

Is Sony the exception, or a confirmation to the frequent failure of “convergence” companies in the technology field? Sony has been active in many media and media technology sectors: TV sets, radios, audio players, computers, cameras, film production, TV shows, music, film production equipment, games and hardware/software, telecom handsets and financial services. The question is whether Sony can be a technology leader in all of these fields. Has Sony’s technology strategy of convergence worked?

For 14 generations, the Morita family ran a sake brewery in Osaka. After Japan’s defeat in World War II in 1945, Akio Morita broke away from family tradition and started, in a basement, the Tokyo Telecommunications Engineering Corporation, soon renamed Sony Electronics. In 1950, Sony came out with its first breakthrough product, an inexpensive transistor radio. By the late 1950s, Sony had become a major producer of radios, television sets and other home entertainment devices. In the 1970s, Sony changed its strategy from that of a low-cost producer to being a technology leader with a wide array of smartly designed products.

In 1975, Sony introduced the first consumer video cassette

recorder, the Betamax. But the VHS technology of its rival, Matsushita, prevailed. In 1979, Sony introduced the Walkman as a portable cassette tape audio device and sparked a revolution in portable music and in music cassette sales.

Sony’s strategist in the 1980s was Norio Ohga, who had had a career as an opera singer and symphony conductor, Ohga negotiated Sony’s acquisition of CBS Records for \$2 billion. This helped Sony to launch the compact disc (CD). Based on the success of the CD, Sony entered the film business as well. In 1989, Morita bought the film studio UA-Columbia from Coca-Cola for \$3.4 billion. Nobuyuki Idei, who handled the home video division, succeeded Morita as Chief Executive Officer (CEO). Sony was nicely balanced across its business segments and geographic regions, deriving about a quarter of its sales each from Japan, Europe, the US and the rest of the world. Sony became, according to annual Harris Polls, America’s number one “best brand” for most of the years 1996–2007, ahead of Coca-Cola, Ford, or General Electric.

Since 2000, however, Sony has been under pressure. Worldwide prices for consumer electronics (CE) products fell. New competitors emerged. Sony’s revenues declined,

as did its profits and stock price. By 2005, Moody’s lowered its long-term credit ratings for Sony from A1 to A2. In that year, Sony’s most profitable business was not electronics or entertainment but, rather, financial services. Under fire, Idei’s successor, Kunitake Ando, was forced to step down. Welsh-born Howard Stringer, a former news producer at CBS in New York, became Sony president. He spoke no Japanese, was no engineer and operated mostly from Sony’s American base in New York.¹

Sony began rebuilding. It sold its real estate assets and financial services, and dropped 6% of its workforce (16,000 employees). It eliminated about 600 products, closed four plants in Japan and another four overseas. Another round of job reductions was started in 2012, totaling over 10,000. But this did not end the problems. Sony’s products did not sell as they used to. It lost a considerable amount of money on its TV sets, fell behind in flat screens, laptops and mobile phones, and was weak in MP3 players, despite the connection to its own huge music division (which also declined.) The questions are, therefore, whether Sony’s technology efforts worked well, whether they were well-managed, or whether they contributed to the decline of the company.

4.2 Technology Management

4.2.1 The Technology Function

Research and development (R&D) is the creation of new knowledge by a firm, and the strengthening of its existing and future operations and products. “Research” expands the

firm’s scientific knowledge and engineering skills. “Development” applies this knowledge and makes it relevant to the firm’s business through new products.

¹ Schlender, Brent. “Inside the Shakeup at Sony.” *Fortune Magazine*. April 4, 2005. Last accessed August 10, 2012. ► http://money.cnn.com/magazines/fortune/fortune_archive/2005/04/04/8255921/index.htm.

The image of innovation has been that of an individualistic endeavor. Indeed, lone (or duo) inventors abound—Gutenberg, Fulton, Watt, Marconi, Morse, Bell, Tesla, the Wright Brothers, the Lumière Brothers, Jobs and Wozniak, Gates and Allen, Brin and Page. But the reality of corporate R&D is less glamorous than such heroic images of invention. Thomas Edison's major innovation may not have been the real lightbulb but, rather, a figurative one: the organized process of invention.

Edison established a free-standing laboratory in 1876 in Orange, New Jersey. In that laboratory, one year later, the Edison team developed a rotating wax tin-foil cylinder with grooves, creating the first consumer electronics product. In 1891, Edison's lab came out with an early movie technology. In 1879, the lab developed the light bulb; this led to electric power generation and distribution which, in turn, enabled and powered numerous new devices.

Following this model, major companies established large organized R&D structures. They created sprawling research facilities such as Bell Labs, IBM Labs, RCA Laboratories and GE-Labs (■ Fig. 4.1).² Similar big corporate labs exist in other countries. This approach has not been the organizational path for start-ups, which are more inclined to follow the lone-inventor model. However, some of the most innovative technologies were initially spawned inside the large labs by researchers who then went out on their own.

4.2.2 Chief Technology Officer (CTO)

Inside a company, the technology function is often run by an executive with a title such as Chief Technology Officer (CTO) or Chief Scientist. The CTO is the link between business managers and technical personnel. The role of the CTO must be distinguished from that of the Chief Information Officer (CIO), who is responsible for internal IT adoption and support.

The CTO is not a lab director but, rather, a business person who is technical- and management-savvy (often with a tech background) who shapes part of the overall corporate strategy along the

dimension of technology.³ The CTO's role differs depending on the company, the industry and their personal qualifications. Generally, they oversee the process of technological innovation in products and operations. To do so, the CTO needs to be a change agent who can identify new technology and bring it into the company. Obviously, large companies are more likely to deploy a CTO than small ones but, conceptually, even a grocery store needs someone who takes the initiative to bring in new technology.

We will now review several of the functions of CTOs as a way to understand a company's management of technology, a critical task in the media and information sector.

4.2.3 Key Tasks for the CTO: Technology Assessment

The CTO identifies present and future technology options, and assesses their potential role for the company. Factors are technical viability and business potential.⁴ A similar assessment effort must be conducted by investors when they evaluate a start-up firm that is based on new technology, or by a company when it tries to acquire another firm that holds special technologies and patents.⁵

However, assessing technology is difficult even for experts. One of the greatest scientists of all time, Ernest Rutherford of Cambridge University, dismissed nuclear energy in a presidential address to the Royal Physics Society in 1933: "Anyone who expects a source of power from the transformation of these atoms is talking moonshine."⁶ At the opposite extreme, another famous scientist, John von Neumann, predicted in 1956 that "a few decades hence, energy may be free, just like unmeasured air." If two such leading lights can be so wrong, and diametrically so, how can a lesser technology manager have a chance to be right? The answer is that a CTO need not deal

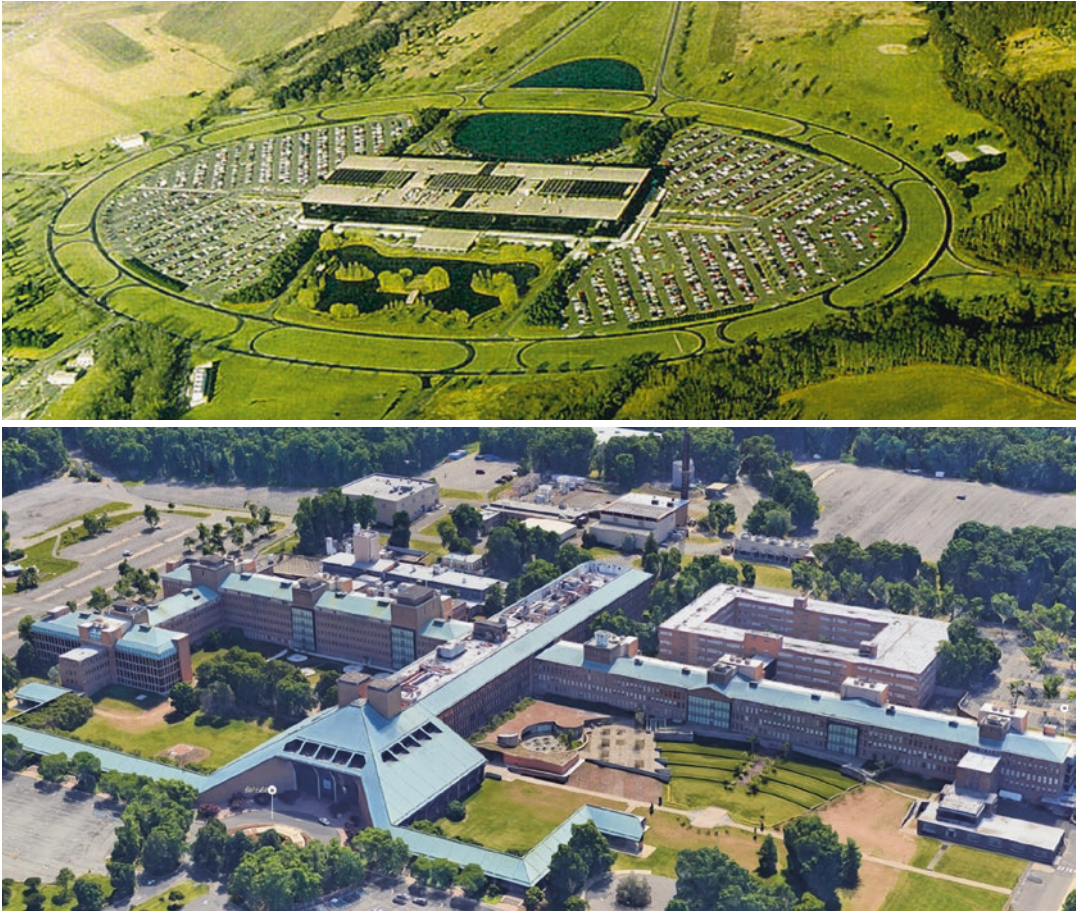
2 AT&T also operated a huge R&D facility at Murray Hill, NJ, and several other research centers. Photo used under Creative Commons. Beaumont, Lee. "Bell Labs Holmdel." ► https://commons.wikimedia.org/wiki/File:Bell_Labs_Holmdel.jpg.

3 Lewis, W. W. and H. L. Lawrence. "A new mission for corporate technology." *Sloan Management Review* 34, no. 3 (1990). Taken from Smith, Roger D. "The Role of the Chief Technology Officer in Strategic Innovation, Project Execution, and Mentoring." *Research Technology Management* 46, no. 4 (August 2002): 3.

4 Inside Jobs. "CTO." Last accessed July 11, 2011. ► <http://www.insidejobs.com/jobs/cto>.

5 Smith, Roger D. "The Role of the Chief Technology Officer in Strategic Innovation, Project Execution, and Mentoring." *Research Technology Management* 46, no. 4 (August 2002): 10.

6 Doyle, Jim. "Energy from Nuclear Fission". June 20, 2011. Last accessed July 12, 2011. ► <http://www.btinternet.com/~j.doyle/SR/Emc2/Fission.htm>.



■ Fig. 4.1 Bell Labs R&D Facilities in Holmdel and Murray Hill, NJ in their heyday

with the long-range future of science. Their role has to be to deal with the set of “plausible possibles,” i.e. with scenarios and opportunities that are composed of building blocks that already exist.

How to go about looking forward in such a way? To stay close to the leading edge, information is key. This means close ties to academic laboratories and journals, attendance at trade shows, the reading of trade and technology magazines, checking out websites, and the creation of a personal network of respected innovators and business analysts.

Another way to review the state of and pace at which technology advances in a field is to look at published patents in one’s sector.⁷ Patent

applications and grants are useful as a source of information about the “prior art” of technology innovations. Looking at patent applications, one can identify competitors, innovators, and potential partners and licensees, as well as the velocity of technology in a sub-area.⁸

Progress in the field of electronics has followed broad trends. A major way to assess a specific technology is to compare it with the more general rate of change in the electronics sector. Forty years ago, the computer electronics pioneer Gordon Moore observed that the power of semiconductors doubled every one to two years, predicting that this trend would continue. This rate of progress—about 40% a year—became famous as

7 US government’s website for patent searches is ► <https://www.uspto.gov>. IBM’s free site ► <https://www.ibm.com/ibm/licensing/>. In Europe, the European Patent Office is at ► <http://www.epo.co.at:80/index.htm>. And in Japan ► <https://www.jp-platpat.inpit.go.jp/web/all/top/BTmTopEnglishPage>.

8 Department of Commerce. “US Patent Office.” May 27, 2011. Last accessed June 12, 2011. ► <http://patft.uspto.gov/netathtml/PTO/search-bool.html>.

“Moore’s Law.” And, indeed, it described the progress over the subsequent decades pretty well. Computer components became smaller, or more powerful, or cheaper, at roughly the predicted rate. Whereas in 1970 a memory chip would store 1000 bits, it holds up to 8 trillion in 2017 (1 terabyte). Such progress enables marvels of technology, from computerized tomography (CAT) scans to video over cell phones.

Part of the secret for the resiliency of Moore’s Law has been that it has moved from prediction to self-fulfilling prophecy. It establishes a time line for progress that everyone in this highly decentralized industry understands. When a company is engaged in developing the next generation of its components, software, or hardware, it knows that the overall pace of technology progresses at the rate of Moore’s Law, and it must plan to match it. If it falls behind that pace, it must add engineers, money and partners to its development effort. If it is too far ahead, it could end up designing products that have no complementary devices or content and will not find buyers. If its production costs do not drop fast enough, it must compensate by gaining scale or moving to cheaper shores. Thus, like a giant bell tower, Moore’s Law has helped to synchronize the development of global electronics.

Similar trends can be observed in the transmission throughput “speeds” achieved by engineers, which leads to ever-cheaper transmission “bandwidth.”⁹ Or, to the increased amount of information that can be stored and processed in progressively less space for progressively less money. It also translates to an exponential trend in the cost per unit of distribution of information over time.

A firm can look ahead, identify the trends in the underlying components in terms of performance and cost, and then analyze in what direction this is taking the industry. There is no need to resort to science fiction. One can observe the trends, what leading edge adopters are already doing, and what technology companies are offering by way of hardware and applications.

Of course, details of developments are unfathomable in advance, but the broad trend is a different story.

4.2.3.1 Selection of R&D Projects for Funding

According to one analysis, it requires about 3000 raw ideas to produce one substantially new, commercially successful industrial product.¹⁰ Of 3000 new ideas, 125 are narrowed down to small projects of which approximately nine evolve into significant projects for major development efforts and commercial launches (■ Fig. 4.2).¹¹ Of these, only one is commercially successful.

With these staggering odds, how is a firm to evaluate how to select among technology ideas?

Innovation is a discovery process and may not necessarily have a sure destination.¹² But it helps to define the task for the R&D project clearly. When Steve Jobs envisioned the iPod, he defined the goal as “1000 songs in my pocket.” Once a task is well-defined, it is easier to develop a focused and actionable strategy. (However, many of the most important innovations cannot be willed; rather, they emerge serendipitously.)

Ralph Waldo Emerson wrote, “If a man can write a better book, preach a better sermon, or make a better mousetrap than his neighbor, though he build his house in the woods, the world will make a beaten path to his door.” But this is not necessarily true. Studies show that 40–90% of new products fail. Experts and early adopters loved TiVo’s digital video recorder but consumers were reluctant to sign up; the company lost over \$600 million by 2005 and, subsequently, was in the red in six out of eight years because of low demand.

Why do consumers fail to buy innovative products? An explanation is supplied by behavioral economists such as 2002 Nobel Prize

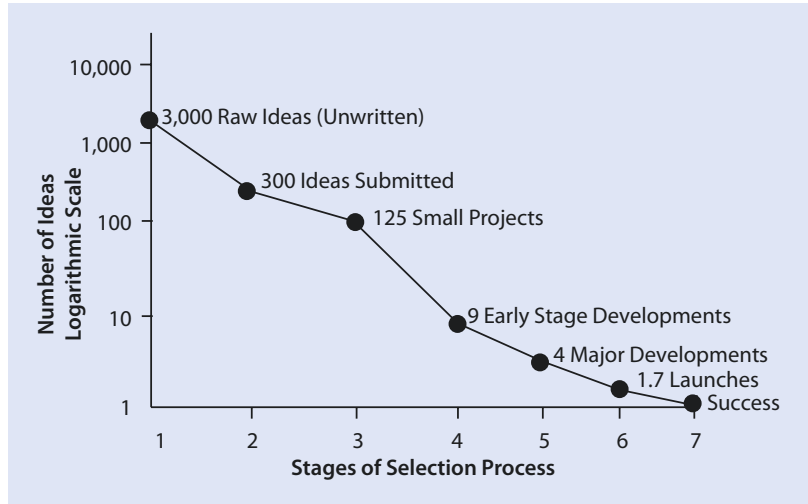
9 Magee, Christopher L. “A Quantitative Functional Approach to the Study of Technological Progress.” Massachusetts Institute of Technology, April 30, 2007.

10 Stevens, Greg A. and James Burley. “3000 Raw Ideas = 1 Commercial Success!” *Research Technology Management* 40, no. 3 (May/June 1997): 1–12.

11 Graph based on Stevens, Greg A. and James Burley. “3,000 Raw Ideas = 1 Commercial Success!” *Research Technology Management* 40, no. 3 (May/June 1997): 1–12.

12 Satell, Greg. “How to Manage Innovation.” *Forbes*. March 7, 2013. Last accessed May 2, 2017. ► <http://www.forbes.com/sites/greg-satell/2013/03/07/how-to-manage-innovation-2/>.

■ Fig. 4.2 R&D project selectivity and success rate



winner Daniel Kahneman, who showed, with Amos Tversky, that consumers have a “loss aversion,” which means that they fear losses much more than gains of the same magnitude. The problem with introducing a new technology or application is that it forces consumers to change their behavior, which is never easy. Studies show that people tend to overvalue the benefits of the goods they own and know over new ones, by a factor of 3:1. Innovators, at the same time, overvalue their new products by a similar factor, 3:1. Having put their ideas, hopes, energy, money and time into a new product, some innovators tend to lose a sense of realism.¹³ Taken together, there is a mismatch of 9:1 between what innovators think consumers want and what consumers truly desire. A new product must therefore not be better by a small measure; rather, its gains must far outweigh the potential losses, or consumers will not adopt it.

In every active company, plenty of ideas bubble up that could lead to promising products. But money, time, personnel and attention are scarcer than ideas. How, then, does a company select projects for R&D funding? Gut feeling and hunches are one way to go. Another is to formalize the process. There are several methods to do so.

Scoring methods rank potential R&D projects according to several performance dimensions.^{14, 15} Such dimensions could be the completion probability of a project, its duration, its budget cost, the number of researchers needed to complete the project, the potential use for follow-up products and so on. As an example, assume that three projects are assessed (■ Table 4.1).¹⁶

Projects are scored along criteria 1–7, with a grade ranging from 1 to 10 (column 3), and the weighting of each criterion, according to its importance, from 1 to 10 (column 2). For example, Project A scores a high 10 on criterion 1, and a low 2 on criterion 2. These scores are then multiplied by their weight factor (7.5 and 6.9), resulting in scores of 75.0 and 13.8 (column 4). These criterion scores are then added up and result in an overall score of 313.4 for Project A, 286.6 for Project B, and 268.0 for Project C. The projects can be ranked from high to low. Project A scores highest and Project B is second-highest.

However, the scoring method has problems. The formula and its weights tend to be inflexible. Yet, if they were flexible and changeable they could be manipulated to get a desired result.

13 Gourville, John T. “Eager Sellers & Stony Buyers.” *Harvard Business Review* 84, no. 6 (June 2006): 98–106.

14 Poh, K.L. B. W. Ang, and F. Bai. “A Comparative analysis of R&D project evaluation methods.” *R&D Management* 31, no. 1 (January 2001): 63–75.

15 *The Economist*. “Out of the Dusty Labs – The Rise and Fall of Corporate R&D.” March 1, 2007. Last accessed May 2, 2017. ▶ <http://www.economist.com/node/8769863>.

16 Rengarajan, S. and P. Jagannathan. “Project selection by scoring for a large R&D organization in a developing country.” *R&D Management* 27, no. 2 (April 1997): 155–164.

Table 4.1 Ranking and scoring R&D projects

Criterion no.	Weightage factor (W.F)	Project A		Project B		Project C	
		Marks	Marks × W.F.	Marks	Marks × W.F.	Marks	Marks × W.F.
1	7.5	10	75.0	10	75.0	8	60.0
2	6.9	2	13.8	10	69.0	8	55.2
3	6.8	10	68.0	2	13.6	2	13.6
4	7.0	10	70.0	10	70.0	8	70.0
5	4.6	8	36.8	2	9.2	2	9.2
6	5.1	8	40.8	8	40.8	10	51.0
7	4.5	2	9.0	2	9.0	2	9.0
Total score			313.4		286.6		268.0

Table 4.2 ROI of projects

Year	0	1	2	3	4	Net profit	ROI	NPV	ROI _D
Project A	-9000	-1000	4000	6000	10,000	10,000	1.0	4304	0.43
Project B	-3000	0	0	3000	6000	6000	2.0	3047	1.01

The weakness of the scoring method is that a technology-based formula is not linked to a market-based *economic-financial analysis*. Such analysis is based on one of several interrelated methodologies: net present value (NPV), internal rate of return (IRR), return on investment (ROI), discounted cash flow (DCF), cost-benefit analysis (CBA), and the payback period.

Example: Project A contains a new technology development with high initial research expenditures of 9000 (Table 4.2). However, the project is expected to have high returns after year 2. In contrast, Project B is a project with modest research expenditures (3000). However, it will not generate revenue for two years due to authorization procedures. After the first two years, Project B is expected to produce significant returns in years 3 and 4.

If we compare net profits, Project A is superior (10,000 vs. 6000). But what about the return on investment? ROI is found by dividing net profit by the investment. For project A, this would be $\frac{10,000}{10,000} = 1.0$. For project B, it is $\frac{6000}{3000} = 2.0$. Now, project B seems superior.

But this does not take into account the time-value of money. Some of the revenues are realized in future years down the road. To take this into consideration, one discounts the future earnings by a discount rate of, say, 10% per year. Then, we obtain NPVs for A and B of 4304 and 3047. Now, Project A is the superior option. While the NPV of Project B is lower, its undiscounted ROI is higher. Lastly, if the ROI is used with the time-value of money considered (i.e. discounted), as would be the economically proper way, it would be, for project A,

$$\text{ROI} = \frac{4304}{9000 + 900} = 0.4347,$$

$$\text{and for project B, } \text{ROI} = \frac{3047}{3000} = 1.0157. \text{ Thus,}$$

Project B is the superior choice.

The chief problem with these financial methodologies is that it is difficult to forecast future net revenues. It involves subjective projections of sales, prices, the state of the economy and the effectiveness of competitors. Company projections of future market penetration are often overly optimistic. One must also pick the appropriate discount rate, and that rate varies with risk.

A final observation: these technological and financial analyses are not quite sufficient for an optimal selection of projects. Timing, marketing efforts and market forces may greatly affect the success of a project. But this should not leave a company with pure intuition. A formal framework of analysis forces disciplined thinking as a complement, not a substitute, for good judgment and vision.

4.2.4 Integration of Technology with Firm Strategy

Beyond the technological and economic performance of R&D, there is also a question: is the R&D project aligned with the company's overall strategy?

R&D budgets are set for one or several years but, within the budget, decisions about projects are often left largely to R&D management. Normally, R&D should not drag the company into a strategy different than the one it planned.¹⁷ But there must also be flexibility to capitalize on fortuitous discoveries that are outside the strategic focus of the firm. Usually, these should be sold or licensed to others,¹⁸ but there can be exceptions. The Finnish company Nokia was mostly a paper product producer with a small electronics sideline before it seized on the newly opened Scandinavian cellular phone market, the world's first, and for several years became the leading global mobile handset manufacturer.

A major strategic decision for the firm is to select the scope of its activity. It could be a narrowly focused specialist or, alternatively, a broad-based diversified technology developer. Diversification has certain advantages in reducing risk. It allows for synergizing across several product lines and also what economists call "economies of scope"—cost saving in the development, production and marketing of multiple products.

But there are also disadvantages to diversification. In a fast-moving field, if a company is not fully focused on a particular product it may

lose its competitive edge for that product. Diversification may also lead to a lower scale than for the specialist firms. Intel is a specialist focusing on microprocessors and all the company's R&D goes toward making that product line better, faster and cheaper. Andy Grove, famed former CEO of Intel, recalled, "The most significant thing was the transformation of the company from a broadly positioned, across-the-board semiconductor supplier that did OK to a highly focused, highly tuned producer of microprocessors, which did better than OK." Specialized firms may have competitive advantages in their narrow field, with resultant market power. But specialization means putting all one's eggs into one basket.¹⁹ Demand could fizzle, or competitors may emerge. Staying specialized without the certainty of weak competition and ongoing demand is risky.²⁰ Intel, for example, missed out on components for the emerging portable computing devices of smartphones and tablets. Apple and Samsung, on the other hand, have multiple products to fall back on if their smartphones do not work out. But being a jack-of-all-trades has disadvantages, too, where competition is strong in each segment. In recent years, the debate between specialization and diversification has tended to go in favor specialization.²¹

One must also think about innovation across time.²² The strategic question is how much of a firm's activity level should rely on improving already well-established products, and how much of it should be based on products that must be newly developed. Reliance on the former plays to a firm's current strength but leaves it vulnerable in the future. Conversely, reliance on future products leaves it vulnerable to risk if things do not work out.

A useful perspective is that of the "three horizons." One author, Tim Kastelle, suggests that a firm should create a balance between "improving existing products and processes," "searching out

17 Say, Terry, Alan Fusfeld, and Trueman Parish. "Is your firm's tech portfolio aligned with its business strategy?" *Research-Technology Management* 46, no. 1 (January/February 2003): 32–38.

18 Smith, Roger. "5 Patterns of the Chief Technology Officers." *Research-Technology Management*. Last accessed April 30, 2017. ► <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.158.1721&rep=rep1&type=pdf>.

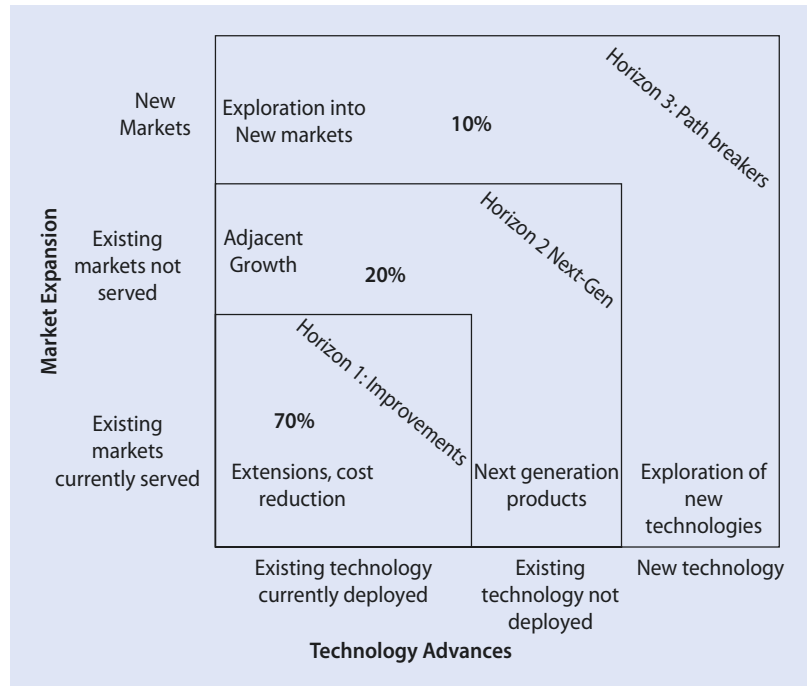
19 Hessel Dahl, Arik. "Intel Fights Back as Chips Are Down." *BusinessWeek*. January 17, 2007. Last accessed June 1, 2011. ► http://www.businessweek.com/technology/content/jan2007/tc20070117_984122.htm.

20 Yager, Tom. "What's a Monopoly to Do?" *InfoWorld* 27, no. 33 (August 2005): 52.

21 Ante, Spencer E. "The Info Tech 100; Constant reinvention of who you are, what you produce, and how you sell it is critical for any tech player." *BusinessWeek*. July 2, 2007. Last accessed May 3, 2017. ► <https://www.bloomberg.com/news/articles/2007-07-01/the-info-tech-100>.

22 Kastelle, Tim. "Innovation for Now and for the Future." *The Discipline of Innovation*. August 17, 2010. Last accessed May 5, 2017. ► <http://timkastelle.org/blog/2010/08/innovation-for-now-and-for-the-future/>; The concept goes back to Baghai, Mehrdad, Stephen Coley, and David White. *The Alchemy of Growth*. New York: Perseus Books, 1999.

■ Fig. 4.3 Investment horizons in innovation



adjacencies” and “exploring completely new markets” (■ Fig. 4.3).²³

The first horizon (H1) involves implementing innovations that improve current operations. Innovations related to the second horizon (H2) are those that extend current competencies into new but related markets. Innovations related to the third horizon (H3) are those that will change the nature of the industry. In general, H3 innovations tend to be radical rather than incremental. H1 innovations are low-risk, low-return, while H3 innovations are high-risk, high-return. H1 R&D projects, dealing with a firm’s core technologies, are typically necessary but not sufficient to achieve competitive advantage. They have well-defined commercial objectives. The likelihood of technical success is relatively high, and the costs and benefits can be defined fairly well. In contrast, R&D in H3 projects is speculative and its budget requirements largely conjecture. The R&D projects of H2 are somewhere in between. They deal with key technologies. Thus, a firm should have a portfolio of three broad classes of technologies: the first to maintain its position in the market; the

second to provide competitive advantage; and the third category, that of “pacing technologies,” aims to advance the market significantly.²⁴ A firm should think of its innovation efforts as a portfolio, with innovation taking place across all three time horizons. The balance is based on the firm’s risk tolerance and on industry volatility.

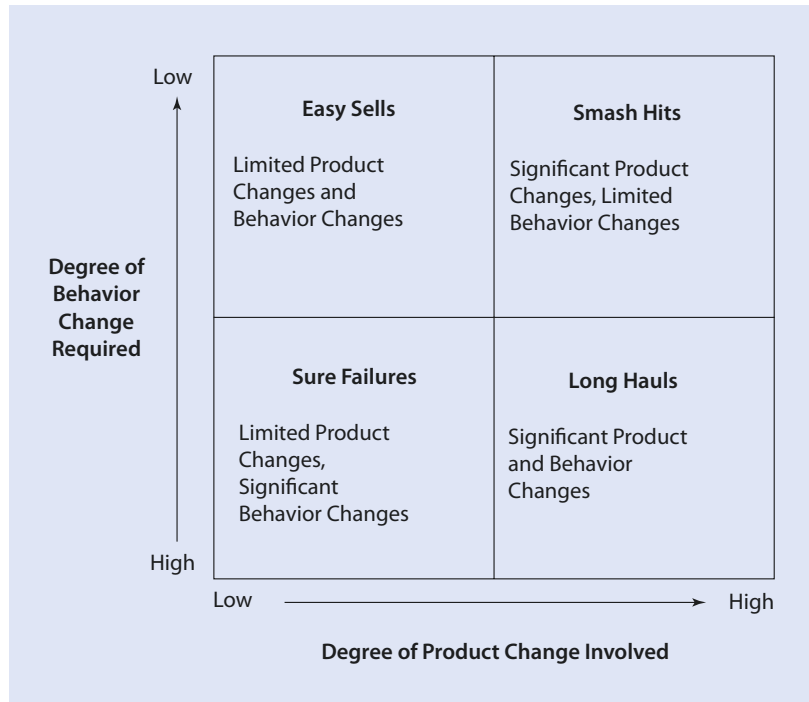
The three kinds of innovation need a different mix of input and skills. H1 innovations require mostly money and people. H2 innovations go deeper, and need a corporate culture of creativity and management that is willing to push forward and onward. H3 innovations require top management to make bets on careers and, even, the company. The major career risk is that of management, not of the researchers. The company must give its staff considerable leeway, lower controls and avoid negative feedback for the failure of crazy ideas.

A company such as 3M, which pioneered scotch tape and post-it notes, derives up to 30% of its revenue from products launched in the past five years. It emphasizes H2 and H3 strategies in its R&D. The company—and, similarly,

23 Kastle, Tim. “Innovation for Now and for the Future.” *The Discipline of Innovation*. August 17, 2010. Last accessed May 5, 2017. ► <http://timkastle.org/blog/2010/08/innovation-for-now-and-for-the-future/>; The concept goes back to Baghai, Mehrdad, Stephen Coley, and David White. *The Alchemy of Growth*. New York: Perseus Books, 1999.

24 Erickson, Tamara J. et al. “Managing Technology as a Business Strategy.” *MIT Sloan Management Review*. April 15, 1990. Last accessed May 3, 2017. ► <http://sloanreview.mit.edu/article/managing-technology-as-a-business-strategy/>.

■ Fig. 4.4 Dimensions of consumer acceptance



Google—uses a 15% or 20% rule, where certain employees are expected to devote a fixed portion of their time to projects unrelated to their job, i.e. work associated with H2 and H3.²⁵ Even so, both companies' main R&D efforts deal with improving existing products (H1), not on as yet unborn technology generators. For Google, much of the R&D work is on innovations in its core products: the search engine, maps, online advertising and so on. The company's PR narrative—such as self-driving cars—tends to project a more ambitious agenda than warranted by reality. Google, too, uses a 70/20/10 split, with most innovation efforts going to improving existing activities.

The last type of innovation tends to differentiate leaders from followers. But they are gambles, and investments in potential breakthroughs are hard to justify in conventional business terms of ROI. One must think of them as buying options on future opportunities. Ideally, a relatively modest investment—and downside risk—creates the potential for a large upside. The problem with a breakthrough R&D strategy is that it could either

fail to deliver, or actually succeed in technological terms and yet be too far ahead of market readiness in terms of complementary products and consumer demand.²⁶ The figure above is technological in nature (will it work?) and does not consider markets (will it sell and be profitable?).

How can a company analyze the market for its innovations? In the first instance, it helps to look at demand, and to organize innovations by consumer acceptance. Four such categories are “easy sells,” “sure failures,” “long hauls,” and “smash hits” (see ■ Fig. 4.4).²⁷ They are ordered in a matrix whose two dimensions are product improvement (the horizontal axis), and the change required from the consumer (the vertical axis). Some innovations require a major behavior change and the others less so, but they may offer major improvements that could conceivably overcome this.²⁸ Companies may create great new products, but this may not mean much if it requires major behavior change. It is easier to change technology than behavior.

25 Satell, Greg. “How to Manage Innovation.” *Forbes*. March 7, 2013. Last accessed May 5, 2017. ▶ <http://www.forbes.com/sites/greg-satell/2013/03/07/how-to-manage-innovation-2/>.

26 Clayton, Christensen M. *The Innovator's Dilemma*. Boston: Harvard Business School Press, 1997, xv.

27 Graph based on Gourville, John T. “Eager Sellers & Stony Buyers.” *Harvard Business Review*, 84, no. 6 (June 2006): 98–106.

28 Gourville, John T. “Eager Sellers & Stony Buyers.” *Harvard Business Review*, 84, no. 6 (June 2006): 98–106.

4.2 · Technology Management

Easy sells The product benefit improves modestly and requires only limited adjustments in behavior. Examples: a move from iPhone 7 to iPhone 8, or another James Bond movie.

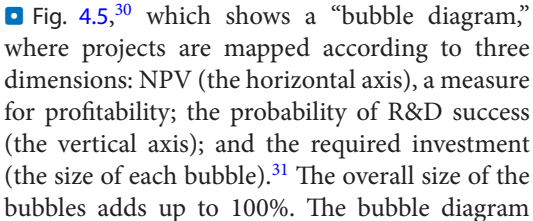
Sure failures The innovation has only limited benefits in performance but requires a significant behavior change. Example: transitioning from the standard QWERTY keyboard configuration to the Dvorak keyboard, which is slightly faster but requires relearning the “muscle memory” of typing.

Long hauls These innovations provide a technological improvement, but require a significant behavior change. Initially, at least, adoption will be slow because consumers resist the switch. An example is satellite radio. Even the cellular telephone took a fairly long time to spread (25 years to reach an 80% adult subscribership). If the product does not sell itself, and a company business plan is over-optimistic about adoption rates of the new product, it will fail.

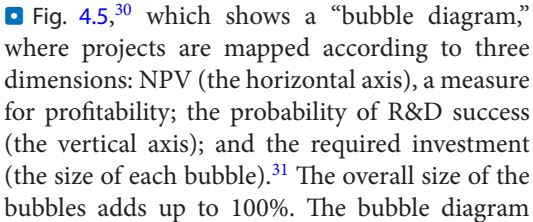
Smash hits The innovation generates major benefits with only slight behavior change. Example: the Google search engine.

An illustration of these categories is the TiVo DVR and the DVD player, both products of the late 1990s. By 2005, the USA had 20 times more DVD players than TiVo DVRs, even though the value of a TiVo player was much greater (recording TV shows, skipping advertisements and so on). Consumers were familiar with music CDs and needed no behavior change, in contrast with TiVo which required a new viewing behavior.

Yet, many companies do not have enough resources to wait patiently for demand to grow. The second option is to have innovations that offer a quantum leap in improvements (in the order of almost three times of previous performance, as we have discussed) to overcome consumer conservatism. But such innovations are rare. The third alternative is to target consumers who are either early adopter types, or who are not yet users of legacy products and thus have no commitment to them.²⁹

Market demand does not provide a full answer either. An innovation must also be profitable. Demand for the product helps, of course, but the cost side of investments and operating expenses is also a factor. This is dealt with graphically in  Fig. 4.5,³⁰ which shows a “bubble diagram,” where projects are mapped according to three dimensions: NPV (the horizontal axis), a measure for profitability; the probability of R&D success (the vertical axis); and the required investment (the size of each bubble).³¹ The overall size of the bubbles adds up to 100%. The bubble diagram model helps management to make resource allocation decisions, given the finite resources of budget and people. The sum of the areas of the circles is a constant, zero-sum game. The model then forces management to consider tradeoffs. If one adds or enhances one bubble – one project – then some other projects must be reduced or dropped.

There are four different types of projects:

- **Pearls** (upper left quadrant): such projects have a high probability of success (low risk) and a high yield. In , the company is engaged in two pearl projects, one of them with a high investment need. But profitability is high, which justifies the project.
- **Oysters** (lower left). These are long-shot projects with a high expected payoff but low probability (high risk) of technical success. A technical breakthrough will generate strong payoffs. The company has three such projects but funds them at a low level, thus protecting its downside.
- **Bread and Butter Projects** (upper right). These are safe choices. The probability of success is high but the rewards are low. Examples would be improvements of existing products. As discussed, a firm may put 70% of its R&D budget into such projects. And, indeed, the company has several such projects, and more than half of its R&D investments are allocated to them.
- **White Elephants** (lower right): these are low-probability and low-reward projects. Nevertheless, the company has several of such projects. This seems to be a flawed allocation of scarce resources.

30 Based off of Cooper, Robert. *Winning at New Products*. New York: Basic Books, 2011.

31 Cooper, Robert G., Scott J. Edgett, and Elko J. Kleinschmidt. “Portfolio Management in New Product Development: Lessons from the Leaders – II.” *Research-Technology Management* 40, no. 6 (1997): 43–52.

29 Gourville, John T. “Eager Sellers & Stony Buyers.” *Harvard Business Review* 84, no. 6 (June 2006): 98–106.

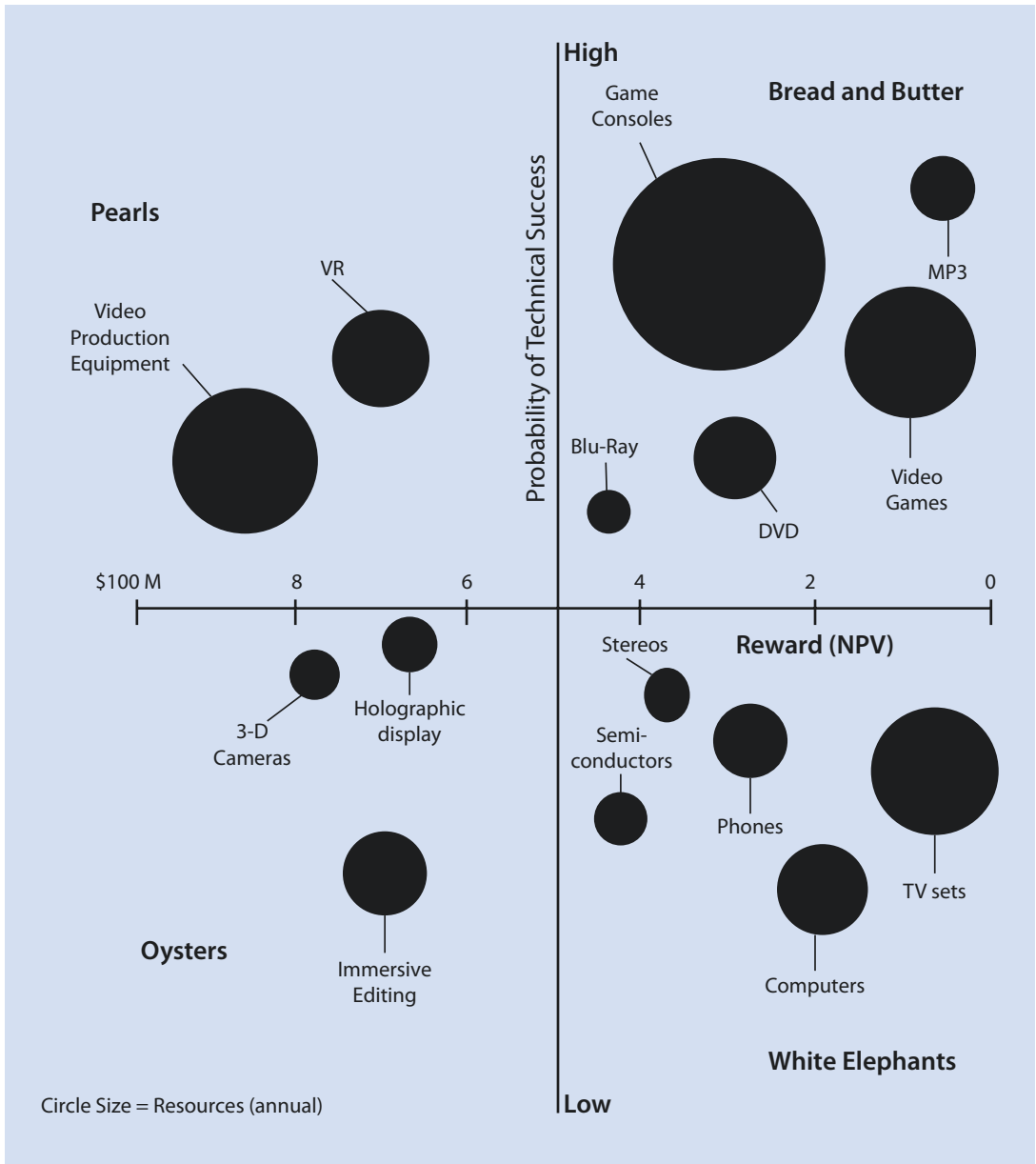


Fig. 4.5 Risk-reward diagram of projects

4.2.5 The Placement of R&D: In-House, Acquired, or Co-developed?

The question of in-house vs. outside innovation is not simply one of yes/no, but also one of “what” and “where.” Rarely would a firm innovate, on its own all, of its components and all the elements of its value chain. It would, instead, focus on one or several aspects and leave the others for development by outside vendors. Why should it develop

its own cameras or computers? The important R&D question for companies to consider is, then: where is the right “decoupling point” of its internal technology development? Which part of its value chain does it create and innovate on its own, and which does it acquire from others, either off-the-shelf or by special commission? Advantages of development inside the company include proximity of R&D to production and marketing, the protection of business secrets, a clear ownership of the intellectual property rights, better cost

control of projects, and greater familiarity of the firm with the needs of customers and markets. But an outsourcing of R&D has advantages, too. Outsourcing allows firms to take advantage of specialists with experience and economies of scale. For example, for content-oriented media companies, technology R&D is not a core competency. Even for technology companies such as device manufacturers and network operators, the outsourcing of some or all R&D is part of a larger trend of separation of production and development. In some cases, production-oriented firms subcontract their R&D. In other cases, conversely, firms focused on R&D will outsource production. And, in some cases, “virtual companies” outsource both.

The manufacturing contractors are known as electronic manufacturing services (EMS) or original equipment manufacturers (OEM) firms. A major OEM, Flextronics, produces handsets for mobile device companies located in high-cost countries. The world’s largest PC maker, largely unknown outside the industry, is Quanta, a Taiwanese company. It manufactures computers for most major brands around the world.³² Apple outsources part of its manufacturing to Foxconn in China. One of Foxconn’s plants employs 230,000 workers, 60,000 of whom live in factory dormitories. Outsource manufacturers such as Selectron, Flextronics, Celestica, SCI Systems, Foxconn, and Jabil Circuit increasingly do the design and R&D of various products, not just the manufacturing. Alternatively, specialty boutique design companies perform the R&D. In the extreme, only the marketing would still be done by the name-brand company, and even that could be contracted out.

4.2.6 The Organizational Structure of R&D Activities

Among the most important issues facing a large company is how to position its R&D within the larger multi-divisional corporate structure. The R&D will either be centralized, decentralized, or somewhere in between. Control and funding are the central issues.

In industrial firms, R&D was often a top-down structure. Major firms created sophisticated

stand-alone laboratories. Bell Labs won six Nobel prizes, and IBM-Zurich earned two such prizes. Xerox’s Palo Alto Research Centre (PARC) innovated PC elements such as the computer mouse, the Ethernet protocol for computer networking and the graphic user interface (GUI).³³ But a centralized research system creates a distance from the production and design activities of the firm. In contrast, a fully decentralized R&D structure permits various company units to pursue goals closer to the product lines. In such a system, the corporate-level R&D is limited in scope, and focuses on the identification and evaluation of emerging technologies which have no home yet in the company. Hitachi and Intel are examples, with little corporate-level R&D.

Intermediate arrangements are “centrally led” or “centrally supported” R&D. Typically, the corporate center handles the research part of R&D, covering more basic technology that might have applications across the company, while the refinements and applications into products—the development—is handled by divisional labs.

A related organizational question is how an R&D lab should be structured. They could be arranged according to research *disciplines* such as typically found in universities; e.g. chemistry, metallurgy, electronic engineering. This promotes specialization and makes it easier to hire promising young scientists. The disadvantages are an orientation to “science,” rather than commercial innovation; a work-pace under less time-pressure; and greater difficulty in the conducting of cross-disciplinary R&D. In contrast, R&D activity can also be organized by type of *activity*, such as basic research, applied research, development, design, engineering, prototyping, testing. This is a more ad hoc structure, the staffing of which could fluctuate greatly.

A third approach is to organize an R&D department by *product line*, such as storage devices, TV sets and tablets. Advantages are a stronger customer focus, easier coordination and smoother integration with business activities. A fourth option is to organize the R&D department by project, such as a new type of flat screen. Such a system frequently operates on a matrix basis, drawing experts from different parts of the company, labs and scientific specialties.

32 Funding Universe. “Quanta Computer Inc.” Last accessed July 11, 2011. [▶ http://www.fundinguniverse.com/company-histories/Quanta-Computer-Inc-Company-History.html](http://www.fundinguniverse.com/company-histories/Quanta-Computer-Inc-Company-History.html).

33 The Economist. “Out of the Dusty Labs – The Rise and Fall of Corporate R&D; Technology R&D.” March 1, 2007. Last accessed August 10, 2012. [▶ http://www.economist.com/node/8769863](http://www.economist.com/node/8769863).

Another dimension for the organization of R&D is its geographical location. Global companies conduct R&D globally. Technology has few frontiers, though some countries have tried to erect protectionist barriers around “their” companies and “their” technologies. Pioneers of R&D internationalization have been high-tech companies with global markets, headquartered in a relatively small home country with finite technology resources. Examples are Philips in the Netherlands, Ericsson in Sweden and Nokia in Finland. European companies perform about one-third of their R&D outside their home countries. Another reason for an international distribution of production facilities are the politics of trade, since the location of an R&D facility may be part of a company’s efforts to gain market access. A third

reason is the relative cost, which favors low-cost R&D in India or China. Other locational factors are governmental subsidies, strong universities with a large pool of graduates, harmonious labor relations, and a favorable regulatory and tax system.³⁴ Some tech companies from around the world have created small innovation labs in Silicon Valley as footholds in order to remain up-to-date on emerging technologies and to develop deeper relationships with start-ups.

There are, however, also reasons against international R&D. These include an immobility of top research personnel and a lack of critical mass when R&D is dispersed, plus language and cultural problems, political instability, the diffusion and potential loss of company know-how, and significant coordination and transaction costs.

4.2.6.1 Case Discussion

How Sony’s R&D Is Organized

Sony’s R&D outlays were considerable. In 2008, they were \$5 billion and, in 2013, \$5.7 billion³⁵ Its R&D priorities were in its digital image sensor business (supplying camera components to smartphone makers),³⁶ the 4K Playstation and artificial intelligence.³⁷ Samsung’s R&D expenses were about \$14 billion, higher than any other ICT company. Microsoft expenses were \$10 billion, Google \$8 billion, and IBM’s and Cisco’s \$6 billion each. R&D as a percentage of revenue was 7% for Sony, slightly higher than for Samsung and IBM, much higher than for Apple (2.5%) but lower than for Microsoft, Google and Cisco, all with about 12–13%.

Thus, Sony did spend a great deal on R&D and also achieved much innovation, if patents are a measure. In 2013, Sony filed 2241 US patent applications; Samsung, 4945; and Panasonic, 2232. In 2015, Sony had 2448 US patent applications; Samsung, 5059; and Panasonic, 1474.³⁸

But Sony’s R&D system was not well-coordinated. It was spread out across divisions and countries. Its R&D strategy was to give its various labs a pretty much free hand. At times, different divisions developed incompatible products.

Sony’s R&D is based on a corporate (central) research lab with six separate sub-labs. The corporate lab is used for the

development of next-generation products with wide applications, such as OLED video display screens. Additionally, there are R&D labs at network level, as well as division level and regional zone level.³⁹ The zones are Asia, the USA and Europe. The aim was to better coordinate R&D activities not only within each region, but also among regions. CTOs were appointed for each zone and given considerable authority. A relatively informal and non-bureaucratic cooperation between them was encouraged. The idea was to establish personal relationships and teamwork in order to achieve global synergy. An example is Sony America’s zone R&D, which

34 For example, IBM had 12 corporate research centers worldwide in 2017, with over 3000 employees in R&D centers in the USA (Hawthorne, Yorktown Heights, Almaden and Austin), Australia (Melbourne), Brazil (São Paulo and Rio de Janeiro), China (Beijing), Kenya (Nairobi), South Africa (Johannesburg), Israel (Haifa), India (Delhi and Bengaluru), Ireland (Dublin), Japan (Tokyo) and Switzerland (Zurich). (Last accessed May 9, 2017 at ► <http://www.research.ibm.com/labs/>).

35 PwC. “2013: Top 20 R&D spenders.” Last accessed on June 21, 2016 at ► <http://www.strategyand.pwc.com/global/home/what-we-think/innovation1000/top-innovators-spenders#tab-2013>.

36 Kennedy, Joshua. “3 Changes to Watch at Sony (SNE).” *Investopedia*. January 26, 2016. Last accessed June 21, 2016. ► <http://www.investopedia.com/articles/markets/012616/3-changes-watch-sony-sne.asp>.

37 Davies, Jamie. “Sony leans on AI to give technological advantage.” *Business Cloud News*. May 18, 2016. Last accessed June 21, 2016. ► <http://www.businesscloudnews.com/2016/05/18/sony-leans-on-ai-to-give-technological-advantage/>.

38 USPTO. “Ranked List of Organizations with 40 or More Patents, as Distributed by the Year of Patent Grant and/or the Year of Patent Application Filing, Granted: 01/01/2015–12/31/2015.” Last accessed June 21, 2016. ► http://www.uspto.gov/web/offices/ac/ido/oeip/taf/data/topo_15.htm#PartB.

39 All R&D labs are assigned fairly generic “3 Missions” and “6 Goals.” The “3 Missions” were: Strengthen R&D employee’s abilities and knowledgebase; Globalize domestic R&D efforts; Establish a “global human information network.” The “6 Goals” were: Clear vision and policy; Clear target and differentiation of R&D strategy from rivals; Strategic selection and precise focus of R&D themes through fair evaluations; Highly skilled (“best of the best”) staff for R&D; Mobility of technology and R&D staff within a global Sony; Export of Sony’s R&D function and strengthen overseas labs.

spearheaded the development of the cell processor (jointly with IBM and Toshiba). (This example also illustrates that, rather than outsourcing its R&D, Sony's R&D has increasingly become a collaboration with major partners.)

Sony has international R&D facilities in Asia, the USA and Europe, each specializing in one or more fields of technology. For example, the Sony China Research Lab in Beijing (2005) focuses on

security technology, intelligent media, solar cells and wireless networks. Sony opened seven R&D labs in the USA since 1987. The research focus in the USA includes the Advanced Video Technology Center (AVTC) in San Jose, California (1994), which focuses on HDTV, and the Open 3D Research Center in Las Vegas (2010), specializing in 3D TV and film, in collaboration with CBS. Research in Europe is done in Brussels,

Alsace, Paris, Stuttgart, Barcelona, Lund (Sweden), Basingstoke (UK) and Pencoed (UK). The Sony Computer Science Lab in Paris focuses on the personal music experience, computational neuroscience, developmental cognitive robots and self-organizing communication. The European Technology Center in Stuttgart focuses on sensing systems, material science and automotive entertainment.

4.2.7 Open Innovation – Community-Based R&D

Another way to organize R&D is to link it with developers and with users. The two are overlapping. A structured and company-led approach is where the company builds basic platforms (hardware, software, or both), and aims to create uses and users. To do so, it provides specifications of the product to developers to induce them to create applications. This creates a symbiotic relationship, where both the platform company and the applications firms benefit from the creation of synergies and network effects. An example is Apple with its iPhone apps.

For some companies, a major management strategy is therefore to encourage developer-based innovation. They may provide independent developers access to their software or platforms. They do so by granting interoperability arrangements via application program interfaces (APIs) that enable the outside programs to link up and thereby make the device more versatile and powerful.⁴⁰ Developers then compete with each other's applications software. The credit card company Visa, for example, gives developers access to hundreds of its financial payment APIs.⁴¹ The social media company Facebook

offers a Games Developer Center that features a variety of interoperability arrangements, monetization tools and services for game developers.⁴² The goal is to drive traffic to the Facebook site. Amazon and Microsoft provide developers with the Internet of things (IoT) software development kits so that they can build IoT apps and products.

Going one step further is *user-generated innovation*.⁴³ Advantages are not only reductions in a company's development time and cost, but even more so a potentially better match of product with customer needs, given that the latter are directly involved. It also raises user loyalty because they are more involved. The company can import low cost, high-quality ideas from a wide array of experts⁴⁴ and test these ideas, as well as its own, by a "peer-review" process of a "smart crowd." An example is the car maker BMW, which set up a "Customer Innovation Lab," which is an online tool kit to help customers develop ideas and innovations for automobile telematics and driver assistance systems. BMW chooses the best ideas, which are then implemented by its engineers.

Taking still another step is "open innovation," where there is no longer a company in charge, only a community of users, developers and volunteers

40 In some cases, such access to the APIs has been mandated by governmental regulators in order to enable competition in the applications.

41 Thurai, Andy. "How APIs Fuel Innovation." *Wired*. Last accessed June 21, 2016. ► <http://www.wired.com/insights/2013/12/how-apis-fuel-innovation/>; PYMNTS. "Visa's Developer Platform Begins With and 1." February 5, 2016. Last accessed May 9, 2017. ► <http://www.pymnts.com/news/payments-innovation/2016/visas-developer-platform-begins-with-an-i/>; Tibco Mashery. "Driving Innovation and Revenue with Partners and Developers." September 22, 2015. Last accessed May 9,

2017. ► <https://www.mashery.com/sites/default/files/Edmunds-Case-Study.pdf>.

42 These tools include Achievements API, Scores API, App Notifications, Requests, Feed Gaming and Facebook SDK for Unity. The Facebook Games Developer Center offers information such as games overview, API migration guide, tutorials, production and checklists, game monetization and more.

43 Von Hippel, Eric. "Horizontal innovation networks – by and for users." *Industrial and Corporate Change* 16, no. 2 (2007): 293–315.

44 Rigby, Darrell K. and Barbara Bilodeau. "Management Tools & Trends 2013." *Bain & Company*. 2013. Last accessed May 9, 2017. ► http://www.bain.com/Images/BAIN_BRIEF_Management_Tools_%26_Trends_2013.pdf.

who come together in a loose and decentralized collaboration to create an innovative product or service. In computer software, there has been community development in the form of “open source” software such as Apache and Linux,⁴⁵ to which numerous people contribute. It is an important challenge for company R&D leadership to find ways to integrate such largely uncontrolled and dynamic innovation with proprietary corporate R&D.

4.2.8 Budgeting for Innovation

The cost of R&D has been climbing. This is not surprising, since the “easy innovations” are done first and the cost of subsequent innovation increases. A second reason is that the average economic lifespan of innovation has shortened due to increasing competition, globalization and convergence. Costs are also going up due to the acceleration of the process. Often, company managers, under competitive pressure, demand that technology developers speed up their activity. They need to understand the cost implications. Compressing R&D project time may greatly raise its cost relative to speed-up gains. The reason is that each R&D step builds upon results of previous tasks. To accelerate a project, then, requires some of the steps to overlap and to start with less information. Several approaches may have to be tried concurrently, rather than sequentially. A study shows that a 1% squeeze in the duration of a project can increase costs at double that rate.⁴⁶

The broader question is how much money a firm should put into R&D. The largest technology firms in electronics spend billions of dollars annually on R&D. Microsoft, IBM, Intel, Google, Nokia, Panasonic, HP and Sony all devote well over \$5 billion per year to R&D. In 2013, Samsung spent \$14 billion in R&D, over about

6% of its revenues. Qualcomm spent 20% of its sales revenues on R&D, about \$150,000 per employee. But how much should a company spend? Often, there is no shortage of good ideas and worthy projects; however, their aggregate will be unaffordable.

Of course, the firm’s financial condition is relevant. When things are tough, R&D is often one of the first things to be cut from corporate budgets. The famed AT&T Bell Labs shrank from 25,000 in the 1970s to just 1000 researchers in 2003. Its 1975 budget, which, in 2003 dollars, had been \$3.24 billion,⁴⁷ had dropped to \$115 million in that year.⁴⁸ While cutting out R&D may make sense in the short term, from a long-term perspective it is like eating one’s seed corn.

One way to estimate a target R&D budget is to compare the firm’s R&D to that of competitors, either in absolute terms or by the ratio to sales. A second way is to adjust one’s R&D spending to that of rival companies’ flow of new products, so as to match or surpass it.

A third method, which is finance and economics oriented, would be to determine the incremental profit from incremental R&D spending. But that is easier said than done. One would need to have an idea of the productivity of R&D spending. Productivity can be measured by an output—for example, by the number of patents. (While each patent tends to be distinct in terms of effort required or its value, when the number is large the differences tend to average out.) On average, Sony spent \$2.0 million on a patent in R&D expenses, Samsung spent \$2.7 million and Google spent \$4.3 million.

Several R&D performance measurement techniques have been developed. According to one study, US industrial firms use more than 50 metrics to monitor their R&D function.⁴⁹ They come in several categories.

45 Von Hippel, Eric. “Horizontal innovation networks – by and for users.” *Industrial and Corporate Change* 16, no. 2 (2007): 293–315.

46 Graves, Samuel B. “Why Costs Increase When Projects Accelerate.” In *Measuring And Improving The Performance And Return On R&D*. Arlington, VA: Industrial Research Institute, 316–318.

47 Noll, A. Michael. “Telecommunication Basic Research: An Uncertain Future for the Bell Legacy.” *Prometheus* 21, no. 2 (June 2003): 177–193.

48 The Economist. “Out of the Dusty Labs – The Rise and Fall of Corporate R&D.” March 1, 2007. Last accessed May 2, 2017. ► <http://www.economist.com/node/8769863>.

49 Werner, Bjorn M. and William E. Souder. “Measuring R&D Performance—State of the Art.” *Research Technology Management* 40, no. 2 (March–April 1997): 38–46.

■ Quantitative Metrics

- *Input measures* include the number of scientists employed, or total R&D expenditures.
- *Output measures* include the number of patents filed, costs reductions and the number of new products released.
- With economic values assigned to such measures, one can calculate the ROI attributable to an investment in R&D.

Qualitative Metrics Qualitative metrics rely on expert judgments on the performance of individual scientists, teams, groups, or departments. They are similar to evaluations of academic departments or researchers by peer reviewers. These evaluations can be transformed into numeric scores and related to R&D spending. Both quantitative and qualitative metrics have advantages as well drawbacks, and they can be combined into a single and integrated metric.

4.2.9 Implementing R&D Alliances

Companies may acquire and create new technology through R&D alliances with other firms. The advantages are numerous: the pooling of talent, economies of scale and scope, risk-sharing, leveraging comparative advantages, attracting talent, stimulating internal innovation, increasing overall technological innovation capabilities, increased speed, reducing costs through sharing and rapid access to new or proven technologies.

There are also disadvantages to such collaboration. They include transfer of know-how to rival firms, the transaction cost of coordination and contracting, loss of control, lower ability to profit from the innovation and potential conflicts. In order for R&D alliances to succeed, there must be technological and strategic compatibility, a more efficient innovation process and improved market access. These factors are hard to coordinate effectively and a majority of R&D alliances fail.

An important part of alliances is with universities. Private capital plays a role in the commercialization of innovations, but not directly in the funding of

basic research, the results of which are distant and speculative. Thus, basic research is mostly conducted in government labs and universities.⁵⁰ Many research ideas are created inside the universities and they flow through them from multiple directions.⁵¹ Companies benefit from collaborations with leading research universities, which gives them early access to basic research and researchers. Examples are the symbiotic relations of Silicon Valley companies with Stanford and Berkeley, of Route 128 corridor businesses in Boston with Harvard and MIT, and of the North Carolina Research Triangle firms with Duke, the University of North Carolina, and North Carolina State.

A firm may use universities as suppliers of useful research. Intel, for example, selects academic scientists and teams to develop technology that results in patents. Both company and university research benefit. Research funding from a corporation allows universities to conduct more advanced and expensive research.⁵²

4.2.10 Knowledge Management

In far-flung organizations, knowledge of the flow of R&D and its absorption between various levels is important.⁵³ As the past CEO of Hewlett-Packard, Lew Platt exclaimed with exasperation: “If HP knew what HP knows, we would be three times as profitable.” Knowledge management (KM) is the organization and distribution of information, experience, “tacit knowledge” and wisdom inside the company. It aims at sharing knowledge while also protecting it. It is crucial for any company to ensure the effective management of the flow of internal and external technical information.

50 Waites, Robert. “Reinventing Corporate Research.” *Research-Technology Management* 45, no. 4 (2002): 15–22.

51 Tennenhouse, David. “Intel’s Open Collaborative Model of Industry-University Research.” *Research-Technology Management* 47, no. 4 (2004): 19–26.

52 The Economist. “Out of the Dusty Labs – The Rise and Fall of Corporate R&D.” March 1, 2007. Last accessed May 2, 2017. ▶ <http://www.economist.com/node/8769863>.

53 McCormick, John. “5 Big Companies That Got Knowledge Management Right!” *CIO Insight*. October 5, 2007. Last accessed June 14, 2012. ▶ <http://www.cioinsight.com/c/a/Case-Studies/5-Big-Companies-That-Got-Knowledge-Management-Right/>.

There are a variety of knowledge management tools. Documents can be tagged with metadata, which makes them searchable. This avoids having to replicate information that has already been created and to put together pieces into a greater whole, which is often a foundation of innovation. Software can also be used to limit who has access to what material. Other tools are knowledge mapping of resources, creation of communities of practice and social software for interaction.

At its most fundamental, knowledge management is like creating an internal search engine that makes company-generated information accessible throughout the organization, and even to customers and vendors. It reduces duplication and assists coordination.

4.2.11 Standards Strategy

CTOs are often a company's liaisons on technology matters to the outside research community — universities, government labs, professional associations and other companies. In particular, companies need to deal with standards bodies and standardization efforts. Standards are quite prevalent in most parts of media technology. Examples are the times a DVD spins per second or the number of scan lines or the ratio of width to height of a TV picture. A standard tries to create common parameters. In some cases, such as driving on the left side of the road or the right, the substance of the standard is less important than its existence. This example also shows that standards can coexist, with different regions, car manufacturers and car owners going their own way (though, one hopes, not on the same road). In media technology, standards are widespread; almost as widespread are the struggles over them. Behind many standards is a saga of rivalry, conflict, intrigue and diplomacy. Examples are the original analog color TV broadcast protocols (NTSC in the US vs. PAL in some parts of Europe and SECAM in others), video cassette recorders (Sony's Beta vs. Panasonic's VHS), for mobile wireless (GS vs. CDMA), or for high-definition DVDs (Blu-ray vs. HD-DVD).

The alternative to standards is a proprietary technology. In some cases, it becomes so prevalent as to constitute a de facto standard for most market participants. An example is Microsoft's DOS and then Windows operating system, which

was not "standardized" with other companies or countries, but which emerged as the de facto way in which much of the microcomputer industry functioned.

The benefits of standards include expanded network effects.⁵⁴ Standards enhance compatibility. But proprietary technology may fail if other competitors have a similar product which is non-proprietary or easy to license. Examples are the failure of Sony's Beta VCR system vs. the open VHS. Deciding between openness or control is never easy, but it typically depends on a company's ability to create alliances with others.

There are also disadvantages to formal standardization. To reach an agreement on a standard can be costly and time-consuming. Lagging companies may try to slow down the process in order to catch up. There is often politicization and companies try to enlist their governments as being a "national champion" that benefits the country.

In the media field, standards tend to be set either by various international or domestic industry organizations, or by governmental, inter-governmental and semi-governmental organizations.⁵⁵ It is important for a company to play the standards game well. Standards can determine company success, as well as market structure. Yet, generally speaking, start-up companies and their investors are unfamiliar with the role standards play, and ignore the standards process until they are forced to follow it.

A big standards battle, such as Sony Blu-ray vs. Matsushita's HD-DVD, costs many millions just in the standards body process. A mid-size tech company with a more modest budget could easily spend \$100,000 a year just on monitoring the standards process affecting it.

Digital technology does not require uniformity in the same way that analog technology does. It is more flexible. Smart TV sets can process multiple standards. Different video providers will

54 Shapiro, Carl and Hal Varian. "Waging a Standards War." *Information Rules*. Boston: Harvard Business School Press, 1999, 228–233, 238–242, 273–276.

55 Standards bodies include the International Telecommunication Union (ITU), the International Standards Organization (ISO), the European Telecommunications Standards Institute (ETSI), the American National Standards Institute (ANSI), as well, in the USA, as the Institute of Electrical and Electronics Engineers (IEEE). There is the CEA (Consumer Electronics Association) and SMPTE (Society of Motion Picture and Television Engineers). DVB sets TV and video standards for Europe and elsewhere. Internet standards are set by bodies such as the Internet Engineering Task Force (IETF) as well as the W3C (www.consortium).

choose different standards and compete with them. This permits rapid entry of new technologies and innovation. In consequence, it is unlikely that uniform standards will be as important to the future of media as they have been in the past.

Beyond those specific tasks, one of the CTO’s major responsibilities is to help foster a climate of innovation in the organization. This is further discussed in ► Chap. 5 Human Resource Management for Media and Information Firms.

4.2.11.1 Case Discussion

Sony’s Standards Efforts

Sony had mixed results from its standards efforts. It scored a great success when it developed the CD player technology jointly with Philips of the Netherlands as its European ally, and this then became the worldwide standard.

On the other hand, Sony’s go-it-alone approach did not work for Betamax at all. Many years later, Sony’s Blu-ray DVD standard prevailed after a major struggle, but it took much coalition-building to achieve it; also, the process

retarded consumer acceptance of high-definition DVDs by several years. Partly in consequence, Blu-ray penetration rates were much lower than those of the previous generation, that of DVD players.

4.3 The Six Stages of Media and Communications Technology Digital Convergence: “The 6 C’s”

The next major section of this chapter is a discussion and overview of the significant trends in technology as they affect media and communications. Due to the breadth of the subject, it can serve only as an introduction. But such an introduction is important for those engaged in or contemplating a career in this sector.

Traditional media were separated by delivery technology—printed paper, film on celluloid, broadcast amplitudes, telephone wires, vinyl discs, computer discs and so forth. Similar specializations separated the provision of content from conduit. Within these separate markets, a firm could achieve market power. In the 1980s and accelerating in the 1990s, however, a technical convergence of media gradually began to blur the clear lines between segments, thereby creating potentially more rivalry. This fundamentally affects media, the borders between them and the market structures in which they operate.

The “convergence” of technology has been a broad and long process. It can be decomposed into several distinct convergences, some sequential, some marching in parallel. This will be the subject of the segments that follow.

4.3.1 Convergence #1: Computers

Several major technologies have come together to make computers possible. In particular, they are calculating devices, electronic components and control codes.

4.3.1.1 Calculating Devices

Calculators started as mechanical devices such as the abacus, created to assist people in arithmetic. In 1642, when he was 19, Blaise Pascal, a French mathematical genius and entrepreneur, invented a mechanical calculator. In the nineteenth century, Charles Babbage, a British scientist, inventor, traveler, economist, politician and author, designed a complex “difference engine” and a still more elaborate “analytical engine.” His work was supported by Ada Byron (the Countess of Lovelace and the daughter of Lord Byron).

4.3.1.2 Components

Babbage’s machines and similar calculators that followed had to rely on mechanical wheels, gears and so on. As soon as calculations became more complex, mechanical devices were not up to the task. To overcome this required the use of electrical signals. A major breakthrough was the electric vacuum tube, which goes back to 1906 and the AT&T engineer Lee de Forest. This made it possible to mirror and amplify weak signals, as well as to open and close an electric circuit. The vacuum

tubes were bulky, fragile and energy hogs. They were replaced in the 1950s by “solid-state” transistors based on silicon.

Transistors were invented in 1947 by William Shockley and his AT&T Bell Labs team, for which they received a Nobel Prize in 1955. Shockley started his own company. In turn, two of Shockley’s best engineers, Robert Noyce and Gordon Moore, left him to start their own firm, Fairchild Semiconductors, which subsequently split off to form Intel, the perennial leader in microprocessors.

Transistors are the key element of all microelectronics. They are similar in concept to an electronic tube: a weak signal controls a stronger one and is thus amplified. Transistors consist of three terminals: the source, the drain and, between them, the gate. When a positive charge is applied to the gate, the electrons are pulled from the source to the drain, meaning that the transistor is “on.” But when the positive charge at the gate is removed, electrons do not flow and the transistor is turned “off.” The on/off functionality of the transistor is what enables it to code and process information as binary 0s (“off”) and 1s (“on”).

Transistors proliferated, as did the other solid-state components that are part of electronic circuits, such as resistors and capacitors. In the third generation of components, these elements were put together in a single “integrated circuit” (IC) on a silicon chip. The first such integrated circuits were produced in 1959 by Texas Instruments and Fairchild Semiconductors. Each IC contained an increasingly large number of transistors on a single semiconductor chip. Such a chip was dedicated to a particular function, such as math calculations, or thermostat control. This changed with the fourth generation of components, *microprocessors*, which were programmable, i.e. they could be instructed to do many different things. (There are also many types of specialized chips, e.g. for image processing.)

In order to boost performance, semiconductor manufacturers now combine multiple processor “cores” on a single chip. In 2018, Intel’s I9-7980XE Processor had eighteen cores, and operated at a 4.20 GHz clockspeed.

The next generation of chips moved miniaturization and integration to yet another level, that of a “computer-on-a-chip” or a “system-on-a-chip” (SOC). They contain many components of a single chip: a processor (CPU), non-volatile memory (ROM or flash), volatile memory

(RAM), a clock, an input/output control unit and more. This is ideal for compact products such as smart phones.

4.3.1.3 Control Code and Devices

As machines began to develop power and speed, it became evident that they required control by human operators who were often too slow, expensive, and unreliable. Mechanical control devices were therefore developed. In 1805, punch cards were used in France to control a weaving loom. In 1896, Herman Hollerith introduced a tabulating machine for use by the U.S. Census Bureau.

Central to the ability of electronic machines to process and store information is “binary” coding, in which information is expressed as a string of 0s and 1s. These sequences and patterns of 0s and 1s can represent not only decimal numbers, but also letters, numbers, colors and graphics. They can be manipulated through the mathematics of “Boolean” algebra, developed by George Boole in the nineteenth century, establishing the mathematical foundation of what became “computer science.” The mathematics of controlling electronic calculating devices were advanced by Alan Turing of the UK along with John von Neumann, who had left Hungary for the USA. During World War II, they conceptualized how a machine could manage computational tasks.

Instructions that controlled the functioning of computer hardware became known as “software.” Its “programs” or “languages” have progressed from the earlier specialized, expensive science of mathematicians to a craft by skilled programmers and technicians, and to a stage where machines are able to write programs for other machines. The software has moved from an arcane and specialized craft product that only specialized engineers could interpret to a thriving, industrialized and often consumer-oriented industry producing a mass-product—and from products of low volume and high price to those of high volume and low price.⁵⁶

In the late 1990s, there were new developments in software. The first and most potentially challenging development was the growth of the Internet. As transmission bandwidth grew cheap and plentiful, many observers expected that users would only need a so-called “thin client” with which to access the Internet, with the intensive

56 Noam, Eli. *Media Ownership and Concentration in America*. New York: Oxford University Press, 2009.

computing done at a distance by more powerful servers. By reducing the need for a standardized operating system and for most applications programs, software providers would compete based only upon their price and performance criteria such as speed, reliability and ease of use. The thin-client network computer concept failed to live up to expectations, but the emergence of cloud-based computing may bring a revival.

4.3.1.4 The Computer

We have briefly explained the emergence of calculating machines, electronic components and software control languages. By the 1940s, these elements were put together into the first computers.

During World War II, British and Polish decryption of the German secret military “Enigma” codes led to advanced mechanical calculation machines, which soon became electronics-based devices that could quickly go over millions of permutations. The Harvard Mark I (1943) was the first program-controlled calculator. It weighed five tons, had 750,000 parts and 3304 relays. The US Navy utilized it for ballistic tables. The chief programmer was Grace Hopper, who later became the first woman US Admiral. But it was still a specialized machine for specialized purposes, rather than a universal multi-task computer. In Germany, similarly, Konrad Zuse in 1941 developed the Z3 as a programmable computing machine. The first general purpose computer was the ENIAC (1946). It was designed by John Mauchly and J. Presper Eckert of the University of Pennsylvania to break codes, calculate artillery flight and assist in nuclear development. It was 100 feet long, weighed 30 tons and cost \$500,000. The ENIAC’s inventors commercialized the technology into the Universal Automatic Computer (Univac) and soon sold their company to Remington Rand. This was the beginning of the computer industry.

IBM, a major office machine supplier of typewriters and desktop calculators, entered the market in 1953. It was able to leverage its dominant position in the tabulator punch card market and soon dominated the business market. When such “mainframe” computers were not powerful enough to meet specialized demand for high performance, “supercomputers” In 2011, the IBM Sequoia could run at the speed of 20 PetaFLOPs. In 2017, the top performer was the Chinese Sunway Taihulight with 93 PetaFLOPs. By 2018, the Oak Ridge National Laboratory in Tennessee

took the lead with its 200 PetaFLOP Summit computer. Exascale computers were being developed, the equivalent of about a trillion regular laptops.

These supercomputers—whose performance rises roughly a thousand-fold each decade—consist of massive, parallel processors and are used for large-scale scientific calculations, simulations, code-breaking algorithms and so on.

A different approach to high processing requirements is taken by Google and cloud providers. They run “server farms” of hundreds of servers. These servers are not supercomputers but, rather, commodity-class PCs running a customized version of Linux operating software. They aim to achieve best performance per dollar, instead of being the fastest machines. With upward of 450,000 servers, each with over 80 gigabytes of hard drive space and 2–4 gigabytes of RAM, Google’s processing capacity reached about 143 PetaFLOPs in 2018, with over one million servers in operation, mostly of the inexpensive commodity type.⁵⁷

Massive computing is used in the film industry for producing special effects and animation. Animated objects such as talking cars or animals are relatively straightforward to generate by computer. It is harder to create the believable animation of regular people, since humans are pretty experienced in the subtle reading of other human faces and motions, and computerized recreations would have to be near-flawless in order to be believable, rather than seen as cartoons. To do so requires animation computers with a huge combined processing capacity. In 1977, computer processing was still so prohibitively expensive that, when George Lucas made the original *Star Wars* film, he could afford to use computer graphics for only a single 90-second sequence.⁵⁸ The Death Star sequence took several computers three months to complete. The trend in the film industry shifted from a single supercomputer doing animation and special effects, to several mainframes and, eventually, to a network of medium-sized workstations known as “render farms.” DreamWorks’ render farm had about 30,000 “cores.” Pixar had 24,000.

57 Pern, James. “What is Google’s Total Computational Capacity” *Google+*.
▶ <https://plus.google.com/+JamesPearn/posts/gTFgij36o6u>. Halfacree, Gareth. “Google announces 100 petaflop TPU 3.0 pod” *bit-tech*
▶ <https://www.bit-tech.net/news/google-announces-100-petaflop-tpu-30-pod/1/>

58 Epstein, Edward Jay, *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

Once it becomes technically and economically feasible to create believable human characters, the next step will be for studios to create entirely artificial actors by computer technology. They would own the characters—like they own Mickey Mouse—pay them no salaries, subject them to amazing stunts, fine-tune their physical features, and let them live happily forever, with no profit participation or residual rights to royalties. At a foreseeable point in the future, this will become an economically viable proposition.

Consumer Computers

The 1960s, 1970s and 1980s saw a number of governments around the world supporting “national champion” electronics firms in order to keep up with IBM in building computers. None was successful in challenging IBM. Yet, upstarts in the emerging Silicon Valley of California succeeded without government backing where the big firms had failed. They brought microcomputers to the consumer markets. Intel’s 8080 microprocessor chip, introduced in 1974, enabled many computer processes. It could be combined with off-the-shelf components to build small computers, but large firms ignored this potential. Amateur computer builders therefore emerged to take advantage of this new market. In 1976, Steve Wozniak and Steve Jobs introduced the Apple I computer, which used a Motorola microprocessor and an operating system written in the BASIC computer language.⁵⁹ The microcomputers required software development machines. Focusing on the operating software for such small computers, Paul Allen and Bill Gates created Microsoft MS-DOS, which was adopted by IBM when it introduced its highly successful Personal Computer (PC) and laid the groundwork for Microsoft’s and Intel’s market dominance.⁶⁰ With the development of computer networks, the PC soon moved from being a standalone processor and storage device to an inter-networked device. The Internet became the major platform for such interconnection.

4.3.2 Convergence #2: Computers with Communications Hardware

The second convergence is that of computers with telecom communications. Electronic communications technology has been around since the mid-nineteenth century. Telecommunications—two-way individualized electronic communication—are now used more than ever before: at home, in the office, on the road, at the beach, when web surfing, chatting with friends, e-mailing, streaming music, watching video, holding a meeting, or running a company.

Telecom networks used to consist, at their user end, of lines known as “twisted pairs” of copper wires. For a higher capacity of signals, and for transmission under the oceans, copper co-axial (coax) lines were used. Optical fibers became a hugely powerful alternative means of transmission. They consist of very clear glass strands which can transmit the pulses emitted by light-emitting devices such as lasers. Not only do these fiber strands have a huge capacity, but they can also transmit signals for thousands of miles before they need to be regenerated and amplified. The trend of technological progress in wire-based communications, in terms of transmission rate (“speed”), has progressed at a compounded annual growth rate of about 44%, and that rate has been accelerating.⁶¹

The alternative to wired networks are wireless ones. In the 1840s, the English physicist James Clark Maxwell came up with the theory of electromagnetism. In 1888, Heinrich Hertz (Germany) demonstrated electromagnetic waves. In 1895, Guglielmo Marconi (Italy) applied these waves to transmitting telegraph-type signals to ships. Broadcasting soon followed. In time, technologists mastered increasingly high frequencies of electromagnetic waves. This made it possible to focus the radio beams narrowly, which enabled microwave transmission via one hilltop tower to the next, and later via satellites that seem to be hovering in a stationary orbit.

59 Smith, Roger. “5 Patterns of the Chief Technology Officers.” *Research-Technology Management*. Last accessed April 30, 2017. ► <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.158.1721&rep=rep1&type=pdf>.

60 Ohebsion, Rodney. “A Biography of Bill Gates and History of Microsoft.” Last accessed May 9, 2017. ► <http://www.rodneyohebsion.com/bill-gates.htm>.

61 Koh, H. and C. L. Magee. “A functional approach for studying technological progress: Application to information technology.” *Technological Forecasting and Social Change* 73, no. 9 (2006): 1061–1083.

The development of cellular wireless increased the utilization of the electro-magnetic spectrum by dividing a coverage area into small sections or “cells.” Each cell uses a low-power transmitter. The same frequency can be reused in multiple cells in nearby (through non-adjointing) areas, and this greatly increases system capacity. This is only possible with the use of computer technology that can identify a calling party’s location as they are moving, and is able to establish connections. It also

benefited from increasing computing power in handsets—leading to “smartphones,” which are small handheld computers that are network connected.

Manufacturing cell phones was initially a booming business with many vendors, but for a long time the average price for a cellular handset declined steadily while the products increased in complexity. Only a few manufacturers with very deep pockets were able to keep up.

4.3.2.1 Case Discussion

Should Sony Be in Telecom?

Today, billions of people around the world are walking around connected to each other through telecom networks and small computers in their pockets, made by a variety of manufacturers. Is Sony one of them? Sony was an active supplier of consumer telecom equipment. Initially it focused on well-designed devices such as answering machines and cordless telephones. Sony had a recognizable brand and achieved a strong and profitable market role. However, commodification in the low-end products and low-priced imitators caused Sony to lose its share. At the same time, Sony, as a consumer-oriented firm, had no success entering the business telecom market.

For more advanced telecom products such as mobile phones, an increasing resource commitment was required. At first, Sony followed a go-at-it-alone strategy; however, this was unsuccessful even in Japan, mostly because Sony was never a member of the “NTT family” of suppliers to the national telecom incumbent NTT.

By 1999, the state of Sony’s wireless position looked dismal. Its global market share of the handsets

market was less than 1% and it was losing money. In 2000, Sony entered into a joint venture with Sweden’s Ericsson, the third largest vendor of handsets in the world but facing its own difficulties of plummeting market shares and record losses. The joint venture’s headquarters were in the UK, with R&D labs in Sweden, Japan, China, the USA, Canada, Netherlands, India and the UK. The company relied heavily on the West European market, which was Ericsson’s main turf.

Sony brought its strength in music to help stimulate its phone sales. The joint venture was, at first, able to increase its market share by two percentage points to 4.9% in 2009, which was in fourth place worldwide, but far behind the then market leaders Nokia (37.8%), Samsung (21%) and LG (11%). Worse was to come: Sony Ericsson was soon overtaken by Apple and its innovative smartphone. Sales shrank from 103 million units in 2007 to 57 million units in 2009, leading to the layoff of 2000 jobs, nearly 25% of the total number.

In 2008, Sony Ericsson came out with its smartphone Xperia. It

outsourced the manufacturing of half of its Xperia line to the low-cost Taiwanese contract manufacturer Foxconn, many of whose operations are in mainland China. Xperia moved its operating system from Windows to Android (earlier, it had still used a third operating system, Symbian.) Xperia was well-designed and had useful features such as water resistance, but it did not make a big dent in the market. In 2011, Ericsson was bought out of its partnership by Sony for \$1.47 billion. By 2013, Sony’s world market share was about 2.1%.

Sony’s initial role in to the first and second generations of mobile was due to the company’s reputation as a consumer electronics giant, and due to its marketing prowess. But Sony did not succeed in entering the next level of mobile handsets on its own. The R&D here required a major commitment and investment. Instead, Sony had to rely heavily on Ericsson’s R&D ability. When Sony and Ericsson parted company again, Sony could not stay technologically in the leading group, in contrast to its Korean rivals Samsung and LG.

4.3.2.2 The Internet

The Internet was initiated by the United States Department of Defense as a system of linking smaller networks. The Pentagon’s Defense

Advanced Research Projects Agency (DARPA) funded a project based on this concept, linking several defense technology R&D centers in government, private industry and academia. It

could interconnect local computer networks provided the individual machine could speak a common digital language known as TCP/IP (Transmission Control Protocol/Internet Protocol). The resultant ARPANET grew rapidly after 1969. In 1995, the governmental system was replaced by a collection of commercial Internet backbones and Internet service providers (ISPs). ISPs link computer users to the Internet, and may provide additional services such as email. Small users typically connect to an ISP by using always-on high-throughput connectivity (“broadband”) through various forms of transmission, such as a digital subscriber phone line (DSL), a fiber line, cable coax connection, mobile wireless network, or satellite. The ISP connects to the rest of the Internet by high-capacity links as directed by “routers,” and reaches the main backbones which, in turn, connect directly or over still other backbones to other Internet nodes or ISPs.

The original Internet grew by leaps and bounds, but was initially confined to relatively sophisticated users. It was complex to use and its content was essentially geeky text. This changed dramatically with the introduction of the World Wide Web (the “web”). The web’s key ease-of-use feature is hypertext, developed at Geneva’s CERN laboratory in 1989 to allow researchers to reference other documents available on the Internet. This means that data need only be stored on one server to be accessible by any computer connected to the web. The number of host networks and domains increased exponentially. In 1995, 50 million people were online, primarily in the United States, Canada and Europe. By 2006, that number had increased to 694 million and, by 2013, to 2.71 billion, including by mobile devices. Plummeting computer and Internet access prices coupled with growing access, increased transmission and faster processing speeds drove Internet usage. Applications such as email portals, interactive gaming, online banking, e-auctions, e-tailing, online advertising, and social networks, and streaming music and video made the Internet increasingly popular.

For a period, the Internet was celebrated as open, free and competitive. Entrepreneurialism was high, financing easy and entry barriers were low. But, in time, it became dominated by large firms with market power, whether ISPs or large application providers. The common elements are

high economies of scale (scalability), based on high fixed costs and low marginal costs, and often complemented by network effects (positive externalities) on the demand side.

4.3.3 Convergence #3: Integration with Consumer Electronics

The convergence of consumer electronics (CE) with computing and telecom devices has two dimensions:

1. Integrated multi-purpose devices;
2. Communications capabilities.

Devices combine a platform (typically, a CE device such as a music player or game console) with processing (calculators, computers and so on), data storage, software for operating systems and applications, and communications capabilities through connectivity technologies such as telecom, cable, Ethernet, mobile wireless, Wi-Fi, Bluetooth and the like.

Some such integration goes back a long time. Originally, consumer electronics devices were not connected to each other or to a central node. Example are phonographs (1870s) and cameras.⁶² However, key devices of consumer electronics became connected by communications networks, though initially of the one-way variety. Milestones were:

- Radio sets (1920s);
- Television sets (1940s);
- Cable TV and satellite TV connected TV sets (1960s);
- MP3 players (1990s);
- Smartphones (2000s);
- Tablets (2010s).

CE became a global business, centered in Asia. For CE companies, the best business model has been to build up scale and experience behind early protectionist walls, then move into exports on a value-pricing basis; to build a strong, global brand with a few impressive products, and then expand into multiple products while commanding a premium price. The emergence of contract outsourcing manufactur-

⁶² Originally, cameras were based on optical and chemical processes, rather than electronics. They gradually incorporated electronics in light sensors and other control functions, and then became fully electronic by way of digital recording. We therefore include camera devices under consumer electronics.

ers (OEMs) such as Flextronics and Solectron lowers entry barriers on the design stage by giving smaller CE firms access to large, flexible manufacturing facilities with economies of scale. For example, an entrepreneurial upstart in TV sets, Vizio, entered successfully with a low pricing model and offshore manufacturing. In time, even established CE giants such as Sony, Philips and Motorola outsourced the manufacturing of products to the OEM firms.

More recently, TV sets also became “connected” by two-way access to the Internet, and supported links to content providers such as Netflix, as well as to each other. They incorporated electronic storage, switching, modems and home networking, and thus became, in effect, display and control terminals of home-based computer-style networks.

As consumer electronics firms moved into networked devices, IT companies moved in the opposite direction and eyed the large consumer market. Most successful was Apple, which did well with its iPod, a music device based on computer-based data compression (MP3) and laptop-style memory (at first, magnetic hard drive; later, solid-state semiconductor). This was followed by the iPad, a light handheld and Wi-Fi-networked consumer computer in the tablet format which became a successful device for media consumption. There were also small innovator startups from the Internet and IT sector. TiVo, Roku, and Sling are examples, with products that extended the range of video options open to the user in terms of time and location. Virtual and augmented reality devices and applications (apps) emerged, with products by Samsung, Sony, Facebook, HTC and Google, as well as several Microsoft Windows-based vendors.

Thus, by the early twenty-first century, consumer electronics had transitioned from stand-alone devices lacking logical processing and produced by sprawling multi-product firms to an industry of inter-networked and “smart” products produced by a wider set of companies hailing also from other industries and from the startup sector. In the aggregate, this trend accelerated the pace of innovation in the consumer electronics industry and, in some cases, changed the scale economies. CE markets became global, manufacturing split off from product design and marketing, and the market power of large retail intermediaries rose enormously. The industry destabilized. Some CE firms weathered this challenge better than others.

4.3.4 Convergence #4: Integration with Content

The fourth type of convergence is that of media hardware with media content—with text, music, pictures, videos and games. This goes beyond one hardware device connecting to others. Such connectivity enables links to content, but they are not the content integration itself. An example is an interactive game console. These have built-in modems which can provide access to Internet content such as software, web browsing, social media and email. But, in particular, they offer content, i.e. games. Electronic books are another type of device, as are audio players. Apple’s iPod and iPad were successful because Apple was able to integrate hardware and content through the creation of its online digital media retail site iStore.⁶³ By 2017, the Apple iTunes store had sold over 50 billion songs. It offered 45 million songs, 90,000 movies, 2.5 million eBooks and 2 million apps. Its annual revenue was almost \$10 billion. This made Apple the leading music retailer in the world.

4.3.4.1 Video Game Hardware

Video games have become a new mass media—increasingly sophisticated, interactive, feature-rich and popular. Video game hardware was pioneered in the United States in the mid-1970s by Nolan Bushnell, who invented Pong (an early arcade video game machine) and founded Atari.⁶⁴ However, by 1984, consumers grew bored with Atari’s products. A new entrant from Japan, Nintendo, became dominant in 1985. The higher quality of Nintendo games and 8-bit CPUs and, later, 16-bit machines reinvigorated the industry. In 1990, Nintendo machines accounted for 90% of the \$4 billion global hardware and software markets. But, by 1993, Nintendo lost its leadership to Sega and its machine, which was based on a 32-bit microprocessor. Sega, in turn, lost out to Sony, which enjoyed quick success with its own 32-bit PlayStation machine released in 1995. Sony’s PlayStation combined superior hardware with access to content, and a \$40 million marketing campaign that focused on celebrities and

63 MacNN Staff. “Apple calls iPod nano demand ‘staggering.’” *MacNN*. October 11, 2005. Last accessed May 9, 2017. ► <http://www.macnn.com/articles/load/details/05/10/11/aapl.q4.conference.call/>.

64 Earlier projects were those of Steve Russel and Ralph Baer (“Game Room,” “Space War,” and “Magnavox Odyssey”).

trendsetters. In time, Sega withdrew from the video console business altogether, leaving Nintendo and Sony to duke it out with newcomer Microsoft, which entered the market in 2001 with its Xbox console.

As can be seen from its history, this market is unforgiving. New technology, expressed in processor complexity, drives console adoption. The first to market with the latest processor technology will sell many consoles in its first year, but sales will quickly fall in succeeding years as the novelty declines and rivals catch up.

Gaming consoles became more than just gaming machines. Machines function as DVD players and enable users to access the Internet, especially for online games. The intense competition in

gaming consoles and the high demand for the latest game releases led industry participants to adopt a razor-and-blades business model. Manufacturers are willing to make little or no money on video game hardware sales to quickly build a large installed hardware base, thereby boosting profitable game or cartridge (software) sales.

The video game hardware industry is deeply competitive but sustains only three globally operated firms. These tent-pole companies are surrounded by small game developers, which jointly create the network effects and scale necessary for success with a very finicky and volatile user base. Entry barriers are high for the hardware consoles but much lower for the game applications.

4.3.4.2 Case Discussion

How Sony Achieved Content-Hardware Convergence

Sony's content-hardware strategy is probably stronger than that of any other company in the world. This strategy goes back to its Betamax defeat by the technologically inferior Matsushita's (Panasonic) VHS. The debacle led Sony's CEO, Morita, to conclude that hardware superiority was not enough and had to be supported by control over some content software to assure a format's success. Morita's content strategist was Norio Ohga. Ohga had had a career as an opera singer and symphony conductor. In 1986, Norio Ohga got Sony to buy the music division of CBS for \$2 billion. This acquisition helped the success of the CD launch.⁶⁵

In 1983, Sony and Philips jointly introduced the compact disc (CD) for high-fidelity, noise-free digital audio storage. The CD revitalized the recorded music and audio electronics industries. Sony also pioneered the portable audio tape player with the release of its popular Walkman in 1979. But the market as a whole

declined with the advent of portable alternatives with better sound quality. New products emerged, most notably the portable MP3 player, introduced by the tiny computer equipment company Rio. Sony and Thomson followed with their own products. Sony, however, was hampered by the demands of its own music division for strong security against piracy. In 2001, Apple entered the market with the iPod, coupled with the music store i-Tunes, and quickly became the dominant force in the market with a share of 73.8% in 2005. Through innovations such as the iPod Mini and Nano, Apple was able to keep charging a premium price. In contrast, Sony's market presence in portable music declined.

In 2004, Sony added to its music content strength by joining up with Bertelsmann, another of the five music majors, and merging their music operations to create Sony BMG, the world's second largest music group. In 2008, Sony raised the stakes further and

bought out Bertelsmann's half share of the company.

Sony Music Entertainment incorporates several subsidiaries including Columbia Records, Epic, Legacy, RCA, Jive, Kinetic, Arista, Sony Music Japan, Sony Music UK and Sony Music Germany. Sony also distributes many independent labels.

Sony tried to integrate this content into its mobile phone venture Sony Ericsson. In order to compete with Apple's iTunes and Nokia's Comes With Music services, Sony Ericsson launched its own mobile phone service: PlayNow Plus. However, this did not make much of a dent.

Also without success was Sony's MP3 player. Sony's music division, instead of helping the hardware to achieve leadership, worried greatly about piracy. This held Sony back from taking the lead in the MP3 market, which should have been Sony's stronghold given its dominance with its Walkman and Discman player generations. Yet, Sony's MP3 player was a distant runner up.

65 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

Music was only the first step for Sony’s entry into the content business. Film followed. In 1989, Morita bought the film studio UA-Columbia for 3.4 billion dollars from Coca-Cola. Sony Pictures was able to produce big hits at the box office such as *The Da Vinci Code*, *Casino Royale*, and *Spider-Man 3*.

Sony used its content strategy to drive the transition to HDTV and high-definition DVD film format. By owning film content, Sony strengthened its hand in the battle over the standards. For example, Sony collaborated with the Discovery Network and with IMAX to launch a 3D network called “3Net,” with Sony being the primary sponsor for the ESPN network. Sony used its game console PS3 to drive consumers to its Blu-ray videodisc standard, and prevailed over its rival Panasonic.

The success of the PS3 console was partly driven by publishing games such as *EverQuest*, *Star Wars Galaxies*, *The Matrix Online*, *Gran Turismo*, *Warhawk* and *Formula One*, which created a user base with Blu-ray, which in the end tipped the scale.

Thus, there have been several examples of success for Sony’s content integration strategy. The

Sony Reader was the first tablet to use an e-paper screen, but it had no Wi-Fi or wireless connections. It failed to make a splash while Amazon’s Kindle got 85% of the market share. Kindle had the advantage of Amazon’s book store, while Apple’s iPad had the advantage of its iStore when it took off in 2010. Sony’s online content store which offers a broad selection of fiction and non-fiction manga comics and graphic novels, did not take off, just as its music store had also failed. In 2014, Sony closed the North America operations of its Sony Reader due to lack of success against Amazon and others.

Other Sony efforts included a wireless broadband TV, enabling the first Dual-Band Wireless AV transmission, with web browsing, e-mail photos and access to personal contents while traveling. Sony’s Cocoon (released 2003) was a Linux-based set-top box, with broadband Internet connectivity. Cocoon aimed to become an alternative to the PC for accessing Internet content. It could also analyze previous choices and items stored to identify a user’s preferences, and automatically record programs that fit that profile.

So, the question is whether Sony’s content strategy has benefited the company, or slowed it down. Has Sony achieved an advantage from its content, or should it simply concentrate on offering a better hardware device platform? Sony’s PS3 had the Blu-ray player and, with it and its Hollywood studio position, Sony was able to win against HD-DVD. On the other hand, Sony’s music division opposed aggressive moves in MP3 players due to fears of piracy. And Sony’s TV set business? Its film *Hancock* was made available via Internet download only for its Bravia premium brand TVs for just \$9.99 prior to the DVD release.⁶⁶ Did that measurably increase Sony’s sales? Probably not, but it generated some buzz. Despite these efforts, Sony’s TV set sales were in serious trouble.

Symmetrically, one should also ask whether Sony’s *content* benefited from Sony’s hardware connection. Has Sony created new “convergence” types of content, or promoted its content better through its hardware? So far, there have been no examples.

4.3.5 Convergence #5: The Media Cloud

Today, the next generation of technology integration is emerging—that of connecting consumer hardware devices with computing services. The World Wide Web, with its numerous websites for information and transactions, was a major step. Today, we are moving to data processing itself, by way of “clouds,” which is the current term for server-based services to end users. The basic idea has been around for decades, to move data and operations to big central servers, and to leave the periphery of end user “clients” to be relatively slim terminals. In that way, the device can be small, relatively simple and parsimonious with battery power.

Some companies, such as Amazon or Apple, have created huge facilities for their services. Apple spent about \$1 billion on a new data center in Maiden, North Carolina. What are the

implications? First, the consumer electronics business is being changed. If all devices in the home are interconnected, then we move from consumer electronics as hardware devices to consumer electronics as services. A familiar example is the voicemail service that is now being provided by a phone company as a service that replaces an answering machine—a hardware device. Services are paid according to usage, or by subscription, or by some sponsorship.

The necessary hardware will mostly be bought by service providers, rather than the consumers. In this market space, IT companies have more credibility than CE companies. More powerful but fewer hardware boxes will be sold. This is even worse news for retailers.

⁶⁶ Nakashima, Ryan. “Sony free to mix music, electronics.” *Los Angeles Times*. October 14, 2008. Last accessed June 1, 2011. ► <http://articles.latimes.com/2008/oct/14/business/ft-sony14>.

4.3.6 The Next Convergence: Bio-electronics and Human Cognition

The next convergence (6C), clearly ahead of us, is that of IT technology with bio-technology: “bio-electronics.” Already, cochlear implants, which directly stimulate the auditory nerve, have enabled thousands of deaf people to hear sound. Similarly, a retinal implantable chip for prosthetic vision may restore vision to the blind.⁶⁷ Another type of technology, aimed at creating a “touch and feel” sensation, is the TactaPad, where a pad is touched directly with the hands, providing dynamic “force feedback.” The pad has a unique feel that corresponds to the object being touched.

But the applications will go deeper, rather than overcome sensory handicaps. We may be able to integrate a computer’s speed and accuracy, as well as its ability to transfer knowledge easily, into our own sensory systems. Similarly, sensory signals picked up by humans may be processed by technical devices rather than the human brain,

and human responses or emotions could be detected and interpreted directly in a kind of “brain-modem.”

Futurist Ray Kurzweil, extrapolating current exponential trends in computation power, predicts that the capability of a human brain will be available electronically around 2023 for a price of 1000 dollars and, in 2037, for only 1 cent. Eventually, the capability of the entire human race can be reached in 2049 for 1000 dollars and, in 2059, for 1 penny.⁶⁸ While such extrapolations often reflect a technologist’s narrow perspective of human capability, the broader point is valid: a good number of our mental processes could be done more powerfully by machines. And this includes the control of media-created sensory experiences.

Such technologies emerge first for medical and military use. They have a great potential for good, but have also implications for altering or controlling behavior. They are fraught with perilous implications and will lead to much societal debate. And they create enormous challenges to the next generation of technologists and media managers.

4.4 The Next Act for Sony

4.4.1 Case Discussion

Where Does This Leave Sony?

Sony is a brilliant technology and marketing firm but has difficulties in keeping up with specialized firms. Increasingly, it leaves R&D in those areas to partners or vendors. Sony’s strengths are its integrator role, its strengths in design and its prowess in global marketing. The aim is a streamlined Sony. As Sony’s past CEO Howard Stringer stated, “in terms of the variety of products, Sony is still unbeatable. The question is how much variety is too much

variety.”⁶⁹ Specialization is not just a matter of technology. Sony is spread thin not only in R&D, but also in the marketing of its products.

Aware that it may be too diversified, Sony gradually and reluctantly abandoned its “scatter-gun” approach to customer electronics in favor of focusing on the “champion products.”⁷⁰ But internal stakeholder constituencies of product fiefdoms make such prioritization difficult.

Internal communications in the sprawling company were often flawed. In one instance, Sony’s marketing people did not alert the R&D managers of the impending demand for large flat screen TVs, leaving the company to fall behind Samsung and Sharp, and, embarrassingly, requiring it to buy those screens from its other competitors.

In the field of computers, PCs became a commodity, with Intel and Microsoft taking most of the profit. Sony’s Vaio did not create a

67 McGee, Ellen M. and G. Q. Maguire, Jr. “20th WCP: Ethical Assessment of Implantable Brain Chips.” Proceedings of the Twentieth World Congress of Philosophy, August 1998. Last accessed August 10, 2012. ► <http://www.bu.edu/wcp/Papers/Bioe/BioeMcGe.htm>.

68 Kurzweil, Ray. “The Law of Accelerating Returns.” *KurzweilAI.net*. March 7, 2001. Last accessed August 10, 2012. ► <http://www.kurzweilai.net/the-law-of-accelerating-returns>.

69 Schlender, Brent. “If you don’t act, you will kill the company.” *Fortune Magazine*. April, 4, 2005. Last accessed May 11, 2017. ► http://archive.fortune.com/magazines/fortune/fortune_archive/2005/04/04/8255922/index.htm.

70 Nakamoto, Michiyo and Paul Taylor. “From push to pull – Sony’s digital vision.” *Financial Times*. January 6, 2006. Last accessed June 1, 2011. ► <http://www.ft.com/cms/s/2/381891be-7f09-11da-a6a2-0000779e2340.html#axzz1O3C6NQw3>.

strong multiplier for the company's overall products.

Being pummeled financially, in 2009 Sony announced layoffs of 8000 permanent and 8000 contract workers, most of them in America. In 2010, there were 450 layoffs at Sony Pictures. In 2010, it reduced its capital investments in electronics by 30% and reduced manufacturing prices by 10%. It continued to shift R&D and manufacturing to be done outside the firm. Even so, it lost \$5.5 billion in 2011. In 2013, sales declined and the loss was over \$1 billion. TV shipment declined from 40 million to 20 million. According to its then- CEO Howard Stringer, every TV set built by Sony creates losses for the company.⁷¹ Outside analysts recommended that Sony abandon product categories where it could no longer compete, such as televisions sets, and focus on its strengths such as entertainment and video games.

Kazuo Hirai, a lifelong Sony technologist, credited for making the PlayStation business profitable, was appointed as the new CEO.⁷² Hirai aimed to turn the business around with cost cuts, layoffs, new products and a breakdown of internal barriers. His priorities were five initiatives:

1. Focus on the core businesses: digital imaging, games and mobile;
2. Turn-around of the TV business;
3. Expansion of business in emerging markets;
4. Creation of new businesses and acceleration of innovation;
5. Realignment of the business portfolio and optimization of resources, i.e. bring its content units to be more closely

coordinated with its technology devices.

These were broad goals, hardly focused targets and action strategies. Concrete actions taken were a new top management structure ("One Sony, One Management"), which means a unification of all electronics business units, but, at the same time, the divisions would have more independence to accelerate decision making; one goal was cost reduction in the TV set business, cutting fixed costs by 60% and operating costs by 30%. In 2014, and again in 2015, CEO Hirai took several steps: Sony spun off the audio and TV set manufacturing operations into a wholly owned subsidiary to speed up processes; and its computer division, Vaio, was sold to an investment consortium, Japan Industrial Partners, for about \$500 million plus a 5% stake in the new company. Another 5000 jobs (approximately 3% of global staff) were cut.

Within the constraints of legacy, Sony's strategy was to focus on its most profitable and high-margin businesses. It aimed to increase operating profit 25-fold within three years by growing its camera and game divisions, and give up on raising its sales in smartphones or computers. It then proceeded to cut 2000 jobs of the 7000 in its smartphone division.

The major building block for Sony was its strength as one of the largest camera manufacturers in the world. Sony is number one in 4K quality video, production cameras and projectors. The entire market, however, has greatly declined due to a migration to smartphone cameras. The emerging Sony strategy has

been "From the Lens to the Living Room," meaning the value chain from professional content production hardware to consumer media devices. Profitability of Sony's camera business rose 73% in 2015/2016.

Another strategy was to differentiate Sony by connecting its entertainment properties—such as the music, movie and video game section—more closely with its electronic devices. This concept, of course, had been promoted for over two decades and it was not clear why it would be more successful now.

Sony also aimed to increase capital investments by generating significantly funds—\$3.6 billion—in its first outside capital raising in 25 years. Partly based on these measures, operating profit rose in 2015/2016 by 330% (from \$655 million to \$2.81 billion). Losses in its mobile communications business dropped 72%, to \$590 million from \$2.08 billion.⁷³ Its gaming division's profits rose 84% to \$850 million, with PS4 sales rising significantly to 35 million. On the other hand, it lost \$270 million in its semiconductor and component division. That segment had recorded a profit of \$850 million in the preceding year.

But the trends are still running strongly against it. Does this mean that, within the next few years, Sony will continue to break itself up? It will remain a strong brand—but with most of the R&D and manufacturing done outside, and with major product lines being spun off. Rather than a technology R&D developer, Sony will be a technology aggregator, and a technology/content integrator.

71 What Hi-Fi? "Sony Admits Losing Money On Every Kind of TV It Makes; Plans "different kind of TV." November 11, 2011. Last accessed June 14, 2012. ► <http://www.whathifi.com/news/sony-admits-losing-money-on-every-tv-it-makes-plans-different-kind-of-tv>.

72 Yasu, Mariko. "Sony's Hirai Stakes Reputation on Restoring TVs to Profit". March 27, 2012. ► <http://www.bloomberg.com/news/2012-03-27/sony-s-incoming-president-hirai-to-run-home-entertainment-unit.html>.

73 Kharpal, Arjun. "Sony just posted a 666% rise in profit as its turnaround plan takes hold." *CNBC*. April 28, 2016. Last accessed June 22, 2016. ► <http://www.cnbc.com/2016/04/28/Sony-just-posted-a-666-rise-in-profit-as-its-turnaround-plan-takes-hold.html>.

4.5 Outlook

We have discussed in this chapter a dozen tools and tasks for media and digital companies to manage their technology functions. Even all the enormous changes in media technology, we are most likely only at the early stages of the evolution. Coming down the road are many technologies with a media impact, some of which are listed below:

- Intelligent interfaces that make human-machine interaction more convenient;
- Bio-electronics that directly link physiological sensations with machines;
- Machine-to-machine intelligent communication;
- Semantic networks which can interpret and understand meaning;
- Intelligent screeners of information;
- Cognitive radio that can roam and can use bits and pieces of spectrum;
- Large, thin and flexible screens that are integrated into walls and various products;
- Ubiquitous non-stop connectivity;
- Gigabit-rate networks in the home;
- Megabit mobile wireless;
- Smartphones with visual projection;
- Miniaturization and systems-on-a-chip;
- Sensor networks that can provide feedback, monitoring and controls;
- Holographic and glasses-free 3D;
- Real-time rendering that enables true customization and interactivity of content.

People tend to over-estimate the short term but underestimate the long term. In technology devices, it is quite common to encounter a “hype cycle,” in which new or anticipated products raise expectations that are far out of line with reality. Eventually, inflated expectations reach their peak and disillusionment sets in, a dark counter-reaction to the previous rosy scenario. But, in time, reality returns, and a cooler assessment emerges. And then, gradually, the impact of the new technology gathers momentum and its accumulated impact is often much larger than anticipated.

The preceding discussion has shown the many dimensions and tasks of technology management faced by a media or digital company or organization. They are issues that require an understanding of the underlying trends, of competitors’

initiatives, production planning, market forces, the fostering of innovation, and government actions. They require savvy in tech, strategy, marketing, operations, HR and public policy. This is not an easy set of skills to combine, but it is an essential one for a media company. The aggregate impact is fundamental. Media technology affects media content and societal interaction. In that sense, R&D technologists are also the engineers of our culture and of our politics.⁷⁴

4.6 Review Materials

Issues Covered

We have covered the following issues in this chapter:

- The technological trends that drive the media industry’
- The functions and responsibilities of the Chief Technical Officer;
- How to select R&D projects for funding;
- Whether to specialize or diversify in R&D;
- A tech company’s R&D horizons for short-term and long-term projects;
- How to position and organize R&D within the firm;
- When to outpace R&D;
- How to involve developers and users in the R&D process;
- How to determine R&D budgets;
- How companies (and universities) benefit from R&D alliances;
- How companies manage their internal knowledge;
- How to play the standards setting game well;
- How semiconductors transformed IT and CE

74 Example: A study shows that, over time, films have shifted toward movie types that are most amenable to special effects, such as action films and sci-fi, while romance and drama have declined. “Movie characters can now be transported, transfigured, or killed in an incredible number of ways, but what can digital effects do for a kiss?” Ji, Sung Wook and David Waterman. “Production Technology and Trends in Movie Content: An Empirical Study.” Working Paper, Indiana University, December 2010. Last accessed May 11, 2017. ► https://www.researchgate.net/profile/Sung_Wook_Ji/publication/228448250_Production_Technology_and_Trends_in_Movie_Content_An_Empirical_Study/links/55196ea60cf23c470a5c7a23.pdf.

- How personal computers and smart-phones evolved;
- How the Internet emerged and evolved;
- The future of the consumer electronics industry;
- How the integration of media hardware and content-generated new media types;
- The implications of the convergence of consumer hardware and computing devices;
- What the potential of a convergence of bio-electronics and bio-technology might be.

Tools Covered

We used these tools to discuss Technology Management issues:

- Moore's Law;
- R&D project selectivity and success rate;
- Scoring method for projects;
- Economic-financial analysis of project prioritization;
- A tech company's R&D categories for short-term and long-term projects;
- Dimensions of consumer acceptance;
- Risk-reward diagram;
- Network effects;
- R&D effectiveness index;
- Standards process participation;
- Knowledge management (KM);
- Media cloud.

4.6.1 Questions for Discussion

1. What are key technology innovations from the 1990s that will affect media by 2020? Explain. And what are technology innovations of the 2000 that will affect media in 20 years' time?
2. A consumer electronics manufacturer has hired your consulting services to forecast trends in CE. What do you foresee and how should this CE manufacturer adapt to the future?
3. When it comes to patents, is R&D management moving in an identifiable direction? If so, what is it, and does it make sense?
4. Is there a relationship between market volatility and technological progress in a field? How do these relationships play out in major media sectors?
5. You are the CTO for a network equipment firm. Researchers from the University of Wallalia have just reported discovering a new principle of particle physics that could lead to hyper-broadband that leaves all current transmission technology in the dust. How should R&D management address this opportunity and threat?
6. Does the current patent system retard technology innovation? Explain why, or why not.
7. Contrast the responsibilities of the CIO and the CTO at a typical media company.
8. How does the CTO evaluate the viability of R&D projects? What advance information from the R&D department would they require?
9. How does Moore's Law affect R&D planning?
10. How can a media company take advantage of user communities that would like to converge with the company, and provide innovation? What are possible disadvantages?

4.6.2 Quiz

- ?** 1. Which of the following products is a part of the convergence of devices and content?

 - A. Sony's multi-media platform Vaio computer.
 - B. Amazon's e-book reader Kindle.
 - C. Sony's mobile media player LocationFree TV.
 - D. None of the above.
- ?** 2. Which is not likely to be an impact of the ultra-broadband networks?

 - A. Higher prices for devices as they become more powerful.
 - B. More subsystems (software and hardware) are built into the devices.
 - C. Transitions from device-based features to online-based services.
- ?** 3. Which of the following best represents the organizational structure of R&D activities?

 - A. In the centrally-support model, most research is done at the division level, while most development is done at the corporate level.
 - B. As R&D becomes more complex, the R&D organizational structure becomes more decentralized.
 - C. Companies can be successful in R&D even without any corporate level R&D.
- ?** 4. Which of the following will ensure a standardization war victory over a rival?

 - A. Control over a large part of the installed base.
 - B. Perfect compatibility with former standards.
 - C. Exceptional quality of new standards.
 - D. None of the above.
- ?** 5. Which of the following is the worst reason to join a R&D alliance?

 - A. Members can share the cost for developing new technology.
 - B. Members have highly complementary technology skills and experiences.
 - C. The culture and structure of the alliance will reduce the development time significantly.
- ?** 6. Which of the following is correct about the impact of home networks?

 - A. Shifting actual functions to remote locations is not practical, because it overloads bandwidth requirements.
 - B. It will become even more complex for the users to handle the functions of devices, because of the complexity of the network.
 - C. Standardization will become more important because of various systems provided by various service providers.
 - D. None of the above.
- ?** 7. Which of the following is not a necessary criterion of good balance between the centralization and decentralization of R&D activities?

 - A. The corporate level has the ability to conduct research and acquire knowledge to enable future profitable innovations.
 - B. The company has the ability to synthesize the knowledge of different divisions.
 - C. The responsibilities of R&D are split clearly between the corporate and division levels.
 - D. None of the above.
- ?** 8. Which of the following can be considered the first general purpose electronic computer?

 - A. The Electronic Numerical Integrator and Computer (ENIAC), invented in 1946.
 - B. The "difference engine," invented in 1839 by Charles Babbage and Ada, Countess Lovelace.
 - C. The Atanasoff-Berry computer, developed by Iowa State College professor John Atanasoff and Clifford Berry in 1941.
- ?** 9. The impetus for the development of the ENIAC was the need to:

 - A. Compute enormous amounts of statistical data for meteorological research.
 - B. Perform ballistics computations for firing tables during World War II.

4.6 · Review Materials

- C. Calculate studies of thermonuclear chain reactions, i.e. the hydrogen bomb.
D. All of the above.
10. In 1975, Intel CEO Gordon Moore predicted that the power of a computer chip would:
A. Progress arithmetically.
B. Progress exponentially, doubling every 18–24 months.
C. Double every four years due to exhaustion of early gains.
11. When IBM entered the computer industry in 1953, its business strategy did *not* include:
A. Leasing, rather than selling, equipment.
B. Leveraging its dominant position in the tabulator punch-card market by bundling equipment.
C. Making it cheap for competing manufacturers to connect peripheral equipment to create network effects.
12. The future trend in computing is:
A. Mainframes becoming insignificant.
B. Computer devices accelerating performance at the rate of Moore's Law.
C. Computer devices for every person on the planet.
D. All of the above.
13. With client-server computing, corporate growth is expensive because:
A. PCs take up a great deal of footprint.
B. The complexity of PCs makes maintenance difficult.
C. If companies decide to upgrade software, they must do so on every PC.
D. All of the above.
14. During what phase of tech product development, should a company more effectively analyze market potential?
A. Testing.
B. Product selection.
C. Prototype construction.
D. None of the above.
15. What is the trend of the video game market?
A. Reaching out to younger consumers.
B. Increased video game console sales.
C. Increased competition in portable consoles.
D. Online gaming sales are increasing mainly due to the popularity of high-tech games.
16. Which sales have decreased?
A. Gaming hardware sales.
B. Electronic game sales.
C. Electronic gaming software sales.
17. Which type of R&D model emphasizes the least importance on research?
A. Technology-driven.
B. National treasure.
C. Market-driven.
D. Global.
18. Which officer of a company is most responsible for the corporate R&D organizational structure?
A. Chief Information Officer.
B. Chief Technology Officer.
C. Chief Executive Officer.
D. All of the above.
19. What has the convergence of consumer electronics with telecom devices led to?
A. Integrated multi-purpose devices with communications capabilities.
B. Faster mobile Internet speed.
C. Telecom law regulation extended to consumer electronics devices.
D. Data caps.
20. What is not a key task or function of a CTO?
A. The CTO identifies present and future technology options.
B. The CTO contributes to published scientific research.

- C. The CTO has to deal with scenarios and opportunities that are composed of building blocks that already exist.
- D. The CTO shapes part of the overall corporate strategy along the dimension of technology

- C. People tend to overvalue the benefits of new goods over the goods they own.
- D. There is a mismatch between what innovators think consumers want and what consumers truly desire.

4

21. Which statement about the purchasing behavior of consumers is incorrect with regards to innovative products?
- A. Consumers fear losses much more than gains of the same magnitude.
 - B. Behavioral change is not easy for consumers.

22. What is especially important for the innovation stage “Horizon 1: Improvements”?
- A. Mostly money and people.
 - B. Corporate culture of creativity.
 - C. Making bets.
 - D. Exploration into new markets.

Quiz Answers

- ✓ 1. B
- ✓ 2. A
- ✓ 3. C
- ✓ 4. D
- ✓ 5. A
- ✓ 6. D
- ✓ 7. C
- ✓ 8. A
- ✓ 9. D
- ✓ 10. B
- ✓ 11. C
- ✓ 12. C
- ✓ 13. D
- ✓ 14. B
- ✓ 15. C
- ✓ 16. A
- ✓ 17. C
- ✓ 18. B
- ✓ 19. A
- ✓ 20. B
- ✓ 21. C
- ✓ 22. A



Human Resource Management for Media and Information Firms

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5.1 The HRM Function and Its Organization

5.1.1 Introduction

This chapter deals with a major input for media, information and digital activities—people—and the human resource management (HRM) practices to manage them.

Historically, the main sources of value for business companies have been their hard assets, such as machines, assembly lines, buildings and land. The industrial age was characterized by factories built with vast capital investments in machinery and equipment provided by “capitalists” and operated by unskilled or semi-skilled workers who were mostly interchangeable.¹ In the knowledge economy, however, all this is different. Capital is not as scarce as it used to be and there is often a shortage of essential employees. Companies cannot generate profits without the ideas, skills and talent of knowledge workers. The main assets of a firm leave the company every evening to go home and, increasingly, they actually stay at home.

An information-sector firm’s productivity greatly depends on the success of managing its human resources. Microsoft earned \$173,203 in profit per worker in 2013. In the same year, Google saw \$270,626 in profit per employee. In Hollywood, Silicon Valley, Madison Avenue and Wall Street, hard assets matter less than people. The employees—the knowledge workers, content producers and IT geeks—represent the difference between success and failure.

When the main sources of value depend on the talent of the people involved rather than the productivity of the company’s hard assets, effective HRM becomes at least as important to a media and information company as the management of financial assets to a bank.

Dealing with the people of the enterprise is the realm of HRM. In general, HRM deals with a multitude of issues: hiring, promoting, training, firing, compensating, supervising, evaluating, protecting, providing benefits, and generally matching firm needs with people and their needs.

HRM has a leading role in creating and maintaining morale, developing the skills of employees, controlling labor expenses and applying the company’s policies.

Failure to carry out a human resource strategy successfully inevitably leads to problems. The wrong person may be hired for the job, or there is a high turnover of employees, or inefficiencies develop. And if the company fails to comply with the many employment laws and regulations, it opens itself to lawsuits and negative publicity.²

5.1.1.1 The Changing Focus of HRM

The traditional style of HRM had been “soft,” i.e. people-oriented, and run by personnel specialists who emphasized hiring, training, communicating, motivating and promoting. More recently, a “hard” HRM style has gained a following. This style incorporates a finance-oriented analysis and the implementation of overall company strategy — such as diversification and globalization — into the human resources (HR) environment. But this approach can conflict with the need to manage an increasingly creative workforce, as will be discussed.

5.1.1.2 The HRM Organizational Structure

How are HRM departments organized structurally? It varies, of course. The top officer is titled the Chief Human Resource Officer (CHRO), or has a similar title. This function was formerly known as the VP for Human Resources, and before that, Personnel Director. The upgrade in title reflects the increase in scope and responsibility.

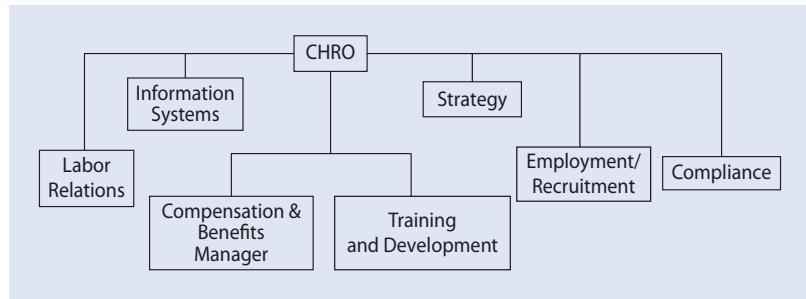
HRM functions can be divided into relatively routine activities, administrative duties and human resource strategists. Standard transactional activities such as payroll, benefits administration and workers’ compensation are increasingly being outsourced to external providers. The more administrative functions, such as hiring and promotions, are run by core HR specialists, often at the divisional level. Finally, the strategic direction of employment issues is often guided by a corporate level HR group. In a large

1 Surowiecki, James. “Net Worth.” *The New Yorker*. March 14, 2005. Last accessed April 20, 2017. ► http://www.newyorker.com/archive/2005/03/14/050314ta_talk_surowiecki.

2 Dessler, Gary. *Human Resource Management*. 12th ed. New York: Pearson, 2011, 200.

5.1 · The HRM Function and Its Organization

■ Fig. 5.1 Example for an HRM Organizational Structure



firm, the HRM function typically looks like the one depicted in ■ Fig. 5.1. Its main components are compensation and benefits, training, employment and recruitment, and labor relations.

HRM is supported by computers and software of increasing complexity and capability—human resource information systems (HRIS)—and is often outsourced. HRIS has mostly been used for administrative applications such as benefits, recruitment, personnel records, skills inventory, performance rating and so on. But it is also a tool for strategic analysis. The vast amount of data

generated and stored in HRIS over time can be used for many types of internal HR analyses in support of a more efficient employment system. Which incentives work best? What is the full cost of employee benefits? What recruitment factors work best? What factors are associated with quitting? What educational credentials work out best? For the first time, management has near-real-time tracking tools for its workforce—its cost, performance, productivity, individual and group progress, and the effects of various policies and circumstances.

5.1.1.3 Case Discussion

Disney's HR Management

Throughout this chapter, we will use the Walt Disney Company as an example for employment and labor issues. Disney is one of the largest media companies in the world. It is comprised of several movie studios, television and cable networks, theme parks, Internet sites, retail stores and branded products.

The company's primary business is to organize and commercialize the output of creative people. In 2014, Disney employed approximately 159,000 people, many of whom are referred to as "cast members." *Business Week* named Disney the "Best Place to Launch a Career" in the United States.³ It wrote: "Disney's place

at the pinnacle is also a testament to its popularity with students, but its desirability goes well beyond the company's instant name recognition." The magazine praised the positive work environment: "Disney rose to No. 1 on its reputation with students. Cynics need not apply: culture stresses creativity, optimism and decency."

At the same time that this praise was given, Disney was under fire from its own employees. Its top management was challenged by dissident directors, including Roy E. Disney, Walt Disney's nephew, in the annual shareholder meeting. A staggering three-quarters of Disney

employees, as identified by their classification as 401(k) pension plan participants, voted against their own management in the shareholder meeting.

This raises several questions:

- Why did Disney management lose the confidence of three-quarters of its own employees?
- How can a management such as Disney's keep creative people happy while also maintaining profitability?
- Is Disney's compensation structure well-developed?
- How should Disney deal with its unionized employees?
- How should Disney's HR policies proceed into the next generation of media?

³ Among other media-related companies, General Electric was ranked 8th, Verizon was 11th, Google was 13th, and AT&T was 21st.

5.1.2 HRM Characteristics in Media, Information, and Digital Industries?

Media content industries have a strong emphasis on fostering, harvesting, and monetizing creativity. “Creativity” is combining expertise in a specific field with unconventional thinking—resulting in a novel solution to an existing or new problem. The challenge to HRM in the media and media tech sector is to strengthen this creative part of the enterprise.

James Webb Young, a former creative vice president at the J. Walter Thompson advertising agency, wrote:

- » The production of ideas is just as definite a process as the production of Fords; the production of ideas, too, runs an assembly line; in this production, the mind follows an operative technique which can be learned and controlled; and that its effective use is just as much a matter of practice in the techniques as the effective use of any tool.⁴

Young had the advertising world in mind. But the same can be said for Hollywood and its “dream factories,” for the “skunk works” of high tech firms, about the “think tanks” of policy ideas, for consultancies and financial innovators, and for technology startups. Creativity is not just an individual’s “aha moment” and a cartoon-style flashing light bulb, but just as much an organized process.

5.2 HRM By the Numbers: “Hard HRM”

In the traditional “soft” approach of HR, personnel specialists deal with hiring, training, and so on. “Soft HRM” is analytically based on the study of individual and organizational behavior. We will discuss it later. More recently, “hard HRM” research has been introduced, with HRM tools, based on economics and finance, that analyze people as assets.

5.2.1 The Rate of Return on Investment in Human Capital

Human capital theory sees human capital not only as an input to production, but also the output of a production process in which the organization invests time and resources.⁵ The approach sees HR decisions as *investment* decisions that can be analyzed in the same way that investments in machines and other capital goods are being modeled. Research in this field was advanced by Nobel prize winning economists Gary Becker and Theodore Schultz.⁶

Hard HRM helps establish a causal link between personnel investment and bottom-line business performance. This is important because 60% to 70% of most firms’ expenditures are now labor related. And yet, according to a study by the consultancy Accenture,⁷ 70% of executives said they rarely measure the impact of HR expenditures such as training initiatives. One reason for this lack of knowledge lies in the difficulty of measuring and assessing the effects of investments in the labor force.

One way to do so may be to determine the impacts of an HR initiative on measurable items such as time savings, quit rates, productivity and customer satisfaction, and then assign a specific monetary value to these gains or losses. Gains are valued at the monetary value of the extra goods produced.

In some cases, one may have to proceed indirectly. For example, a study at a telecom company with 20,000 employees showed that every 1% improvement in employee satisfaction boosted customer satisfaction by 0.5%. Customer satisfaction, in turn, is associated with lower customer churn and greater consumption. Suppose that it can be shown that it would cost the company with 20,000 employees \$1000 per year per employee to raise employee satisfaction 1%, that a satisfied employee raises a customer’s satisfaction by half as much, and that a 1% customer satisfaction raises average consumption by \$5 for its ten million customers. One can then measure the cost of raising employee satisfaction through an HR

4 Belch, George E. and Michael A. Belch. *Advertising and Promotion: An Integrated Marketing Communications Perspective*, 9th ed. New York: McGraw-Hill, 2011.

5 Nalbantian, Haig et al. *Play to Your Strengths: Managing Your Company’s Internal Labor Markets for Lasting Competitive Advantage*. New York: McGraw-Hill, 2004.

6 Bartel, Ann P. “Productivity Gains from the Implementation of Employee Training Program.” *Industrial Relations* 33, (1994): 411–425.

7 Gary, Loren. “The New ROI: Return on Individuals.” *Harvard Business School Working Knowledge*. September 1, 2003. Last accessed April 20, 2017. ► <http://hbswk.hbs.edu/archive/3648.html>.

5.2 · HRM By the Numbers: “Hard HRM”

activity and link it with the estimated value of customer satisfaction in terms of added revenues, and then estimate an ROI.⁸ The ROI would be a fairly substantial 25%:

$$\frac{1 \times 0.5 \times \$5 \times 10 \text{ million} - \$20 \text{ million}}{\$20 \text{ million}} = \frac{5}{20} = 0.25$$

In another analysis, *Forbes* magazine calculated movie stars’ “payback figure” (in terms of sales of theater tickets and DVDs sold) as a ratio of the actors’ salary.

$$\text{ROI} = \frac{\text{Revenue} - \text{Budget}}{\text{Salary}}$$

The study showed that, in 2007, the ROI for Matt Damon was \$29 of income generated for every dollar he earned. Jennifer Aniston had the highest payback figure among female actors, with \$17 of revenue per dollar of salary. Will Ferrell and Jim Carrey’s films produced about \$10 for every dollar these actors earned. In contrast, Russell Crowe was the worst investment among top stars, with an ROI averaging \$5 of revenue per dollar of salary.⁹ Five years later, *Forbes* found Natalie Portman at the top, with a \$42.70 return for \$1 paid, followed by Shia LaBeouf (\$35.80). And, in 2016, Chris Evans’ ROI was \$135.80 for every dollar paid, and Scarlett Johansson had \$88.60.¹⁰

5.2.1.1 Case Discussion

Disney and the ROI of Retraining Repetitive Employees

In this hypothetical example, the Walt Disney animation studio is revamping its operations by moving to computer-generated animation (CGA). On the HR side, it has two options: hire new computer animators and fire the existing hand animators, or retrain the latter. A new young CGA hire can hit the ground running, and is also cheaper by \$15,000 per year than an existing hand animator. So, this seems a no-brainer. But let’s look at the (hypothetical) numbers.

Option 1: Hire a New Computer Animator and Fire an Existing Hand Animator

- A. Costs of hiring a new computer animator:
 - Search for new animator: \$9,000
 - Selection: \$7,500
 - Proficiency training: \$8,000
 - Subtotal:* \$24,500
- B. Costs of firing a hand animator (compensation, etc.): \$31,000
- C. The value added of a seasoned hand animator \$100,000
- D. Initial slowing of productivity due to inexperience of a new hire \$17,000. This means that the net value added of a new computer animator is: \$100,000 – \$17,000 = \$83,000
- E. The return on investment (ROI) of Option 1 can then be calculated as:

$$\text{ROI} = \frac{\text{Value Added} - (\text{Firing} + \text{Hiring} - \text{Lower Salary})}{(\text{Firing} + \text{Hiring} - \text{Lower Salary})} - 1$$

$$\text{ROI} = \frac{\$83,000 - (\$31,000 + \$24,000 - \$15,000)}{\$40,000} - 1$$

$$\text{ROI} = 7.5\%$$

Option 2: Retrain the Hand Animators

The costs associated with this option are:

A. Costs of retraining an animator

Direct instruction cost	\$37,000
Absence cost (Disney still has to pay the animator’s salary)	\$17,000
Total cost of retraining animators	\$54,000

One benefit of retraining is greater employee retention. After successfully passing the retraining, the hand animators will be more committed to Disney, as well as trained more specifically for Disney operations, while new hires pose a greater flight risk. Assume that retrained animators stay with the company three years longer than new hires. The NPV of this avoided cost is estimated to be \$25,000.

8 Gary, Loren. “The New ROI: Return on Individuals.” *Harvard Business School Working Knowledge*. September 1, 2003. Last accessed April 20, 2017. ▶ <http://hbswk.hbs.edu/archive/3648.html>.

9 Pomerantz, Dorothy. “Ultimate Star Payback.” *Forbes*. August 6, 2007. Last accessed April 20, 2017. ▶ http://www.forbes.com/2007/08/03/celebrities-hollywood-movies-biz-cz_dp_0806starpayback.html.

10 Robehmed, Natalie. “Chris Evans is Hollywood’s Best Actor for the Buck in 2016.” *Forbes*. ▶ <https://www.forbes.com/pictures/emjl45femjk/1-chris-evans/#7b3ba32e70e6>.

The total monetary benefit of retraining is, then, as follows:

Value of employee retention	\$25,000
Value added of computer animator	\$100,000
Subtotal	\$125,000

The ROI of retraining hand animators is thus:

$$ROI = \frac{\text{Benefits} - \text{Costs}}{\text{Costs}} - 1 = \frac{125,000 - 54,000}{54,000} - 1$$

$$ROI = 31.5\%$$

The conclusion? The return on retraining is 31.5%, versus only 7.5% for the option of new hires. Thus, based on these hypothesized numbers, and even before reaching considerations of fairness, Disney should retrain its animators instead of hiring new ones to replace the existing ones.

5

5.2.1.2 Case Discussion

Disney's Internal Labor Structure

Assume in this hypothetical example that Disney needs to decide between hiring two different types of employees: a worker with a fairly certain output (Julia), or a worker with a far riskier output (Max) (Fig. 5.2).

Assume that Julia and Max are both 30-year-old computer animators who are likely to work until they are 65 with a salary of \$50,000.¹¹ The difference is their productivity. Julia's productivity level is at a reliable \$150,000. In contrast, it will take one year to determine Max's productivity level to see whether he is a dud with a zero production value, or a star producing \$200,000 a year. Julia is the safe choice. Max, in contrast, is a gamble. Who should be hired?

Julia's expected net output, after subtracting her salary, for the first year and every year thereafter is a constant \$100,000. Unlike Julia, Max has two potential outcomes. If

Max proves to be a disaster, he will be fired. Disney's loss will be the cost of his salary (\$50,000). But if Max is a star, his first year output would be \$200,000, minus his salary of \$50,000, for a net of \$150,000. Both possible outcomes must be combined to arrive at a total expected output.

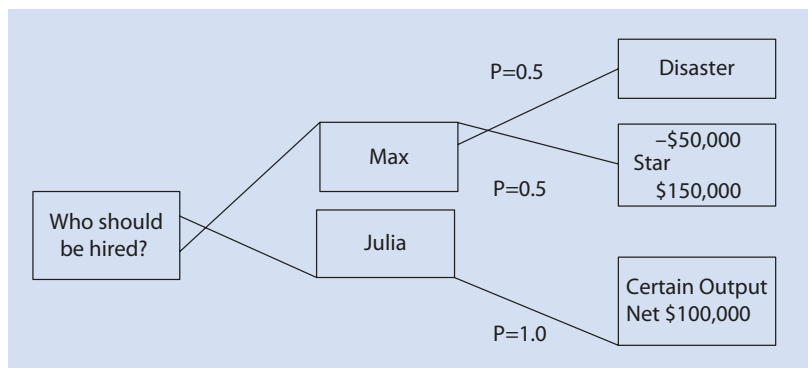
Max's expected net output: $(0.5)(\$150,000) + (0.5)(-\$50,000) = \$75,000 - \$25,000 = \$50,000$. This is half of Julia's net output of \$100,000. With Julia's expected net output greater than Max's, should she be the one to be hired? This seems to merit an easy "yes". But it would be incorrect. Because the analysis so far considers only the first year of employment. Instead, the projected net output for both must be calculated for the 35 years they plan to work, we assume, at Disney. In Julia's case, her expected net value (after salary) for the first

year and every year thereafter remains constant at \$100,000. Her expected net value over 35 years of employment, at a 10% discount rate, yields \$578,650.

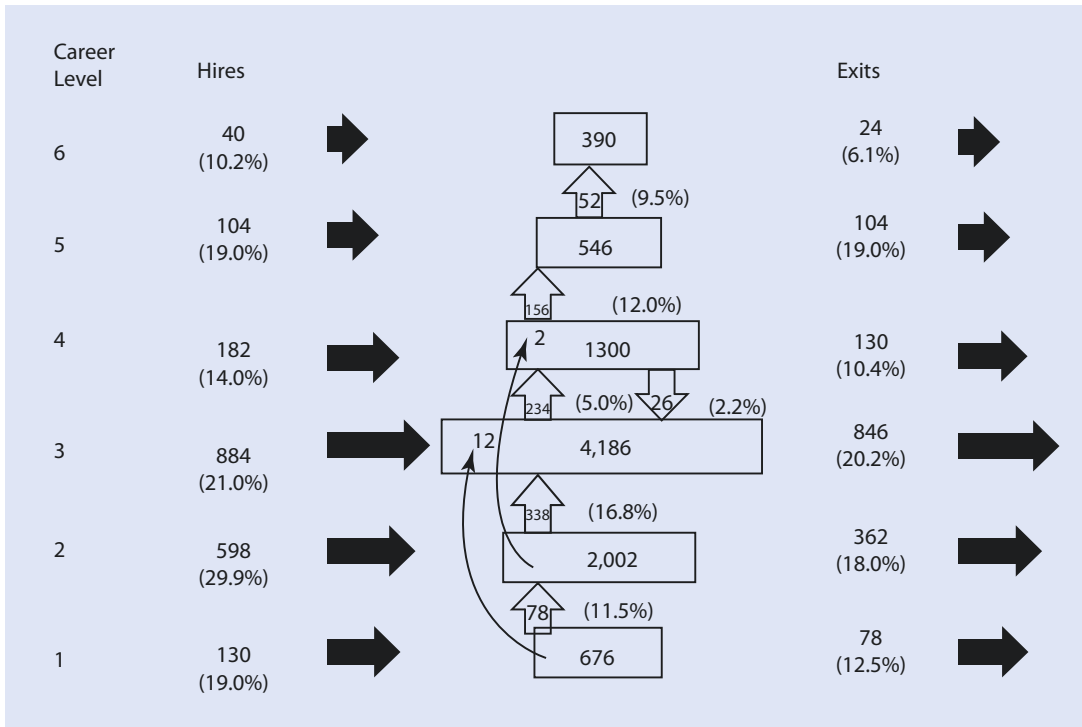
It is different for Max. If Max turns out to be a disaster in his first year, his output would be -\$50,000, and he would then be fired. But should Max turn out to be a star animator, his net output would be \$150,000 each year over 35 years of employment. The discounted net present value (NPV) for his activity minus the NPV of his salary if he does not work out would be about \$1.4 million.

Thus, Max is almost 2.5 times more valuable than Julia in expected value. As long as Disney has the option to terminate workers who perform poorly, it will be better to hire riskier workers if they have enough of a promising upside potential.

Fig. 5.2 Risk and Employee Selection



¹¹ One could give them regular raises but this would complicate the calculation.



■ Fig. 5.3 Techco Internal Labor Market Map

5.2.2 The Internal Labor Markets

A second element of hard HR is the analysis of intra-company labor flows. It is based on the observation that most important HR transactions take place inside a company, not in external labor markets.¹²

5.2.2.1 Workforce Mobility

An example is the effectiveness of the company's compensation structure. A compensation system is likely to be too low, or a promotion system too slow, if many mid-level and low-level employees leave the firm in order to work elsewhere, especially at comparable organizations.

A tool for such analysis, by the HR consultancy Mercer Human Resources, maps the flow of the workforce of a real company, anonymized as TechCo. ■ Figure 5.3¹³ is such an internal labor market (ILM) map. The horizontal bars show the number of employees at a particular level of the organizational hierarchy. For example, there are

338 employees at the bottom in Level 1. Of these, 39 move up to Level 2. At that level, there are 1001 other people; 181 employees leave from Level 2 to other employment, while 299 are recruited from the outside, and 169 are promoted. The large bulge in the middle levels shows that the largest group, 2093 people, is at mid-level.

Level 3 is a career “choke point,” as the probability of moving higher (117 make that promotion) is low at 5.8% per year and even less when demotions (2.2%) are taken into account. One can also observe that a high share of employees at Levels 4 and 5 are new hires from the outside, relative to internal promotions. This indicates that the company is not developing managerial talent internally, but recruiting from outside.

Other ILM maps could be developed to show the proportions and mobility of employees at each level according to gender, race and professional specialization. Similarly, these kinds of maps can be used to afford a statistical analysis of turnover, promotions, pay levels and impacts of individual performance. Companies should strive for an ideal “quit rate” and monitor it closely over time. If it is too low, it could indicate stagnation, inbreeding, complacency and, possibly,

¹² Such analysis was begun by Peter Doeringer, Michael Piore, Sherwin Rosen and Richard Freeman.

¹³ Based on image from Nalbantian, Haig R. and Richard A Guzzo et al., “Play to Your Strengths”, McGraw-Hill, 2004.

over-compensation. When a job becomes so good that employees cannot expect a comparable deal elsewhere, it helps morale, but it also generates a risk-averse attitude. On the other hand, if the quit rate is too high it may indicate dissatisfaction, or low commitment, and it will impose a high replacement cost. The ideal number should be somewhere in between.

5

5.2.2.2 Organizational Hierarchy

A firm's hierarchy can be a fairly flat triangle with few levels and no strong hierarchy, but also with few promotions. Or, it can be highly hierarchical. It can have bulges at the bottom and the middle. What would be the best shape of the pyramid? Flat or steep? Many people speak admiringly of “flat” organizations, i.e. with only a few levels. This is popular with startups as part of a non-hierarchical peer culture. But it also has disadvantages:

- The higher transaction costs of horizontal consensus building and coordination vs. the top-down orders of a hierarchy.

5.2.2.3 Case Discussion

Disney Internal Labor Markets

This hypothetical depiction shows the organizational hierarchy of several of Disney's divisions. Disney's radio stations (Unit 1) used to be composed of a very small number of top managers, and many middle-level managers and low-level employees (■ Fig. 5.5).¹⁴ Most people got promoted from within, but few made it to the top. In contrast, its film and TV production (Unit 2) employ mostly low-level staff, such as production crew, and relatively few middle and top managers. The employment structure is essentially two-tiered—entry level and management level. Early promotion in that structure is easy, but the jump from Level 3 to Level 4 becomes dramatically more difficult. After that barrier, however,

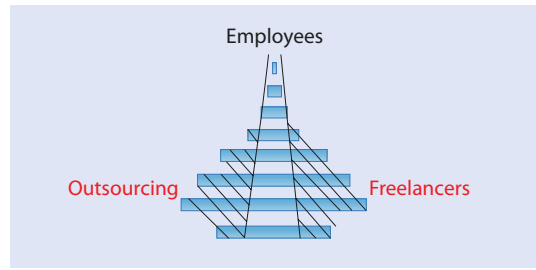
internal promotion of employees again becomes easy. The third business segment, theme parks, is closest to a classic pyramid structure.

How would one expect employee relations and culture to look in these three divisions of the company?

Radio stations: Small top management, with staff mostly mid-level. The relatively low ratio of hires over promotions means that most people get promoted from within but few people make it to the top levels. At the lower levels, there is very little career stress. But, at the career “choke point,” the opposite is true. The transition from one culture to the next is hard on people and on the organization.

Film & TV: There are few employees in the positions above the lower levels. Most mid-level employees are project-based temporary hires. The structure is essentially one of two types—entry level, plus thinly staffed management levels. This structure is typical in industrial firms. The culture of such a hierarchy is a sharp divide of higher-level executives (the “suits”) from middle managers and blue-collar staff.

Theme parks: The pyramid-shaped hierarchy creates a reasonable incentive system and internal promotions. Partly as a result, Disney theme parks experience a rank-and-file turnover that is only one-third that of rival theme parks.¹⁵ This gives Disney an important competitive advantage, even where compensation levels are similar.



■ Fig. 5.4 Company Employment Pyramid

- People at the higher levels have numerous people to supervise.
- Low chances for promotion.

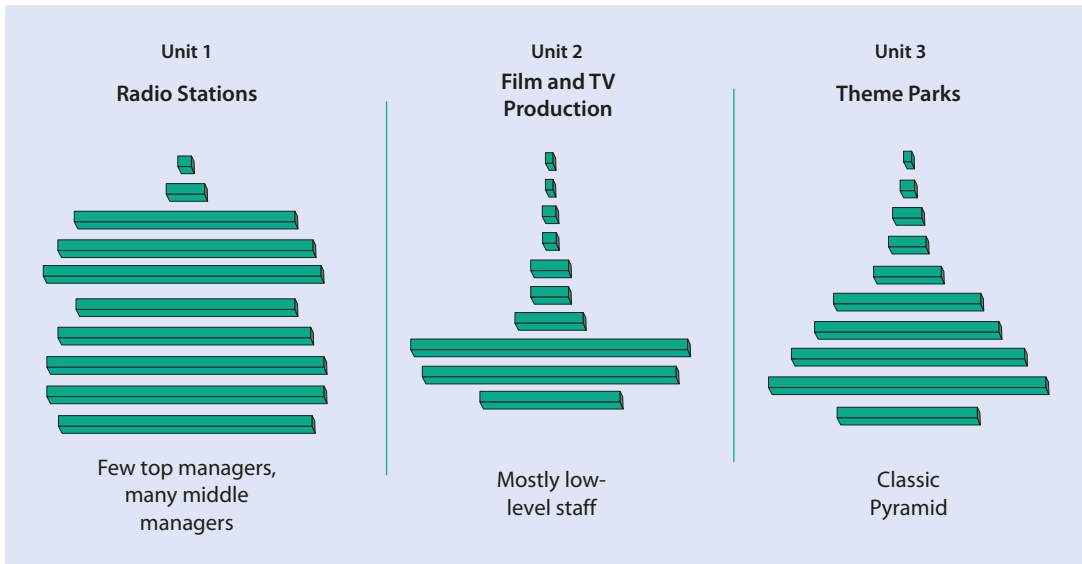
Given the advantages and disadvantages, there should be an optimal degree of hierarchy.

A firm can shape its organizational pyramid through a variety of policies. They include the outsourcing of certain functions, and the hiring of freelancers (■ Fig. 5.4).

The following example for Disney shows different types of hierarchy for different divisions of a company.

14 Hypothetical example, based on Nalbantian, Haig, et al. *Play to Your Strengths: Managing Your Company's Internal Labor Markets for Lasting Competitive Advantage*. New York: McGraw-Hill, 2004.

15 Capodagli, Bill, and Lynn Jackson. *The Disney Way: Harnessing the Management Secrets of Disney in Your Company*. New York: McGraw-Hill, 1999.



■ Fig. 5.5 Disney Internal Labor Market Maps by Division

5.2.3 The Use of Finance Theory in Analyzing Compensation

One important question for fashioning a compensation system is how much of it should be performance-based. Many companies reward their managers if the firm does well. Often, the measure is the company's stock price, which is a reflection of its profitability and reputation. In some cases, most of the top managers' compensation is contingent. Is such a compensation system efficient? It all depends. In finance theory, as well as in the practice of stock analysis, the risk of financial securities can generally be decomposed into three components: overall market risk, industry specific risk and firm-specific risk.

Market risks cannot be readily reduced. When the stock market and the overall economy are in general retreat or doing very well, there is little a firm can do about it one way or the other. It rides out the trends. In contrast, the other types of risk—industry and firm-specific risks—can be reduced through, e.g., diversification and effective management. The three components of volatility can be calculated. General market volatility can be measured from an index of stock mar-

ket performance (e.g. Standard & Poor's 500). Industry volatility can be measured by an index of stock market performance by the peer group of companies in the same sector. And company-specific volatility is then the remaining “residual” volatility.

What is the implication for companies' compensation systems? There is no point in rewarding or punishing employees for company performance that is significantly linked to the overall economy or of the industry, rather than to the performance of the firm itself. Where there are high levels of market risk, the effectiveness of variable rewards will be low. The award of stock or stock options would be costly to shareholders yet would not deliver strong incentives to managers. In contrast, where companies have high levels of firm-specific risk, stock or stock options would provide more effective incentives to employees. The performance of employees at these companies would then have a closer link to the rewards they receive.¹⁶

¹⁶ Nalbantian, Haig et al. *Play to Your Strengths: Managing Your Company's Internal Labor Markets for Lasting Competitive Advantage*. New York: McGraw-Hill, 2004.

5.2.3.1 Case Discussion

Was Disney CEO Michael Eisner’s Compensation Package Well-Designed?

Standard financial software can decompose the price volatility of Disney shares and that of its peers/competitors (■ Fig. 5.6).¹⁷

Disney has a relatively low degree of firm-specific volatility, at 22%. Thus, Disney stock’s performance is heavily related to developments in the overall market and industry. Therefore, a strong bonus system for managers, based on stock performance, would reward (or punish) uncontrollable developments and, hence, be relatively ineffective as an incentive on managers to perform effectively. In contrast, Viacom at 35% and Time Warner at 31% have higher firm-specific volatility. Their bonus-based pay system would create stronger incentives.

Yet, Disney gave CEO Michael Eisner a compensation package that was extraordinarily heavy

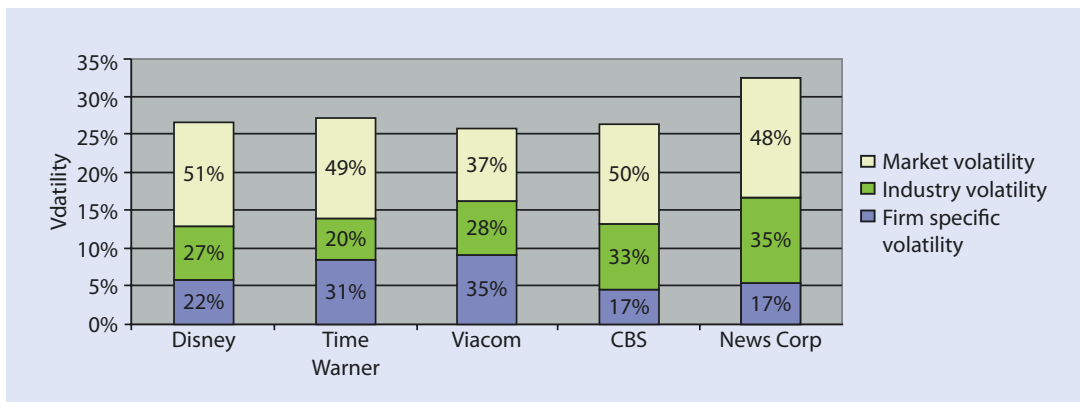
on the incentives side. After becoming CEO of the Walt Disney Company, Eisner received a base salary of \$750,000 a year, as well as stock options in the company. His contract was later adjusted to a \$1 million base salary plus up to \$19 million in bonuses based on the company’s share price and on growth in earnings beyond 7.5%. He also received stock options that had to be held for several years.

Eisner earned a combined \$234 million from 1991 to 1995, which averages out to \$46.8 million per year. In 1998, his package hit an extraordinary \$570 million, which were mostly due to gains in stock options resulting from an increase in share price since 1989. Yet, during this period, Disney stock barely outperformed the Standard & Poor’s index. Since the stock had to be held for several

more years, much of the compensation was a paper gain, and when Disney’s stock performed poorly in 1999 and 2001, Eisner received no bonus, except his base salary of \$1 million. In 2000, he made \$9.3 million in addition to stock options, but he experienced a paper loss of \$266 million when Disney’s stock plummeted in 2001, along with the stock market. He bounced back in 2004 with a \$7.3 million bonus and, in 2005, his last year at Disney, got a \$9.1 million bonus, both on top of his \$1 million base salary.

Most of Eisner’s compensation was incentive pay (bonus and stock options). He benefited from rises in overall market and industry stocks. But Eisner’s compensation was over 90% in variable awards. This seems grossly sub-optimal for shareholders.

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■ Fig. 5.6 The Composition of Risk of Disney and its Peers

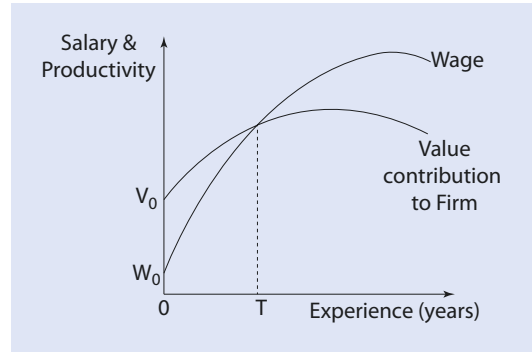
17 Graph created from data by Yahoo Finance and Factiva. Last accessed on 7 February 7, 2008 at ► <http://finance.yahoo.com> and ► www.factiva.com.

5.2.4 Salary Differentials

Studies of optimal employment compensation look at the effectiveness of fixed wages vs. commissions, and on the relationship between group incentives and individual rewards.¹⁸ They also look at the optimal differences in pay across the levels of a company’s hierarchy. How much more should people be paid as they move up in the hierarchy?

Tournament Theory is a way to analyze a firm’s vertical gradient of compensation. Determining a firm’s compensation structure to achieve maximum incentive is much like setting the prize money for the players in a tennis tournament. If, say, the pot is being split up among the top 16, and the extra reward for winners is relatively low, the star players will not join, but more second-tier players will sign on, since they have a chance of taking home some of the prize money. But if the reward for winning is very high (“winner take all”), the participation incentives will be reduced and fewer second-rate players will join. A similar dynamic takes place in companies and industries. Tournament theory analyzes this gradient and the spread of rewards within an organization. That wage spread is typically designed to pay young employees less than they contribute in terms of their productivity, and pays senior employees more than their direct value added to the firm.¹⁹ Figure 5.7²⁰ shows this wage/age relationship. Workers are paid less than they are worth when young, but expect to be paid more later, after year T .

One reason to overpay senior employees is not for superior performance while they are old but, rather, because this later high compensation was a motivation factor during their early years of their career. But this implicit deal has increasingly been broken by the firing of older employees once the value of their product is lower than



■ Fig. 5.7 Compensation of Employees Relative to Contribution

their compensation, i.e. after time T . This results in angry older employees who feel that a promise has been violated. But it also means a greater need to reward younger employees early in order to keep them as motivated as before, if they cannot expect to “cash in” later. This is an extra cost of firing older employees which rarely gets factored in when the firm decides to cut the higher-priced veterans. Yet, it must be included in the calculation.

Firms in risky industries must offer a large spread of rewards in order to motivate employees. If the career risk is low in an industry—for example when employees are being promoted by seniority and are rarely fired—then the wage spread can be small. There is low risk and therefore no need for the incentive to compensate for the risk. But if the career risk is high, such as in a startup, one must create incentives for people to accept the risk either by a high general salary level which is more expensive for the firm in the short term, or by the promise of future high rewards upon promotion. Such a high career risk environment exists in media and digital startup firms, where one therefore finds a wide wage spread. On the other hand, large Japanese firms, which often used to operate in what was, for employees, the less risky environment of “lifetime employment,” could operate with a narrower wage spread than American firms.²¹

18 Lazear, Edward P. *Personnel Economics*. Cambridge, MA: MIT Press, 1995; Spence, A. Michael. “Job Market Signaling.” *The Quarterly Journal of Economics* 87, no. 3 (August 1973): 355–374; Stiglitz, Joseph E. “Risk, Incentives and Insurance: The Pure Theory of Moral Hazard.” *The Geneva Papers on Risk and Insurance* 8 (1983): 4–33; Bartel, Ann P. “Productivity Gains from the Implementation of Employee Training Program.” *Industrial Relations* 33 (1994): 411–425; Ichniowski, Casey, Katherine Shaw, and Giovanna Prennushi. “The Effect of Human Resource Management Practices on Productivity.” *American Economic Review* 87 (June 1997): 291–313.

19 Lazear, Edward P. *Personnel Economics*. Cambridge, MA: MIT Press, 1995.

20 Dessler, Gary. *Human Resource Management*, 12th ed. New York: Pearson, 2011, 200.

21 OECD. “Growing Unequal? Income Distribution and Poverty in OECD Countries.” *Directorate for Employment, Labour, and Social Affairs*. October 21, 2008. Last accessed April 20, 2017. ► <http://www.oecd.org/dataoecd/45/57/41527303.pdf>.

A company's reward structure does not only affect employees' job motivation, it also affects who works for the firm. Rewards shape an organization over time. They reflect the values of the

organization and shape the employees' choices. Rewards signal what the firm values. It attracts people with these values. "Over time, an organization becomes what it rewards."²²

5.2.4.1 Case Discussion

Is Disney's Compensation Structure Efficient?

5

We apply the tournament theory analysis to Disney's compensation structure to see whether the company is setting the optimal wage spread. Disney's compensation profile is presented in Fig. 5.8, which shows the compensation for each level, starting with Level 1 (unskilled, minimum wage) and progressing to Level 10 (CEO).

An example for a Level 9 senior executive was Tom Staggs, Disney's Chief Financial Officer, who earned \$1 million in salary, a \$4 million bonus, \$790,000 in stock options and \$4 million in long-term incentive pay. Another senior Level 9 executive was Alan Braverman, Disney's General Counsel, who earned \$850,000 in salary, a \$3 million bonus, \$420,000 stock options and \$4 million in long-term incentive pay.²³ On average, Eisner received an overall compensation of \$45 million, almost literally off the chart as depicted in Fig. 5.8.²⁴

The salary acceleration at Disney is relatively modest in the lower levels (1–7) where compensation is so low that it cannot be seen in the graph. But it then increases dramatically in Level 8 and above. The multiple between the compensation the Chief Executive Officer (CEO) received and other employees' compensation was 714 times for entry-level blue-collar jobs (Level 2).

How does Disney's compensation compare with other firms? Disney's non-executive pay scale

is said to be 10–15% below the market for comparable work elsewhere. In Hollywood, annual compensation is generally not high for most job levels except for those at the top.

Questions for Disney to consider:

- Is this compensation profile excessively accelerating at the top?
- Is the career risk at Disney so high as to make it necessary to incentivize through very high compensation at the top?
- Could the Disney board have purchased the same performance from its chief executive for less incentive?

The salary acceleration from one of the top four levels of executives to the next is about 600%, on average. A simple doubling in salary (100%) at each promotion, which seems generous, rather than the six-tupling would lower the salary cost by \$188 million. So, the question is how much do these \$188 million at the top buy for the firm in terms of extra productivity incentive for everyone (over the incentive of a mere doubling of compensation at each level)? Disney's annual profits were approximately \$1.2 billion in 2003. Its return on investment was about 9%. If we consider the extra salary cost of \$188 million an investment, it would have to return $(1+.09)\$188 = \204 million to meet Disney's normal level of ROI. This amounts to 17% of Disney's overall profits. The question, then,

is whether the acceleration of compensation beyond a doubling of salary at each promotion is believed to generate an extra 17% in company profits. If it does not, the money is not well spent. If it has added only 10% to profits, that would be \$120 million that year, and the ROI on that incentive (which cost Disney \$188 million) would be:

$$\frac{120 - 188}{188} = \text{negative}$$

But, if the impact of the extra incentive was 20% (\$240 million), then the ROI would be:

$$\frac{240 - 188}{188} = 27.6\%$$

In other words, if Disney believes that the impact of the added compensation at the top beyond a doubling at each promotion generates 20% of higher profits, then the money is well spent. But it would also raise the question, why stop here? Why not accelerate salaries even more?

A good question is why Disney's top executives, to perform well, would need not just a doubling of salaries at each promotion, but much more than that in order to perform at their peak. Incentives of such magnitude may not be necessary since the reasons to perform highly are not just those of money but also of prestige, power and personal character. The people at the top tend to be type-A personalities who tend to be driven to perform at their personal best.

22 Nalbantian, Haig et al. *Play to Your Strengths: Managing Your Company's Internal Labor Markets for Lasting Competitive Advantage*. New York: McGraw-Hill, 2004.

23 Marr, Merissa. "Disney CEO Iger's Bonus, Salary Total \$17 Million." *Wall Street Journal*. January 13, 2007. Last accessed April 20, 2017. ► <https://www.wsj.com/articles/SB116864237874675613>.

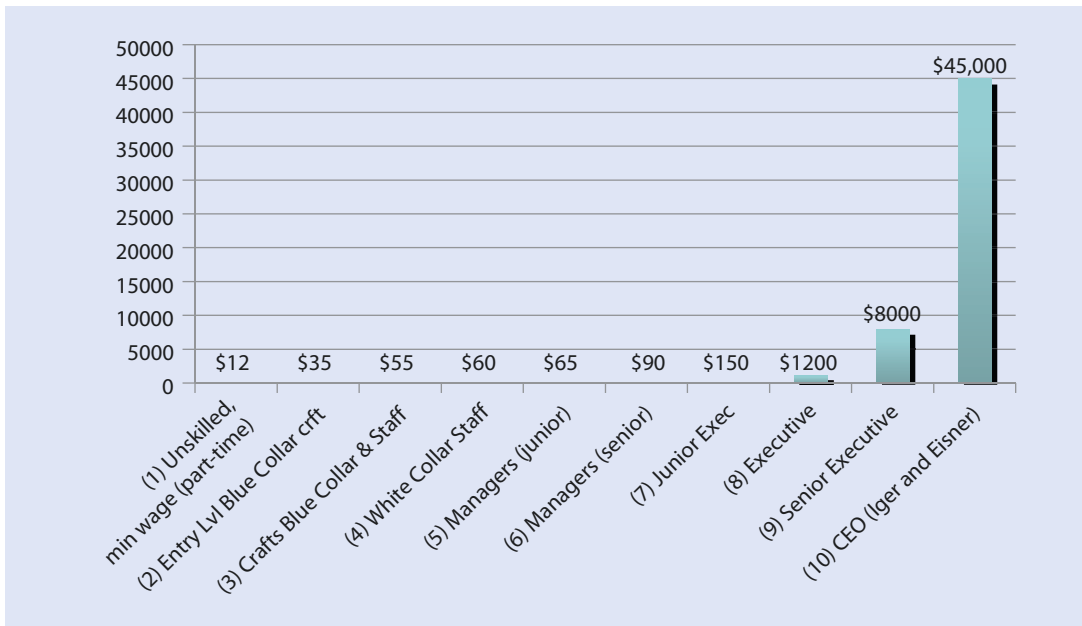
24 Rubis, Leon. "Disney Show & Tell: Disney Institute's Four-Day Seminar on Human Resource Management." *HR Magazine*, April 1998.

5.3 · HRM by Negotiation: “Tough Labor”

This, then, leaves us with another possible explanation for the high salaries: that they are at market-based levels. Since other firms are willing to pay top executives at those levels, Disney must match these firms or lose top managers. The other

firms must have also concluded that the huge salary accelerations are economically efficient for them. Because these numbers are much higher than in other countries, there would have to be a particularly high incentive effect on American top

managers. Because this is unlikely, one may have to resort to another potential explanation: that of institutional inefficiencies—specifically, that, in many major companies, top management, in effect, sets its own salaries.



■ Fig. 5.8 Disney's Compensation Profile (Wages in \$000)

5.3 HRM by Negotiation: “Tough Labor”

Thus far, we have discussed elements of the analytical, number-driven approach of hard HRM. We now move to a second dimension of managing media HR: that of dealing with employees collectively.

5.3.1 The Industrial Workforce

The industrial information sector workforce often involves manual labor working in a mass production or infrastructure setting. One example of this type of workforce is assembly line work in the IT sector. Labor unions are often active in these industries, such as ver.di in Germany, NWJ in

Japan, CWU in Australia and the UK, and CGT-FAPT and F3C-CFDT in France. In the USA, there are three major industrial unions for the telecom, IT, TV and film industries: the Communications Workers of America (CWA), the International Brotherhood of Electrical Workers (IBEW) and the International Alliance of Theatrical and Stage Employees (IATSE).

The strength of unions has declined as the industrial economy has transitioned to a services-based economy. In America, unionization dropped from its peak in the 1940s of roughly 35% of the labor force to about 11% in 2017.²⁵ For private sector non-agricultural employees, it was

²⁵ Bureau of Labor Statistics. “Union Members Summary,” January 19, 2018. Last accessed May 7, 2018. ► <https://www.bls.gov/news.release/union2.nr0.htm>

not about half that, at 6.5% in 2017. In wired telecommunications, the figure is 17.1% (for other telecom such as mobile, it is 10.2%). For motion pictures, unionization stood at 10.1% and, for newspapers, 9.3%.²⁶ The steady decline reflects the industry's deregulation and the shrinking workforce at the heavily unionized traditional companies.

Union membership in other industrial nations has decreased, too. In Japan, it fell from 55.9% in 1949 to 18.5% in 2010; in France, from 30% in the 1950s to 8% in 2014, even lower than in the USA. In the French private sector, the figure is 5% (and 14% in the public sector). In the UK, unionization stood at 26% and, in Germany, at 18%. However, unions are often the sole representatives of all employees, including non-members. In some countries, they sit on corporate boards and co-administer benefit plans.²⁷

Studies show that unionization has a positive effect on salaries.²⁸ In the USA, for example, unionized telephone operators earn almost double the wage of non-unionized workers. However, some of the difference reflects a better-quality workforce. Jobs with higher wages and more protections are usually more desirable and generate more applications, thus enabling employers to be more selective in terms of quality. Also, unions upgrade the skills of their members and often are a provider of training. But higher wages also lead to lower labor mobility. Of telecom company technicians, 80% have worked for more than ten years with the same firm. In contrast, the largely non-unionized IT industry experiences much greater labor mobility.

5.3.2 The Crafts (Skilled) Media Workforce

The second category of employee is the *crafts* workforce, which consists of skilled technical and artisan workers. Here, the history of labor unions

has been stormy. One union activity has been to negotiate work rules, which can be onerous, and also fragment work tasks. This has affected labor costs in the film industry and contributed to “runaway productions,” where films move from Hollywood to Canada and other countries, or to less expensive US locations. In response, rules were relaxed so that independent producers could make low budget non-union movies and TV shows, as long as the studio had no creative control.

Newspapers, too, have had a turbulent history of industrial union conflicts. Typesetters were once powerful and regarded as the aristocracy of labor. Eventually, the increase in automated typesetting without hot-metal composing threatened employment. As a result, strikes became frequent. An epic newspaper strike in New York in 1962 shut down eight daily newspapers. After 114 days, the strike ended, but several newspapers never recovered and closed for good.

5.3.3 The Creative Workforce

The third category of employees in the media sector is that of the “creatives,” often known in the film industry as “above-the-line” (in the budget), as contrasted with the “below-the-line” crafts employees. Actor unions, often known as “guilds,” originated in nineteenth-century theater, often to assure the payment of salaries owed if a show closed down.

Creatives’ unions also exist for film actors, dancers, musicians, journalists and others. The question is, why is there often such strong unionization in media crafts and among media creatives? There are at least five factors: oversupply, money, political leverage, stress and respect.

Oversupply The supply of aspiring artists is large and not particularly price sensitive to entry level pay. W. B. Yeats once opened his address to his fellow poets’ Rhymers’ Club in London by saying: “The only thing certain about us is that we are too many.”²⁹ The high level of competition for jobs in the creative sector depresses the average compensation. Many creatives are willing to work for free just

26 Hirsch, Barry T., and David A. Macpherson, “Union Membership and Coverage Database.” *Unionstats.com*. Last accessed on June 25, 2014. ► <http://www.unionstats.com>.

27 The Economist. “Why French Trade Unions are So Strong.” March 17, 2014. Last accessed April 24, 2017. ► <http://www.economist.com/blogs/economist-explains/2014/03/economist-explains-15>.

28 Batt, Rose, Harry C. Katz, and Jeffrey H. Keefe. “The Strategic Initiatives of the CWA: Organizing, Politics, and Collective Bargaining.” Paper presented at symposium on Changing Employment Relations and New Institutions of Representation, Ithaca, New York, May 25–26, 1999.

29 Giraldi, William. “Creative Destruction.” *New Republic*. February 4, 2015. Last accessed April 28, 2017. ► <http://www.newrepublic.com/article/120932/scott-timberg-culture-clash-review-americas-creative-destruction>.

5.3 · HRM by Negotiation: “Tough Labor”

for the experience, the opportunity to be noticed, to build a résumé, or to express themselves.³⁰

As mentioned, American music schools each year graduate about 14,000 students with performance degrees. There is also a significant immigration of talent. But there are only 250–350 job openings a year in symphony orchestras. Live musicians are being replaced by recordings. One of the functions of unions is, therefore, to limit competition and to reduce access by newcomers.

Money Those on the inside with a union-protected job can expect fair returns. In 2010, the annual salary of the heavily unionized New York Metropolitan Opera orchestra members was \$110,869. In addition, orchestra members also receive compensation for rehearsals at an hourly rate of \$80, averaging ten hours per week, can provide lessons to private students, and give their own performances. This level would be rare for non-union creative jobs.

Political Leverage Beyond work conditions, labor unions wield broader political power where they are affected financially and ideologically. In 2008, six unions representing 11,000 French TV network staffers and 4000 public radio station employees walked out in protest over President Sarkozy’s plan to ban advertising from public TV channels, which would cost these public channels over \$1 billion per year in revenue. In 2006, over 1000 Korean film stars, production staffers and local artists rallied to protest the government’s change to the screen import quota system, which protects Korean movies from foreign competition.

Stress The high level of stress in creative fields is due to several factors, including risk, long periods of unemployment and job search, intense competition, frequent rejection, an often short productive life as an artist (especially in film and dance), and long, irregular work hours.³¹

Respect Unions help to reduce the perceived lack of respect from management (the “suits”), and to protect against favoritism, discrimination, and

harassment. Writers have often penned biting exposés of the inner workings of Hollywood film studios. Examples include Budd Schulberg’s *What Makes Sammy Run*, F. Scott Fitzgerald’s *The Last Tycoon*, Nathanael West’s *The Day of the Locust* and William Faulkner’s *Golden Land*.³² Unions are, in part, a response by those who feel more talented but less powerful than their management bosses.

5.3.4 Freelancers and Unions in the “New Economy”

The image of Silicon Valley culture is egalitarian and democratic, with employees offered ownership in the company and opportunities for advancement. Nevertheless, labor in dot-com companies began to organize.³³ For employees, factors contributing to dissatisfaction include the perception that middle-aged workers are obsolete, disparity in rewards relative to top executives and low job security.^{34,35} The growing threat to the labor force in the “new economy” has been outsourcing and off-shoring. Software developers earn \$60 per hour in the USA and \$6 per hour in India, on average.³⁶ There is also an immigration of talent. From 2001 to 2003 alone, about 180,000 new skilled workers entered the USA to join the field of computing.³⁷ The Programmers Guild, a union, therefore attempts to limit foreign competition by resisting a variety of tech visas which would allow foreigners to work in the USA.

High-tech unions, however, face considerable resistance. This push-back comes primarily from entrepreneurs who feel that the restrictions promoted by unions threatens the entrepreneurial essence of their companies.³⁸

32 Epstein, Edward J. *The Big Picture: The New Logic and Power of Hollywood*. New York: Random House, 2005.

33 Greenhouse, Steven. “The First Unionization Vote by Dot-Com Workers is Set.” *New York Times*. January 9, 2001. Last accessed April 28, 2017. ► <http://www.nytimes.com/2001/01/09/business/technology-the-first-unionization-vote-by-dot-com-workers-is-set.html>.

34 Batt, Rosemary et al. “Work Patterns and Workforce Policies for the New Media Industry.” *EPI Book*. Washington, DC: Economic Policy Institute, 2001.

35 Fraser, Jill Andresky. *White-Collar Sweatshop*. New York: W. W. Norton and Co., 2001, 140.

36 Farrell, Diana et al. “Offshoring – Is it a Win-Win Game?” *McKinsey Global Institute*. August 2003. Last accessed April 28, 2017. ► <http://www.mckinsey.com/global-themes/employment-and-growth/offshoring-is-it-a-win-win-game>.

37 Francis, David R. “Endangered Species: US Programmers.” *The Christian Science Monitor*. October 14, 2004. Last accessed April 28, 2017. ► <http://www.csmonitor.com/2004/1014/p17s01-coop.html>.

38 Girard, Kim. “Unions? Not in this Valley.” *Fast Company*. September 1, 2001. Last accessed June 16, 2010. ► <http://www.fastcompany.com/magazine/74/unions.html>.

30 Girdali, William. “Creative Destruction.” *New Republic*. February 4, 2015. Last accessed April 28, 2017. ► <http://www.newrepublic.com/article/120932/scott-timberg-culture-clash-review-americas-creative-destruction>.

31 Bureau of Labor Statistics, US Department of Labor. “Actors, Producers, and Directors.” Last modified March 2004. ► <http://www.bls.gov/oco/ocos093.htm>.

The second thrust of unionization is the issue of freelancers. More and more people work from home, or have become independent contractors. The trends move in the direction of independent contractors and freelancers, rather than traditional employees. This is known as the “Gig Economy.” Technology accelerates these trends. The number of people in the USA who used some form of telework in 2015 was 35 million (International Association for Telework). Another survey showed that about 58 million people (37% of the US workforce) telecommuted, the average being two days per month.³⁹ In 2001, 20 million people worked at home as part of their primary job (National Bureau of Labor Statistics). Over 50% of those who worked at home were salaried workers taking work home unpaid; 30% were self-employed.

Freelancers incur substantial transaction costs. One study found that such employees spend only 49% of work time in new media on direct production. The remainder is spent on searching for new work and on client relations, i.e. on developing future employability.⁴⁰ The status of freelancers inevitably led to legal and political disputes. One-third of Microsoft’s workforce was, in the oxymoronic term, “permatemps.” This gave flexibility to Microsoft and other tech firms but led to high levels of employee insecurity.⁴¹ The primary concern of permatemps is that, despite often fair take-home pay, they lack benefits and job security. As their demands expanded, the Washington Alliance of Technical Workers (WashTech) began to unionize these white-collar tech workers. They also went to court. In the case of *Vizcaino v. Microsoft*, a court ruled that the workers Microsoft hired as “independent contractors” were actually de facto employees and were thus entitled to the same pension plans and other benefits.⁴² In response, some employers created access arrangements for health insurance. The Health and Welfare Fund in the film industry served as a model for providing

benefits in project oriented industries such as software development.⁴³

In 2013, taxi drivers in California and Massachusetts brought a class action lawsuit representing 385,000 drivers against the taxi services company Uber, alleging that they should be treated as employees and not as independent contractors. In 2016, Uber settled with the drivers, agreeing to pay \$84 million along with working to create better rules and communication with drivers.⁴⁴

5.3.5 Building Relationships with Unions

In an environment with significant union presence, it becomes an important management skill to deal constructively with unions. Companies need to build and maintain relationships with labor unions as an investment in good work relationships. These relationships do not form overnight and it takes a long time to establish the necessary credibility.⁴⁵ This starts with understanding the other side. Union officials sincerely believe that they provide an invaluable service to their members, including higher wages, greater job security and due process protection against arbitrary decisions.

Advice by other managers on how to build relations with unions includes:

- People want their concerns to be heard and then addressed.
- Stay in touch. Meet regularly with an employee representative to hear about problems.
- Solicit advice.
- Be available.
- Stress partnership and common goals.
- Be open to ideas and suggestions.⁴⁶

39 Jones, Jeffrey M. “In U.S., Telecommuting for Work Climbs to 37%.” *Gallup*. August 19, 2015. Last accessed April 28, 2017. ► <http://www.gallup.com/poll/184649/telecommuting-work-climbs.aspx>.

40 Batt, Rosemary et al. “Work Patterns and Workforce Policies for the New Media Industry.” *EPI Book*. Washington, DC: Economic Policy Institute, 2001.

41 Pederson, April. “Should High-Tech White Collar Workers Unionize?” *Speak Out*. June 6, 2000. Last accessed March 25, 2004. ► http://speakout.com/activism/issue_briefs/1284b-1.html.

42 Muhl, Charles J. “What is an Employee? The Answer Depends on the Federal Law.” *Monthly Labor Review* 125, no. 1 (January 2002), 3–11.

43 Batt, Rosemary et al. “Work Patterns and Workforce Policies for the New Media Industry.” *EPI Book*. Washington, DC: Economic Policy Institute, 2001.

44 Isaac, Mike and Noam Scheiber. “Uber Settles Cases With Concessions, but Drivers Stay Freelancers.” *New York Times*. April 21, 2016. Last accessed April 28, 2017. ► <http://www.nytimes.com/2016/04/22/technology/uber-settles-cases-with-concessions-but-drivers-stay-freelancers.html>.

45 Ajalat, Peter B. “Union Organizing, Negotiations and Contract Administration: Perspectives of a Former Union-Lawyer Now Laboring for Management.” *The Metropolitan Corporate Counsel*. November 2004.

46 Haring, Bob. “How to Build Relationships with Labor Unions.” *Houston Chronicle*. Last accessed April 28, 2017. ► <http://smallbusiness.chron.com/build-relationships-labor-unions-43674.html>.

5.4 · HRM by Human Touch: “Soft Control”

It is important to an employer’s success in negotiating with the representatives of employees to have established and maintained solid personal relationships with them. Such relationships take a long time to create.

To be successful, negotiators on both sides should have clear objectives, have patience, be well-prepared with data, be fair, ignore rhetoric, be good listeners and be careful about details. They must understand the other side’s motivation, needs, personalities and priorities, and need for face saving.

Management must carefully prepare the data on which to base its negotiations: data on pay and benefits, comparisons with local rates and also with rates paid for similar jobs within the industry.⁴⁷ There may be a need to construct a financial model to compute the costs of various benefits and so on.

If negotiations break down, an “industrial action” may take place, such as a strike, a work-by-the-book, or a go-slow work. Employers can engage in a lockout, in which employees cannot work and are unpaid. Strikes are highly regulated through law. In most countries, essential services such as emergency communications are defined and excluded from industrial action.

5.4 HRM by Human Touch: “Soft Control”

5.4.1 Soft Control

The classic HR approach, augmented by the methodologies of “hard HRM”, has been that HR management should be based on clear performance measures of employees. Such standards are based on formalized targets, and performance measurement, with rewards based on an analysis of the difference between the two. Increasingly, however, it is realized that formal procedures can have a cost in stifling creativity and energy, and that “soft controls” based on interpersonal relationships are often more effective in enhancing performance. “Soft” does not mean “unimportant” or “indulgent.” Examples of soft controls include:⁴⁸

- Setting tone at the top and leadership;

- Empowerment of initiatives throughout the organization;
- Ethical climate, shared values, and mutual trust up and down the hierarchy;
- Sense of community, shared values and joint accomplishment;
- Physical comfort, safety, respect;
- Vertical and horizontal fairness in compensation and opportunities;
- Personal growth opportunities.⁴⁹

5.4.2 Managing and Motivating the Creative Workforce

“Creativity” may be described as a process in which expertise in a specific field is combined with unconventional thinking and results in new solutions, or in new questions. The task of an organization is to create the conditions for such creativity to flourish, within the imperatives of a large organization that is more bureaucratized than a startup. By suppressing creativity, one often loses the most valuable people of an organization. They are also the most mobile of employees.

Similarly, technology “geeks” are resistant to leadership yet may be more in need of it than any other group of employees. Conversely, business managers often find geek values baffling. Conflicts arise in structured organizations where managers seek stability and control. To be an effective leader of geeks, power and authority are a less useful tool for moving a project than creating motivation (■ Fig. 5.9).⁵⁰ In consequence, the management of technical teams by people who understand geek values and patterns has become a specialty unto itself.

5.4.3 Models of Motivation

There are three basic perspectives on stimulating employees, those of “extrinsic,” “intrinsic,” and “situational” motivation.

A major approach to understanding motivation takes into account that a person’s motivation is not immutable but, rather, that it depends on circumstance. Motivational attitudes follow a

47 Citeman. “Management and Union Negotiations.” July 3, 2008. Last accessed April 28, 2017. ► <http://www.citeman.com/3566-management-and-union-negotiations.html>.

48 Roth, Jim. “Soft and Strong: A Best-practice Paradox.” *Tone at the Top* 50 (March 2011). Last accessed April 28, 2017. ► https://global.theiia.org/knowledge/public%20documents/tat_march_2011.pdf.

49 Hartmann R. C., F.G.H., and Sergeja Slapnicar. “Control Systems: “Hard” and “Soft” Management Controls.” *MCA*, no. 2 (March 2007): 26–31.

50 An updated version is Murphy, Chris. “2014 US IT Salary Survey” *InformationWeek Reports* May 2014, 54.

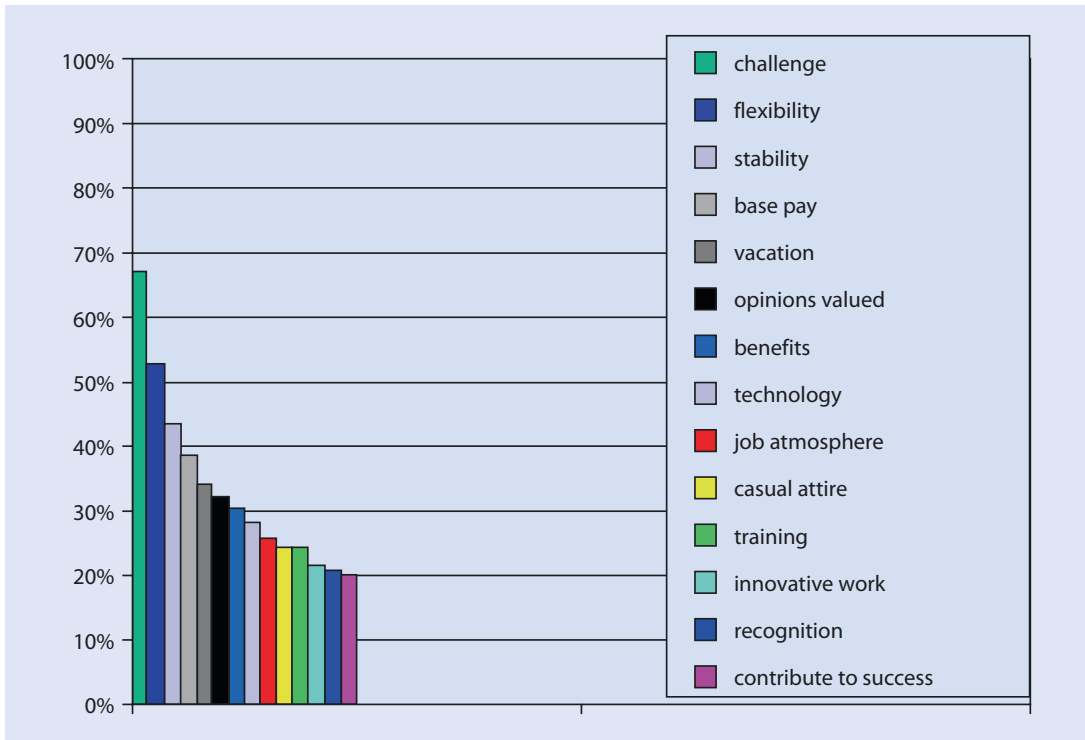


Fig. 5.9 What Matters Most to IT Technologists

“hierarchy of needs,” a concept popularized by Abraham Maslow.⁵¹ Human needs will never be fully satisfied, but they follow a hierarchy of priority. As each level of needs is fulfilled, a person moves up to the next level where needs (and motivation) will differ from before and become more important than before (see Fig. 5.10).^{52,53} In Maslow’s hierarchy, each level corresponds to specific needs.

Every person has all of these needs but in varying degrees of intensity and desire. As a lower level is filled, higher levels become more important. For creatives, attaining Level 5 (self-actualization) is particularly important, but the needs of Levels 1 to 4 (food and shelter, security, group companionship, and esteem needs) must be fulfilled first. This hierarchy of needs serves as a framework in understanding how a firm can motivate its employees and generate a “soft” form of control.

5.4.3.1 Level 1: Physical Comfort Needs

For their creatives, many effective companies provide “caring sweatshop” environments that may make work as attractive—or even more so—than their regular life, yet may also be relentlessly demanding, because creatives thrive on challenge. Job perks signify “caring” far beyond their organizational cost.⁵⁴ Google provides all-you-can-eat snacks, a massage therapist, and doctors and dentists on site.⁵⁵ Apple, Yahoo and Google have organic chefs and on-site masseuses.⁵⁶ Employees get access to advanced equipment and resources. The workplace is made visually stimulating. The workspace can be physically organized to encourage collegiality. For example, the building of Pixar (subsequently a Disney subsidiary) was designed by then CEO Steve Jobs to maximize unplanned encounters.⁵⁷

51 Maslow, at one point, postulated his perspective to be “TheoryZ,” but that term has been applied more to William Ouchi’s views on loyalty and the human workplace.

52 Cairncross, Frances. *The Company of the Future: How the Communications Revolution is Changing Management*. Boston: Harvard Business School Press, 2002.

53 Graph based on <https://www.simplypsychology.org/maslow.html>.

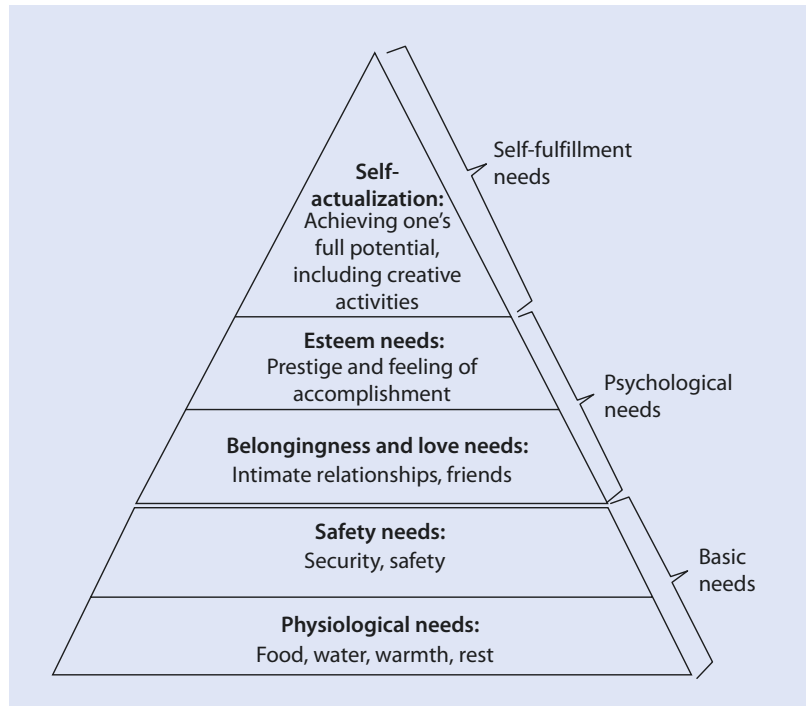
54 Florida, Richard. *The Rise of the Creative Class*. New York: Basic Books, 2002, 132.

55 Google. “Life at Google,” Last accessed June 16, 2010. ► <http://www.google.com/jobs/lifeatgoogle/benefits/>.

56 *BloombergBusinessWeek*. “Zen and the Art of Corporate Productivity.” *Bloomberg*. July 28, 2003. Last accessed April 30, 2017. ► <https://www.bloomberg.com/news/articles/2003-07-27/zen-and-the-art-of-corporate-productivity>.

57 Catmull, Ed. “How Pixar Fosters Collective Creativity.” *Harvard Business Review*. September 2008. Last accessed April 30, 2017. ► <https://hbr.org/2008/09/how-pixar-fosters-collective-creativity>.

■ Fig. 5.10 Maslow’s Hierarchy of Needs



5.4.3.2 Case Discussion

Disney and Physical Comfort Needs

Walt Disney was an early pioneer of the “caring sweatshop” concept back in the 1930s, when he built a new studio in Burbank, California, with an ambience that resembled a college campus. In contrast to virtually all larger companies, there were no set working times or punch-in clocks. There was a relaxed sick day policy in which employees would still receive full pay.⁵⁸ Disney’s animators in the 1930s made \$100–\$125 per week, which was generous during the Depression, providing security and peace of mind to enhance creativity. Today, Disney’s headquarters and studios are equipped with many amenities including buffets, barbershops and gyms. There are many perks for Disney employees.⁵⁹ Thus, on the whole, Disney has done a good job on physical comfort, Level 1 of the Maslow hierarchy of needs.

5.4.3.3 Level 2: Safety Needs

Once basic needs of shelter and sustenance are met, the next level on the hierarchy of needs is safety. Safety needs included several elements: job security, retirement security and the security of

fair treatment. The media and information sector (aside from traditional telecom) is not a good environment for job or retirement security; in fact, it is hard to think of an industry that offers less security. This is the major reason for the high unionization that was discussed earlier in the chapter.

A fundamental element of security is fairness. Without fairness, an employee is subject to arbitrary treatment in the workplace and, hence, great insecurity. Fairness has many dimensions, among them an objective performance appraisal and non-discrimination.⁶⁰ Creatives can lose their motivation if they feel they are being treated inequitably.⁶¹ Creative employees value an unprejudiced workplace treatment, and a compensation structure that is not lopsided.

5.4.3.4 Level 3: Social Needs

Humans are social animals and strongly seek to belong to a community. An important element of the “soft control” of creatives is to integrate them into teams with community spirit. One way to accomplish this is by creating an “us” vs. “them”

58 Gabler, Neal. *Walt Disney: The Triumph of the American Imagination*. New York: Alfred A. Knopf, 2006.

59 Rubis, Leon. “Disney Show & Tell.” *HR Magazine* 43, no. 5 (April 1998): 110.

60 Glen, Paul. *Leading Geeks*. San Francisco: Jossey-Bass, 2003.

61 Ainsworth Maguire. “Managing Creative People.” Last accessed April 30, 2017. ▶ <http://www.ainsmag.co.uk/pr-advice/managing-creative-people/>.

identification in the workplace. This encourages competition against other companies, rather than against colleagues. In the telecom industry, morale is highest during peak periods of emergencies such as natural disasters, when the job is objectively at its most difficult. The feeling of service to others motivates people. Managers can spur motivation across groups by creating shared goals and common peer values. In such an effort, team cohesion helps productivity, but also lowers it when things go badly.

In teams, individual performance cannot be easily observed, and only team output can be measured. This has its advantages: a strong incentive to cooperate, rather than compete, with one's colleagues, which creates complementary skills, specialization and the encouragement of knowledge transfer. This is one of the strengths of startups. The disadvantages of teams are a weaker incentive structure, a free-rider effect, and a "group think" mentality which values "getting along." Team members tend to monitor each other's efforts informally in such a way that is often more effective than if done by an outside supervisor, while emphasizing mutual reliance and trustworthiness.⁶² The disadvantages of teams are a weaker incentive structure, a free-rider effect, and a "group think" mentality which values "getting along." Methods of group motivation are the communication of a shared goal and a shared reward.

Top managers often view the creatives as having valuable ideas but lacking the broad perspective or the business imperatives. Therefore, they are typically not included in the company's strategic discussions.⁶³ Others try to include creatives in order to motivate them and create a community of interest. Creatives will be more motivated when they understand the big picture and the relationships between the firm's short-term and long-term objectives.⁶⁴

However, including creatives in corporate management can also generate problems. For example, many newspaper companies have created "cross divisional teams," task forces and committees, with reporters and editors joining circulation and advertising managers to produce marketing and other strategies. This broke the tradition of separating "church and state" — the supposed wall between the editorial and the publishing business sides of the operation. Since the mid-1980s, big newspaper chains such as Gannett in the USA have pushed for an "open newsroom" in which all departments, whether editorial or marketing, are expected to work together in producing and promoting the paper. This development created criticism from news staff of being pressured to report news content of less informational value but helpful to the newspaper's advertising and marketing.

5.4.3.5 Case Discussion

Disney—Promoting Community

During the company's earlier years, fostering a close-knit leading-edge group made everyone feel needed and was consciously used by Walt. As the company expanded, creatives felt more replaceable and team spirit declined. Disney lost the "us" identity that was so valuable during its beginning. To restore it, Disney tried various techniques, such as calling many of its employees "cast members." But these efforts went only so far. "Us" became

the employees, not the company as a whole. "They" became top management, not the competitors. Disney did reasonably well in forging a community. But this community became directed against top management, which they viewed as interlopers into that community.

A marked contrast is another animation studio. Pixar leapfrogged Disney in innovation and creativity. From its early days as a startup, Pixar worked hard to create a peer

culture that encourages people to help each other produce their best work. For example, the daily animation work in progress is shown to the whole crew. This helps people get over any embarrassment about sharing unfinished work. It generates peer contributions and inspires all to do their best. To generate community, Pixar freed up communication among personnel, without their having to get permission or having to go through the "proper" channels.

62 Hartmann R. C., F.G.H. and Sergeja Slapnicar. "Control Systems: 'Hard' and 'Soft' Management Controls." *MCA*, no. 2 (March 2007): 26–31.

63 Mumford, Michael. "Managing Creative People: Strategies and Tactics for Innovation." *Human Resource Management Review* 10, no. 3 (September 2000): 313–351.

64 Glen, Paul. *Leading Geeks*. San Francisco: Jossey-Bass, 2003.

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These approaches worked for Pixar’s animation films, which reaped triumphs. Pixar recreated the spirit of Disney when that company had been a startup itself in the 1920s, full of team spirit, exploration and innovations.

But, by the early 2000s, Disney animation had become a shadow of its former self. Its full-length animation films, which had been its foundation for 50 years, mainly produced flops. Disney was far behind in computer animation.

But it still had deep pockets. It bought the successful upstart Pixar for \$7.4 billion and, with it, acquired the creative and technical talent. In buying Pixar, Disney, to its credit, hoped to bring back the spirit of its own youth.

5.4.3.6 Level 4: Esteem Needs

Creatives, more than most people, need the reassurance of positive feedback. It is inherent in the subjective nature of such work that its creators seek assurance that they are doing a good job. Recognition ideally comes from people who are familiar with the work, and can make objective and informed judgments.⁶⁵ Working with and being recognized by talented peers are among the things that creative employees value most.

Studies show that money does not necessarily increase creativity: 10–15% of employees innovate when recognition is monetary, such as through bonuses or increased salary, but 70–80% of employees innovate more actively in order to garner professional esteem, such as an award or a special title.⁶⁶ Tools of peer recognition are award ceremonies and appropriate credit for notable work. The Oscars, Golden Globes, Grammys, Tonys, Pulitzers and numerous other awards are annual platforms to recognize creative excellence by peers.

Encouragement is another motivational element of “soft control.” Creativity involves risk, so managers who stress consequences of failure inhibit creativity. Instead, managers should stress rewards for success.⁶⁷ “Constraints” should be converted into “challenges.”⁶⁸ Negativity is an enemy of creativity.

5.4.3.7 Case Discussion

Disney’s Recognition System

Disney awards over 20 service recognition rewards to its employees. Such awards include “Applause-o-Gram” cards for anyone who has done a good deed. There are “Thumbs Up” gift certificates for landscaping staff, “Golden Hanger” gift certificates and Department of the Month awards.⁶⁹

Disney is also actively promoting its films, TV shows and artists for awards such as the Oscars or Emmys. Partly as a result, Disney has produced or distributed films that have garnered over 50 Academy Awards in the first decade of the 21st century, and over 150 TV Emmy awards. Altogether, then, Disney has done a good job of meeting its employees’ need for recognition and esteem.

5.4.3.8 Level 5: Self-Actualization Needs

Self-actualization is the most defining level of needs for creatives. This has many dimensions. Creatives are motivated and inspired by the prospect of advancing their skill levels—getting better at what they do, achieving mastery, breaking out. Therefore, training, development and stimulating experiences are ways to motivate them.

Companies thus must provide, beyond financial rewards, intrinsic rewards⁷⁰ for personal growth.⁷¹ To increase intrinsic motivation, they must give employees responsibility, autonomy, and tasks that promote personal development.

65 Florida, Richard. *The Rise of the Creative Class*. New York: Basic Books, 2002, 8.

66 Robinson, Alan, G., and Sam Stern. *Corporate Creativity: How Innovation and Improvement Actually Happen*. San Francisco: Berrett-Koehler, 1997.

67 Reitz, Joseph H. *Behavior in Organizations*. 3rd ed. Homewood: Irwin Publishers, 1987.

68 Javitch, David. “Inspiring Creativity in Your Employees.” *Entrepreneur*. April 4, 2005. Last accessed April 30, 2017. ► <https://www.entrepreneur.com/article/76890>.

69 The Disney Institute. *Be Our Guest: Perfecting the Art of Customer Service*. New York: Disney Editions, 2001.

70 Black, J. Stewart, and Richard M. Steers. *Organizational Behavior*. New York: Harper Collins College Publishers, 1994, 218.

71 Bowen, Brayton. “Today’s Workforce Requires New Currency.” *HR Magazine* 49, no. 3 (March 2004): 101–105.

It is useful for the firm to train individuals in organization-specific skills.⁷² The larger the employee's investment in it, the more costly it is for them to leave, both for themselves and for the company which loses them. This fosters mutual loyalty.

It should be noted that the approach of a company investing in its employees skills is not the only way to go. An entirely alternative organizational philosophy has been to leave up-skilling to an employee's own initiative. Intel's motto is "own your own employability." Employees are individually responsible for improving their work skills after receiving periodic reports detailing the status of the firm and changes to skill requirements.⁷³

Another element of self-actualization is job "sculpting," which involves, as much as possible, shaping jobs around employees' skills and interests. Workers are allotted more freedom to pursue personal achievements in the industry.⁷⁴ Newspapers often employ job sculpting when they allow their journalists to expand and compile stories into a book, which generates visibility (and income).

5.4.3.9 Case Discussion

Disney Training and Development

"Disney University" was one of the first structured corporate learning facilities and continues to be one of the largest in the world. Beyond the job training program, it also aims to preserve Disney's business culture.⁷⁵ Disney also runs a Human Resource Certificate Institute (HRCI), a program designed for its HR professionals.⁷⁶ A Disney University is established at each of Disney's theme park locations, providing diverse training in skills, including management protocol, cooking techniques and computer proficiency.⁷⁷ Training is flexible and extensive. Disney provides the option of taking self-paced courses in

a variety of subjects so that employees are able to study at their own convenience. Disney also pays for employees' college courses through an educational reimbursement plan.

Other activities are Disney's mobile training units, which enable employees to receive computer training at their work site, and training via satellite, where management courses are offered from top business schools to supervisors and managers.

5.4.3.10 Corporate Culture

The pre-industrial firm reflected the personality of its leader. The industrial firm, once mature, was impersonal but had distinct characteristics. This character was "hardwired" into the organization and was hard to change or even control. There was much homogenization. IBM expected its employees to wear white shirts. Corporate America in the 1950s was populated by men in quintessential gray flannel suits. Japanese firms had their cadres of dark-suited "salarymen."

But corporate culture goes far beyond dress code. The corporate culture of a firm affects how new information is interpreted. One study looked at why two very similarly situated American telecom companies reached radically different business decisions regarding the cellular telephone. US West decided not to enter the market at all, while BellSouth entered it enthusiastically. The key explanations were found not in information but in the culture. US West was focused on generating short-term results, and thus considered the investment-intensive cellular telephony a poor prospect. On the other hand, BellSouth's culture was one of infrastructure and public service, and it took a long-term perspective. It thus viewed mobile service as a complement to its wireline business.⁷⁸ US West's decision to skip mobile communications turned out to be a disastrous decision.

For more than a century, telecom organizations operated with a culture shaped by engineering and civil service value systems and operations: clear and specified procedures; clear

72 Luthans, Fred, and Carolyn M. Youssef. "Investing in People for Competitive Advantage." *Organizational Dynamics* 33, no. 2 (May 2004), 143–160.

73 Pasternack, Bruce, and Albert Viscio. *The Centerless Corporation*. New York: Simon & Schuster, 1998, 67.

74 Butler, Timothy, and James Waldrup. "Job Sculpting: The Art of Retaining Your Best People." *Harvard Business Review*, September–October 1999. Last accessed April 30, 2017. ► <https://hbr.org/1999/09/job-sculpting-the-art-of-retaining-your-best-people>.

75 Clarke, Thomas and Antoine Hermens. "Corporate Developments and Strategic Alliances in e-Learning." *Education + Training* 43, no. 4 (2001): 265.

76 Disney Institute. "Accredited Programs." Last accessed June 10, 2010. ► http://www.disneyinstitute.com/About_US/Accredited_Programs.aspx.

77 Paton, Scott M. "Service Quality, Disney Style." *Quality Digest*. January 1, 1997. Last accessed April 30, 2017. ► <http://www.qualitydigest.com/jan97/disney.html>.

78 Barnett, William P., and Robert A. Burgelman. "Evolutionary Perspectives on Strategy." *Strategic Management Journal* 17, no. S1 (Summer 1996): 5–19.

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lines of responsibility; long planning horizon; job security; politicized decision making; a public service orientation; a national and social perspective; risk avoidance; and a management that rose slowly inside the organization, having adapted to its values. In America, those that shared the dominant telecom culture were known as the “Bellheads.” The Internet culture, in contrast, draws from other wellsprings: entrepreneurialism, individualism, risk taking, rapid product cycles, uncertainty and informality. By analogy, its adherents were sometimes known as “Netheads.”⁷⁹

This corporate culture conditions members to respond to certain situations with a certain set of behaviors. This has some efficiency benefits. Members of the team share these values and assumptions, and are hence much easier and faster to work with, and can be reliably sent off to represent the organization. At its widest reach, business culture may vary by country; William Ouchi, in his book *Theory Z* (1981),⁸⁰ demonstrated how American culture places a high value on individual achievement, whereas Japanese culture stresses a sense of community.

Inculcating new employees with the values of the organization helps to integrate them. All new hires at the telecom company Verizon must take an orientation program. The program includes computer training, guest speakers, benefits and corporate culture education. For entry-level managers, there are also formal leadership or management development programs that last one year, or longer. The Verizon orientation program includes three “tours.” An online virtual tour that includes information such as the code of conduct and benefits; a team tour that helps new employees become comfortable with peers and bosses; and a classroom lecture that highlights company history, mission and values.

Corporate culture is much slower to change than organizational structure, top leadership, or strategy. All of those can be changed rapidly

by decision. But the collective values of organization and the way its people operate change much more slowly, because they are the aggregate of behaviors and routines acquired over the organization’s lifetime. Corporate “re-education campaigns” are usually either doomed to failure, or produce hypocrisy and obstructionism. It takes major incentives to make employees change the patterns they were told to follow in the past.

Culture conflicts are especially difficult when companies merge. An amalgamated new common culture may emerge or be dictated, but it may not be satisfactory to either partner. For example, a style combining Internet and telecom may be stressful to both parts of the organization and unsuccessful in serving their markets.⁸¹

Within a corporate culture, companies must evolve. As with individuals, they must learn and adapt. The idea of the firm as a learning organization became popular with Peter Senge’s 1990 book *The Fifth Discipline*. Senge argues that the firm is an organism and that change is not simply a matter of retooling. Organizational learning theorists take their cue from studies in biology and mathematics of so-called self-organizing systems. They believe that the firm is self-organizing at all levels and that it is a living organism that cannot be controlled by top-down directives.⁸²

The president of the animation firm Pixar describes his company’s culture thus: “We think and we share some basic beliefs: lasting relationships matter, talent is rare. Management’s job is not to prevent risk but to build the capability to recover when failures occur. It must be safe to tell the truth.”⁸³ These are inspiring words. Many companies articulate equally nice principles. For creatives, a congruence of word and deed is essential. When corporate culture says one thing but management behavior goes another way, trouble follows.

79 Noam, Eli. “The Impact of Accelerating Knowledge on the Business Firm.” In Antonio Pilati and Antonio Perrucci. Eds. *Economia della conoscenza: profili teorici ed. evidenze empiriche*. Bologna: Il Mulino, 2005.

80 Heck, Ronald H., and George A. Marcoulides. “Organizational Culture and Performance: Proposing and Testing a Model.” *Organization Science* 4, no. 2 (May 1993): 209–225.

81 Noam, Eli. “The Impact of Accelerating Knowledge on the Business Firm.” In Antonio Pilati and Antonio Perrucci. Eds. *Economia della conoscenza: profili teorici ed. evidenze empiriche*. Bologna: Il Mulino, 2005.

82 Noam, Eli. “The Impact of Accelerating Knowledge on the Business Firm.” In Antonio Pilati and Antonio Perrucci. Eds. *Economia della conoscenza: profili teorici ed. evidenze empiriche*. Bologna: Il Mulino, 2005.

83 Catmull, Ed. “How Pixar Fosters Collective Creativity.” *Harvard Business Review*. September 2008. Last accessed April 30, 2017. ► <https://hbr.org/2008/09/how-pixar-fosters-collective-creativity>.

5.4.3.11 Case Discussion

Disney Cultural Dissonance

In conclusion, then, Disney did a good HRM job on three levels of the Maslow hierarchy of needs: those of physical comfort, esteem and self-actualization. Where Disney failed was in a perception of fairness—an integral part of the need for security—and a lack of an understanding of the need for community. This generated Disney's main HR problem: an internal dissonance in its corporate culture, which led to an internal "us" vs. "them" climate.

Disney's corporate culture was shaped by Walt Disney and his early animation team. Walt Disney followed a "soft" management style centered on making creatives comfortable and appreciated. The tradition of taking care of the creatives was kept alive

by Walt's nephew Roy E. Disney. As the Disney Company grew in the 1980s, management became increasingly rigid. Disney's official culture, emphasizes creativity and family, was at odds with the reality of managing a global corporation responsive to investors.

In 2004, dissatisfied employees voted overwhelmingly against management. They wanted to restore Disney's traditions. This movement was led and encouraged by Roy E. Disney which lent legitimacy to their rebellion.

They opposed a pay hierarchy that had become excessively unequal beyond its incentive needs. They felt no identification with the goals of the leadership because they perceived that leadership to act in its own self-

interest. Whereas Walt Disney had spoken in inspirational terms: "You don't work for a dollar—you work to create and have fun,"⁸⁴ now the company Chief Operations Officer Jeffrey Katzenberg proclaimed: "I'm not interested in Academy Awards, but in 'Bank of America' Awards!"

Disney's employees did not see themselves as rebels but as the restorers of a proud tradition. To them, CEO Eisner and his financial performance-driven style and strategy were the usurpers.

The questions, then, are how does Disney reconcile its financial objectives with its culture? How can the company modify its corporate culture for the twenty-first century? Could it? Should it?

5.5 Employment in the Digital Economy

We end this chapter by looking at the overall impacts of the digital economy on employment, because it is important to understand the big picture. For many years, people have believed and hoped that the Internet—and, more generally, the digital economy—would replace and enhance industrial jobs. This was important to developed countries, as their traditional manufacturing activities were either being automated, or were migrating to developing or emerging countries. It was also important as a way to find a productive space for younger generations who moved from the blue-collar jobs of their parents to knowledge-based occupations where they could utilize society's investment in their higher level of education. Such jobs were also believed to reduce class division and inequality.

The conventional story is one of great success. The Internet is supposed to have caused up to 21%

of GDP growth in five years in mature countries.⁸⁵ In the USA, the Internet economy has reportedly created 1.2 million jobs directly.^{86,87} There were also new types of jobs spawned by various applications. A study found that each Internet job supports approximately 1.54 additional jobs elsewhere in the economy.⁸⁸ In France, too, the Internet has supposedly created 1.2 million jobs directly. But what kinds of jobs? In the USA, most of them were in e-commerce, not in anything really creative but, mostly, in order fulfillment, i.e. packaging and shipping, as well as the delivery of physical goods such as through trucking, accounting for more than 500,000 of the 1.2 million jobs.

84 Ford, Robert C., Frank S. McLaughlin, and John W. Newstrom. "Questions and Answers about Fun at Work." *Human Resource Planning* 26, no. 4 (2003): 18.

85 Du Rausas, Matthieu Pélissier et al. "Internet matters: The Net's sweeping impact on growth, jobs, and prosperity." *McKinsey Global Institute*. May 2011. Last accessed April 30, 2017. ► <http://www.mckinsey.com/industries/high-tech/our-insights/internet-matters>.

86 Thibodeau, Patrick. "Study: Internet economy has created 1.2M jobs." *Computerworld*. June 10, 2009. Last accessed April 30, 2017. ► <http://www.computerworld.com/article/2525229/internet/study--internet-economy-has-create-1-2m-jobs.html>.

87 Quelch, John. "Quantifying the Economic Impact of the Internet." *HBS Working Knowledge*. August 17, 2009. Last accessed April 30, 2017. ► <http://hbswk.hbs.edu/item/6268.html>.

88 Quelch, John. "Quantifying the Economic Impact of the Internet." *HBS Working Knowledge*. August 17, 2009. Last accessed April 30, 2017. ► <http://hbswk.hbs.edu/item/6268.html>.

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Internet service providers generated 181,000 jobs. Creative jobs were, in particular, in content-related employment (estimated at 60,000) and in software as a service (31,500).⁸⁹ These modest numbers are in contrast to the sometimes breathless hype.

But one must also consider the downsides. In the USA, industrial blue-collar jobs disappeared at the rate of 350,000 industrial jobs each year after 2000. (There is also the multiplier effect of jobs, about 1.6 per industrial worker and 2.5 per skilled industrial worker.) Of course, many of these jobs would have disappeared anyway, but more slowly. Transition time is important. People need time to adjust, retrain and relocate. The Internet has accelerated the outmigration of jobs.

Following the blue-collar jobs, the “pink collar” jobs in retailing and clerical staff began to shrink as retailing moved online. Similarly, service support jobs such as telemarketing or editorial work have been moving offshore. Levels of middle management have been cut as ICT made supervision and information exchange easier, thus reducing the need for intermediate levels of management.

Retailing is not the only service industry to be squeezed. A short list of some of the major industries affected by the Internet⁹⁰ includes newspapers, travel agencies, stock brokers, and universities. Thus, we can observe not only a de-industrialization but also a “de-servicization.”

The problem is not just the loss of traditional employment at a pace that is hard to counteract by digital employment, but that the losses are distributed unequally. In the United States, Europe and Japan, half the jobs lost during the Great Recession were in industries that pay middle-class wages. But most jobs gained since then have been in low-pay industries, or in professional jobs that pay well.^{91,92} Many middle-level jobs are easier to automatize with smart software programs, or

to outsource and offshore, than low-level jobs. One can automatize travel agents and bank tellers, but it is harder to do it for road construction or cleaning crews. This “hollowing out” of the middle-class workforce will continue. This creates a bottleneck: menial jobs at the bottom, professional jobs at the top, and a weakening in the middle. It means that the job mobility from lower to middle class, which had been the historic route to individual progress, is becoming more difficult.

Is the creative sector going to be the substitute for all of those industrial and service sector jobs that are being lost? This claim, often heard, is unrealistic if one looks at the numbers. In America, including the multiplier effects, seven million industrial and clerical jobs have been lost in the period 2008–2017.⁹³ In contrast, the total number of people with jobs in journalism, books, TV, film, theater and music is less than one million.⁹⁴ So, if creative jobs alone should be the compensation, one would have to expand that sector by a factor of 7. Demand for the output will not grow as fast. Plus, many more people produce content as volunteers, not as a job. The globalization of media means that every other country’s content is also available and, by the same logic, is also expanding.

Managers and entrepreneurs in the digital economy create value and wealth, but are also part of “creative destruction” and disruption. They must understand the environment in order to function in it. Every time there is a technology shift, there are doubts and fears. Throughout history, technology has been a net job creator.⁹⁵ But that did not help those that were dislocated. In the Industrial Revolution, which proceeded at a much slower pace, millions of Europeans ended up destitute and had to migrate to sprawling city slums or to distant shores. Social and political revolutions and upheavals abounded. Now, the pace of dislocation is even faster.

89 Thibodeau, Patrick. “Study: Internet economy has created 1.2M jobs.” *Computerworld*. June 10, 2009. Last accessed April 30, 2017. ► <http://www.computerworld.com/article/2525229/internet-study--internet-economy-has-create-1-2m-jobs.html>.

90 *Briefing Investor*. “Industries Destroyed by the Internet – A Reflection.” July 26, 2012. Last accessed April 30, 2017. ► <http://www.briefing.com/investor/our-view/ahead-of-the-curve/industries-destroyed-by-the-internet-a-reflection.htm>.

91 Condon, Bernard, and Paul Wiseman. “Millions of Middle-Class Jobs Killed by Machines in Great Recession’s Wake.” *Huffington Post*. Last updated January 23, 2013. ► http://www.huffingtonpost.com/2013/01/23/middle-class-jobs-machines_n_2532639.html.

92 Condon, Bernard, and Paul Wiseman. “Millions of Middle-Class Jobs Killed by Machines in Great Recession’s Wake.” *Huffington Post*. Last updated January 23, 2013. ► http://www.huffingtonpost.com/2013/01/23/middle-class-jobs-machines_n_2532639.html.

93 Kurtzleben, Danielle. “Report: America Lost 2.7 Million Jobs to China in 10 Years.” *US News & World Report*. August 24, 2012. Last accessed April 30, 2017. ► <http://www.usnews.com/news/articles/2012/08/24/report-america-lost-27-million-jobs-to-china-in-10-years>.

94 Bureau of Labor Statistics, US Department of Labor. “Occupational Outlook Handbook: Reporters, Correspondents, and Broadcast News Analysts.” December 17, 2015. Last accessed April 30, 2017. ► <http://www.bls.gov/ooh/media-and-communication/reporters-correspondents-and-broadcast-news-analysts.htm>.

95 Smith, Aaron, and Janna Anderson. “AI, Robotics, and the Future of Jobs.” *Pew Research Center*. August 6, 2014. ► <http://www.pewinternet.org/2014/08/06/future-of-jobs/>.

5.6 Conclusion and Outlook

Why is it important to understand the HRM of media companies?

Creative workers have a distinctive set of individualistic work styles, meritocratic values and unconventional social behaviors that pose unique challenges to a company's HRM.

Management guru Peter Drucker noted, "Knowledge workers and their skills may well be a firm's main asset and can, unlike manual workers in manufacturing, own the means of production: they carry that knowledge in their heads and can therefore take it with them." The long-term survival of firms in the future depends on creating and replenishing those creative resources.⁹⁶ Managers must be able to handle creative talent, or at least handle the handlers of talent.

Managers of creatives need to consider both the creative and profit aspects of the firm. They must balance their need for operational control with assuring creative freedom.⁹⁷ The most successful companies will be those where management provides equal attention and respect to both the "suits" and the "pony tails." They must maintain hard HRM and "soft control" simultaneously.

5.7 Review Materials

Issues Covered

We have covered the following issues in this chapter:

- How the focus of HRM has changed;
- How HRM is organized in a company;
- How the importance of creativity influences HRM in the media, information and digital industry;
- How to analyze intra-company labor flows;
- How to shape the optimal organizational hierarchy;
- What implications finance theory has for companies' compensation systems;

- How the power of unions shifted;
- What factors define the creative workforce;
- How the increase in freelancing affects labor relations;
- What the special HR factors are for middle managers and freelancers;
- How soft control based on interpersonal relationships can be more effective;
- What the explanations are for employee unionization in media industries;
- How firms can leverage motivation theory to motivate their employees;
- What the significance of corporate culture is;
- What the impact of the digital economy is on employment.

Tools Covered

We used these tools to address HRM issues:

- Rate of return on investment in human capital;
- Productivity measurement;
- HRIS;
- Hiring of risky employees;
- Outsourcing/offshoring;
- Internal labor market analysis;
- Organizational pyramids;
- Fixed vs. variable pay;
- Optimal compensation gradient;
- Incentive scheme design and promotion;
- Union negotiations;
- Elements of soft control;
- Leading and motivating geeks.

5.7.1 Questions for Discussion

1. How do producers assess how much to compensate a star or superstar for their services?
2. Discuss whether the typical compensation structure utilized in the film and telecom industry is an effective method to promote productivity and creativity.
3. Are individuals motivated by their enthusiasm for their craft and profession

⁹⁶ Lampel, Josh et al. "Cultural Industries: Learning from Evolving Organizational Practices." *Organizational Science* 11, no. 3 (June 2000): 263–269.

⁹⁷ The Economist. "Special Report: How to Manage a Dream Factory – The Entertainment Industry." January 16, 2003. Last accessed April 24, 2017. <http://www.economist.com/node/1534766>.

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rather than by hope for financial gain more valuable to the overall success of a media company than those seeking mostly money and power?

4. What is the reason for strong unionization in many media industries? Should one expect similar trends in new creative industries such as games development?
 5. How can a TV network company measure return on investments in human capital, such as a training program in respect for diversity?
 6. How should an e-commerce company determine its compensation mix of fixed salary and contingent compensation? What factors should the company consider?
 7. Discuss where the creative workforce is going. Will it continue to keep growing, or will it peak and decline, as agricultural or industrial workers have in the past?
 8. How should a startup proceed in motivating its employees?
 9. How can a firm use the concepts of tournament theory to design a compensation gradient for the firm's employees?
 10. Discuss how a company could use an internal labor market map to improve its performance.
2. What is the most cost-effective/best way of increasing a firm's creativity?
 - A. Hire outside talent.
 - B. Train current employees.
 - C. Redesign organizational the environment.
 3. According to studies, to have a project team maximize its total creative output, how many people should usually be in it?
 - A. 20.
 - B. 5.
 - C. 10.
 4. Which best describes the actor compensation practices used in Hollywood right now?
 - A. Producers and studios often end up paying stars way more than they are actually worth.
 - B. Studios and producers end up paying actors much less than they are actually worth.
 - C. Producers and studios pay a pretty accurate amount to actors—giving them about as much as their presence in a film adds to its value.
 5. A company's internal labor market map is broadly pyramid shaped. What can we conclude from this?
 - A. This firm prefers to build rather than buy its workforce talent.
 - B. The firm likes to buy rather than develop its workforce talent.
 - C. It is difficult to reach any significant conclusion from this bit of information.

5.7.2 Quiz

1. What is the best way to judge a creative's output?
 1. Comments from senior creatives;
 2. Comments from his/her peers;
 3. Number of usable product ideas created.
 - A. 1 and 3.
 - B. 2 and 3.
 - C. 2 only.
 - D. All of the above.
6. Of Company X's employees, 80% are at or below hierarchy Level 5 out of a possible seven levels. The company tends to hire Level 6 and 7 employees from outside the firm. What kind of employee turnover can this company expect at Levels 5 and below?
 - A. High: employees see they are not likely to be promoted past Level 5.
 - B. Low: employees see that, although they will not reach upper management, they have very high job stability.
 - C. Average.

7. When a company hires aggressively in tight labor markets, what does it run the risk of doing?
- Undervaluing its current employees by underpaying.
 - Attracting top talent to work for it, only to have them leave after a short time.
 - Not providing incentive for employees to perform at their capability level.
 - All of the above.
8. Company ABC has been calculated to have 20% market risk, 35% industry risk, and 45% firm-specific risk. For this company, would it be wise to base employee compensation on stock options?
- No.
 - Yes.
 - More information required.
 - No possible answer.
9. Which of the following is not a direct reason for unionization in crafts and among media creatives?
- Scarcity of talent.
 - Oversupply of talent.
 - Stress.
 - Need for respect.
10. What are factors for the low unionization in high tech startups?
- Founder-centric culture.
 - Subjective pay practices.
 - High turnover.
 - Egalitarian culture of managers and employees.
11. How should managers design a company's wage spread when it faces a riskier environment?
- The wage spread should be smaller.
 - The wage spread should stay the same.
 - The wage spread should be larger.
 - The wage spread should be indexed to the inflation rate.
12. What main effect does the firing of older employees have, besides causing anger in these employees?
- Rewards for young employees should be lowered.
 - Need to better reward younger employees.
 - Younger employees are not affected.
 - Younger employees want to stay with the company.
13. When should a manager hire Person A over Person B even though A's expected NPV for the first year is lower?
- When the upside potential for A is higher than for B.
 - When A is more experienced than B.
 - When B is younger than A.
 - When A has better personal relations with the management.
14. What level of Maslow's hierarchy is the most defining one for creative employees?
- Esteem needs.
 - Safety needs.
 - Social needs.
 - Self-actualization.
15. What is not a reason for difficulties in measuring productivity for black-collar creative jobs?
- Outputs are hard to define and measure.
 - Differences in quality.
 - Production is difficult to measure.
 - Non-homogeneous products.
16. Why is it difficult to manage geeks?
- They are judgmental about the company's strategy.
 - Their values are peer driven rather than hierarchy driven.
 - Geeks are structured and do not need guidance.
 - They can be energized by actions.

17. Which of the following statements about labor unions is incorrect?
- A. Strongly unionized industries experience great labor mobility.
 - B. Unionization has a positive effect on compensation.
 - C. Unions often upgrade the skills of their members.
 - D. The membership of unions has declined as the industrial economy is transitioning to a services-based economy.
18. Why is there often such a strong unionization in media crafts and among media creatives?
- A. Oversupply.
 - B. Money.
 - C. Political leverage.
 - D. Stress.
 - E. Declining rate of newcomers.
 - F. Need for respect.
19. Which of the following statements about motivation & needs is incorrect?
- A. Motivational attitudes follow a hierarchy of needs.
 - B. Motivation depends on circumstance.
 - C. Humans are social animals and strongly seek to belong to a community.
 - D. Psychological needs precede safety needs.
20. Which of the following elements do not describe the Internet culture?
- A. Clear lines of responsibility.
 - B. Individualism.
 - C. Rapid product cycles.
 - D. Uncertainty.
 - E. Entrepreneurialism.

Quiz Answers

✓ 1. D

✓ 2. C

✓ 3. C

✓ 4. A

✓ 5. A

✓ 6. A

✓ 7. D

✓ 8. B

✓ 9. A

✓ 10. D

✓ 11. C

✓ 12. B

✓ 13. A

✓ 14. D

✓ 15. C

✓ 16. B

✓ 17. A

✓ 18. E

✓ 19. D

✓ 20. A



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6.1 Introduction

In this chapter, we discuss how media and information sector firms can fund their activities. We will review financing alternatives, and see how they are applied in media and the technology sectors.

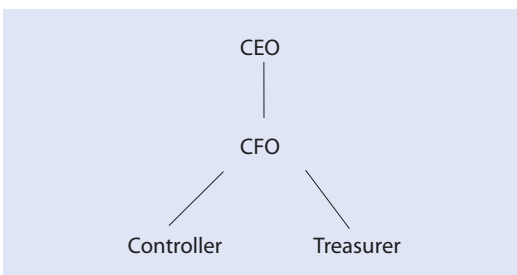
We will also consider how the various funding types affect

- The structure of companies and industries;
- Content and innovation;
- Companies' activities.

6.1.1 The Finance Function in Companies

Within a company, the finance function is usually managed by the Chief Financial Officer (CFO). Reporting to the CFO are typically a treasurer and a controller (■ Fig. 6.1).

The controller handles the accounting function. This includes taxes, cost/financial accounting and information systems. The treasurer handles cash flows, implements capital expenditure decisions and makes financial plans. The CFO is in overall charge of raising the funds to carry out business operations, and the amount, source and type of financing. The CFO also conducts financial analyses of the firm's performance. The CFO takes responsibility for the company's primary financial statements—the balance sheet, the income statement and the statement of cash flows. Publicly traded companies are required to issue financial statements periodically, and also to disclose major ownership changes and any insider transactions. In the USA, after the year 2000 the legal responsibility of CFOs was significantly increased following several financial scandals—in particular, the collapse of the energy and commodities company Enron.



■ Fig. 6.1 Corporate Organizational Chart

One important question is whether the different ways in which media firms are financed also affect the type of content that is produced and distributed by them, and the nature of innovation. What would finance theory suggest about the impact of different financing types? In 1958, the finance professors Merton Miller and Franco Modigliani—both subsequent Nobel Prize winners—postulated a theorem that has become a major concept in the field. According to Miller and Modigliani, the value of firms is unaffected by their funding choices, such as debt, equity or private investment. The value of a company is based on its performance, not on funding types. The conduct and behavior of a firm are aimed at maximizing value, and are independent of its funding. Applied to a media and communications firm, this would mean that its production or marketing decisions would not be affected by its funding sources or styles. Miller and Modigliani's conclusion is based on several unrealistic assumptions.¹ But is the basic point plausible—that content and innovation are independent of a media organization's financings? We will keep returning to that question.

6.1.2 Basic Factors in the Finance of Media and Communications

The high fixed costs of many media and communications projects often force media companies to make large early investments far ahead of the collection of revenues. To bridge that gap they must often borrow large amounts. Investment needs in media products, platforms and devices are high, and keep increasing. The cost of full residential fiber-connection of the USA would be about \$500 billion. Similarly, a broadband wireless infrastructure that would cover most of the population is estimated to require an investment of about \$100 billion per network company to achieve nationwide coverage, and about \$500 billion in total for the entire mobile industry.

Similarly, the production of premium media content is often expensive. It often requires over

¹ These include an efficient financial market, no taxes, symmetric information and no bankruptcy costs.

\$100 million to make and market a Hollywood movie.² Films are perishable, with a short window of revenue generation, yet delayed in the collection of revenues. In network television, the average production cost for a prime time network show rose from \$200,000 in 1971 to \$1 million in 1991, \$1.9 million in 2008, and \$3 million in 2017. The average pre-opening budget for a musical on Broadway was \$10 million and, for a play, about \$4 million. Even “Off-Broadway” theater required \$2 million for a commercial and \$300,000^{3,4} for a non-profit production. (These figures were about two to three times higher than they had been in 2002.)

On top of this, investments are highly risky. Of all films, books and music, 80% do not generate a sufficient audience to become profitable. Most new commercial online sites fail to make money. Two-thirds of new magazines fail in the first year. The distribution of success is extremely skewed. Successful payoff is very high for a few products and low or negative for the rest. Risk is also increased by the long lag between a project’s inception and its transformation into a revenue stream, as well as the excess supply of products relative to demand, and due to price deflation toward low marginal costs.

6.1.3 Case Discussion

The Funding of a New Venture: Time Warner Versus Startup Entrant—A Hypothetical Case

The company Time Warner Media, acquired in 2018 by AT&T, is looking into the possibility of starting a new Internet television project. It is named Time Warner Internet Television (TWIT). The capital costs of the TWIT project will be \$1 billion. The company must ask itself whether this is a worthwhile investment. Also, how is the company going to fund it? Even if it has enough cash on hand, this does

not mean that it should spend it on the new project, just as a family buying a home will, in most cases, not fully deplete its liquid assets and, instead, take a mortgage. TWIT must consider, at the very least, how its actions will affect its profitability, share price and debt repayment burden, and how much control it is willing to give up.

An alternate (and entirely hypothetical) entrant contemplat-

ing a foray into Internet TV is a company called Startup New-Generation Internet Television (SNIT). SNIT’s founders have estimated its initial capital costs to be \$100 million, one-tenth of the better established TWIT, and with the same proportions for the major components of the project as are projected for TWIT.

6.1.4 An Overview of Funding Sources

We will now look at how the different sources of financing are used by media and how they affect them. What, generally, are the funding sources for a business? They are, in particular:

- The creator/entrepreneur personally;
- Family and friends;

- Retained earnings of the company;
- Banks and other lenders;
- Private investors;
- Vendors and buyers;
- Institutional investors (mutual and pension funds, insurance companies, PE funds, etc.);
- Governments.

Within each category, there are multiple varieties. Often, a mix of several funding sources will be put together as a package.

2 A typical theatrical film in Europe cost €11 million to produce. European Commission. “New European film strategy aims to boost cultural diversity and competitiveness in digital era.” May 15, 2014. Last accessed May 16, 2017. ► http://europa.eu/rapid/press-release_IP-14-560_en.htm.

3 Janeway, Michael, and András Szántó. Eds. *Wonderful Town: The Future of Theater in New York*. New York: National Arts Journalism Program, Columbia University, 2002.

4 Rubino-Finn, Olivia. “Broadway Budgets 101: Breaking Down the Production Budget.” *New Musical Theatre*. January 22, 2016. Last accessed May 16, 2017. ► <http://newmusicaltheatre.com/green-room/2016/01/broadway-budgets-101-breaking-down-the-production-budget/>.

6.2 Internal Funding

The first and most obvious source of funding is the company itself, or the owners and entrepreneurs who start it, as well as their family members and friends. Why not go to the bank for a loan instead? Because new businesses initially lack just about

everything that a bank looks for in assessing and reducing risk: a record as an operating entity, audited financial statements, assets that can be used as collateral, a repayment history, or traded securities that are continuously evaluated in the market. This makes it difficult to obtain debt financing in the early stages of a businesses. The alternative for a startup is self-financing. Friends and family will often play an important role. When Bill Gates started Microsoft with Paul Allen, his well-to-do parents contributed money to the fledgling firm. When seeking help from friends and family, one must be mindful of several problems.⁵

- It puts pressure on the relationship and often changes its nature. An entrepreneur who brings in friends as investors must be prepared to lose them when things go wrong.
- It affects the entrepreneur's peace of mind. It is one thing to default on a bank loan, and another to burn through grandma's retirement nest egg.
- Family members and friends often feel free to meddle in the running of the business and it is hard to maintain an arms-length relationship.
- There has to be a clear exit strategy for such investors/friends.
- It deters outside investment. The presence of active family insiders can dissuade professional investors from participating.

On the other end of the spectrum of business size, internal funding can also make sense for very large firms. The resources come from past capital injections, or from earnings which were not returned to shareholders as dividends but were, rather, retained for new investments.⁶ Some firms have accumulated vast reserves and can fund virtually every prospect on their own. This is not always positive. When companies use their own cash, rather than distribute it to shareholders as

dividends, they may make their stock less attractive. Also, there may be a less stringent assessment of internally funded projects, at times based on internal corporate politics, in contrast to the scrutiny that would be applied by a more detached outsider reviewing the project.

That having been said, internal financing by large companies has several advantages:

- Funding may be immediately available.
- Transaction costs are lower relative to the issuance of securities.
- No supervision and review by banks.
- Less disclosure of financial details that could benefit competitors.
- A better informed evaluation of the project and its risk.

Well-established firms will often use a mix of internal and external financing: small projects are funded internally, but large ones externally. Thus, over the life cycle of a firm, internal funding is most likely to be used in the early stages of startups, but also in the mature stages of well-established firms operating in steady state.⁷

It would be a mistake to view self-financing as “free.” Internal funding has an opportunity cost to a company or individuals and a very real cost to shareholders. Profit that is re-invested is money that could have been paid out as a dividend to stockholders. In the words of the investment guru Warren Buffett, “earnings should [only] be retained when there is a reasonable prospect – backed preferably by historical evidence or, when appropriate, by thoughtful analysis of the future – that for every dollar retained by the corporation, at least \$1 of market value will be created for owners.”⁸

There are various ways to estimate the cost of self-funding. For established firms, the finance literature typically uses a “bond-yield-plus-premium” approach. It takes the interest rate of a company's long-term debt and adds a risk premium for the project.

$$\text{Cost of Retained Earnings} = \text{Firm's Long Term Bond Yield} + \text{Risk Premium}$$

5 Kelly, Peter. “Finance and Venture Capital Markets.” In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen, and Antti Ainamo. New York: Springer, 2003, 211–234.

6 Stevenson, Howard H., Michael J. Roberts, and Harold I. Grousbeck. *New Business Ventures and the Entrepreneur*. Homewood, IL: Irwin, Inc., 1985, 190–199.

7 Berger, Allen N., and Gregory F. Udell. “The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle.” *Journal of Banking and Finance* 22, nos. 6–8 (1998): 613–673.

8 Buffet, Warren E., and Lawrence A. Cunningham. *The Essays of Warren: Lessons for Corporate America*. Durham, NC: Carolina Academic Press, 2015.

For a startup company, too, there is an opportunity cost for self-financing. Its calculation is more complex since, as a new company, it has not yet established a long-term debt interest rate and thus one cannot use the “bond-risk-plus- premium” approach of the equation above to estimate the cost of capital. Instead, one looks at a “benchmark” use for these funds, which would be to invest them in a project of comparable riskiness to the prospect at hand. This is done through the “capital asset pricing model” (CAPM) approach, in which the estimated cost of capital is estimated as⁹:

$$r_a = r_f + \beta_a (r_m - r_f)$$

- r_a = Estimated cost of capital;
- r_f = Risk free rate of interest;
- β_a = “Beta”: the volatility of the specific industry vs. the volatility of the stock market as a whole;
- r_m = Expected rate of return for a similar firm.

The CAPM approach has three basic steps. First, one estimates the risk free rate (r_f) on an investment with “zero risk”. Typically used is the rate of US Government Bonds. The 12-month US Treasury Bond rate average since 2000 has been about 2.75%.¹⁰ Second, one determines the expected rate of return for similar firms (r_m). For startups,

the comparison would be with “small cap” stocks, i.e. of moderately-sized firms. Since the 1980s, the average yearly return for small cap firm has been 13.8%.¹¹ The last step is to estimate the company’s riskiness, as expressed in its “beta” (β_a). Beta is an important element in many analyses of stocks and can be calculated from the stock market price fluctuations of a stock in comparison with overall market fluctuations. When one does not know a firm’s specific price volatility because the company’s stock is not traded in a stock exchange and has no reported prices, one can estimate it by using average betas of similar firms in similar industries. For example, the average beta for the “Internet Sector”,¹² based on 180 firms, is 1.11.

Self-financing has an impact on content and innovation. On the one hand, creators and entrepreneurs, since their personal money is on the line, may actually take less risk than a corporate manager whose owners are diffuse and distant, especially when it comes to large projects that could wipe them out financially. But this is usually more than offset by the impact of independence, and the prospects of an upside financial and reputational gain. With self-financing, the owner is in control. Content produced and distributed may reflect the owner’s own opinions and aesthetics. In technology, owners can take greater risks in backing projects in which only they have faith. This encourages greater innovation.

6.2.1 Case Discussion

Internal Funding

Time Warner Media could use retained earnings as a funding source for TWIT. What will be the cost and the availability? Though there are no interest payments associated with using retained earnings, there is still the opportunity cost of the money.

As shown, for established firms the opportunity cost of capital is given by¹³:

Cost of Retained Earnings =
Firm’s Long Term Bond Yield +
Risk Premium

We will see in later sections that the interest rate on the company’s long-term debt is 6.9%. The risk premiums for media firms run in the 2–5% range,¹⁴ and, since Time Warner is well-established with a good credit rating, its risk premium would be at the lower end of the

9 Investopedia. “CFA Level 1 – Cost of Retained Earnings.” *Investopedia*. 2012. Last accessed May 16, 2017. ► <http://www.investopedia.com/exam-guide/cfa-level-1/corporate-finance/cost-of-retained-earnings.asp>

10 Mortgage-X. “Mortgage (ARM) Indexes.” 2012. Last accessed July 18, 2012. ► http://mortgage-x.com/general/arm_index_average.asp

11 AXA. “Good Things May Come In Small Packages: Small-Cap Stocks.” 2013. Last accessed May 16, 2017. ► <http://www.axa-equitable.com/investments/small-cap-stocks.html>

12 Damodaran, Aswath. “Betas by Sector.” New York University Stern School of Business. January 2012. Last accessed July 18, 2012. ► http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/Betas.html

13 Brigham, Eugene F., Dilip K. Shome, and Steve R. Vinson. “The Risk Premium Approach to Measuring a Utility’s Cost of Equity.” *Financial Management* 14, no. 1 (Spring 1985): 33–45.

14 Investopedia. “CFA Level 1 – Cost of Retained Earnings.” *Investopedia*. 2012. Last accessed May 16, 2017. ► <http://www.investopedia.com/exam-guide/cfa-level-1/corporate-finance/cost-of-retained-earnings.asp>

6.3 · Debt Financing

range. The cost of retained earnings can thus be estimated as $6.9\% + 2\% = 8.9\%$. Expressed in terms of the average US prime rate of the preceding five years (5.45%), it would be 3.45% above that rate.

SNIT

Each of the three founders of SNIT has a total of \$11 million of his

own money and loans from friends and family to invest. The CAPM equation estimates the cost of SNIT's internal funding:

$$r_a = r_f + \beta_a (r_m - r_f).$$

- The risk free rate $r_f = 2.75\%$.
- The return for Internet firms has been $r_m = 13.8$, and their beta has been $\beta_a = 1.11$.

Thus SNIT's estimated cost of capital is:

$$r_a = 2.75 + 1.11(13.8 - 2.75) = 15.02$$

Expressed in terms of the average US prime rate, this would be 5.45% (the average prime rate over five years) plus 9.57%.

6.3 Debt Financing

6.3.1 Pros and Cons of Debt

Other than internal funding, debt is usually the cheapest form of financing. Debt is typically money borrowed from an outside source such as a bank or other type of lender, with the promise to return the principal (the original amount borrowed) and, in addition, pay an agreed level of interest, either regularly or at the end.

There are several advantages to debt. It is:

- Quicker to create than equity.
- Does not change the existing ownership structure.
- Allows for interest payments to be deducted from taxes.
- Keeps the upside potential of the project with shareholders.

But there are disadvantages to debt.

- Loans must be repaid in a timely manner and can lead to the bankruptcy of even a good project if it is caught in a cash flow squeeze.
- The borrowers may have personal liability with their assets.
- Assets pledged as collateral may be lost.
- There is a hidden cost to debt as it makes the company more risky for investments.

A bank will scrutinize a company's business plan, management, financial reports and the other financial backers, and will set conditions on how the company must operate. These "debt covenants"

give lending institutions control and prevent borrowers from increasing riskiness.

6.3.2 The Hierarchy of Debt

Debt comes in many forms, with some more secure than others. A "hierarchy of debt" ranks it from the most secure to least secure. In the event of bankruptcy, the most secure debt is paid first and the least secure debt last, which often means never.

Most mid-sized firms have arranged for a bank debt "Line of Credit" (LOC) or "Letter of Credit", or "Credit Security." An LOC is an agreement in which the lender gives the borrower access to a certain level of funds. This is on condition that the borrower's condition has not suffered material adverse change, or that the borrower has violated a covenant in the contract. In a way, it is like an overdraft privilege for personal checking accounts with a ceiling.

The second most common form of bank financing for small and mid-sized companies is senior term debt. These loans are made against fixed assets that are fairly liquid, such as real property, plant and equipment (e.g. cable TV financing). A "senior" lender ranks ahead of some other creditors in the event of liquidation, and can seek repayment from the forced sale of the secured assets. Such loans will usually not be provided for a new venture.

"Subordinated" or non-collateralized debt ranks below senior debt in repayment when there is a bankruptcy. It can be secured by a second lien on company assets (like a second mortgage on a house), or be unsecured.

6.3.3 Case Discussion

Line of Credit

TWIT

Viable loan programs available to TWIT include a commercial bank loan (term loan) and a revolving line of credit (LOC) secured by the full faith and credit of its parent company. Such borrowings are charged an interest rate that is determined on the basis of Time Warner's senior debt rating (BBB+ at the time).

SNIT

In contrast, startup company SNIT has no, or only limited, access to bank loans or credit lines due to its small size, lack of assets and lack of a historical track record. What interest rate would conceivably compensate a bank for the risk? Assume that the founders themselves have found limited sources for a loan.¹⁵ The loan amounts and the interest charged are based on the credit scores of the founders, their income streams,

and the personal assets that can be pledged as collateral.

Assume that SNIT's five founders have found a lender willing to issue them an LOC in an amount equal to 20% of their net worth. Each of the founders has an impeccable credit score, a private home, an ongoing relationship with the lending bank and an average net worth of \$1 million. The cumulative line of credit amount would therefore be \$1 million. The rate of interest on the LOC would be 15%.¹⁶

6.3.4 Short-Term Debt

6.3.4.1 Commercial Paper

A major way for established companies to raise money for short periods is "commercial paper" (CP). CP is an unsecured loan taken by a company with a repayment period ("maturity") of up to 270 days, but with an average of about 30 days. CP interest is paid at the maturity date. The companies borrow money from financial institutions and issue CPs as promises to repay. These promises, in turn, are resold by the lenders to other investors at a discount.

CP is bought by banks, insurance companies, the money market and pension funds, and other institutional investors. It is typically "issued" (i.e. money is being borrowed) by companies with good financial standing, because they are unsecured by assets and thus stand on the reputation of the borrowing company. It is often said they are the kind of loans made to companies that do not really need them, except for the purpose of smoothing their income. CP buyers (the lenders), in turn, do not need to do much in the way of "due diligence" to investigate the borrower because those firms are low-risk.

6.3.4.2 Case Discussion

Commercial Paper Debt

TWIT

One major debt option for TWIT is unsecured CP backed by its well-established parent company. Generally speaking, a long-term project such as TWIT should be financed through long-term means, rather than using a short-term approach.¹⁷ But the CP could be used as a temporary financing vehicle.

SNIT

SNIT, as a newcomer, would not be able to issue CPs. To enter the CP market, it would require sponsorship from a commercial bank or third party to guarantee payment. But, in SNIT's circumstances, this would be unlikely.

6.3.5 Long-Term Debt

6.3.5.1 Corporate Bonds

Once a firm is well-established its next stage of financing is to access long-term corporate debt. The typical form of such debt is bonds. When such debt is traded in open financial markets it

15 Credit Guru Inc. "Setting Credit Limits." 2012. Last accessed May 17, 2017. <http://www.creditguru.com/CreditLimits.htm>.

16 Marlon, Sharon. "Unsecured Personal Loans on the Increase." *MarketProSecure*. March 14, 2011. Last accessed July 18, 2012. <http://www.marketprosecure.com/personal-finance-news/unsecured-personal-loans-on-the-increase-198.html>.

17 The ceiling on Tier 2 issues is usually around \$6–8 billion. Example: The Walt Disney Company had a substantial \$4.5 billion in outstanding Tier 2 CP debt in 2004. By 2010, this had declined to \$794 million. Tier 3 CP debt is usually rated in the mid-BBB level. It has an interest rate well above LIBOR and smaller issues of \$200–300 million. See also Kacperczyk, Marcin, and Philipp Schnabl. "When Safe Proved Risky: Commercial Paper During The Financial Crisis of 2007–2009." *Journal of Economic Perspectives* 24, no. 1 (Winter 2010): 29–50.

6.4 · Other Types of Debt

is known as “public” debt, which should not be confused with governmental debt. The standard length to maturity of a corporate long-term bond is 3–30 years. However, some bonds have a 100-year maturity date, or even go on forever.

Long-term debt is most appropriate for companies with steady cash flows or strong growth prospects. Examples are companies in cable TV, direct broadcast satellite (DBS), wireless and telecom. Companies issuing bonds are evaluated by rating agencies in terms of their credit level based on business and financial analysis. Three firms lead the credit rating market in the USA: Moody’s, Standard & Poor’s and Fitch. Rating agencies look at both quantitative and qualitative

factors when analyzing bond issuers. Bonds with an acceptably low risk of default are rated BBB and higher. These bonds are considered “investment grade.” Bonds with a rating of BB or lower have a higher risk of default and are considered speculative grade, “high yield” or, colloquially, “junk bonds.” Junk bonds are issued by “rising stars” (new companies). In other cases, it may be a solid company that borrows heavily to finance an acquisition. In still other cases, the company borrows to pay for its own acquisition by others (“leveraged buyout”). The default rates of junk bonds are, on average, approximately 3–4% of all issues, but much higher during downturns in the economy.

6.3.5.2 Case Discussion

Long-Term Debt—Corporate Bonds

TWIT

Corporate bonds require steady cash flows and a strong proven performance. Time Warner had these characteristics. It could issue corporate debt through a process called “underwriting,” with one or more securities firms or banks forming a syndicate and buying the entire issuance of bonds (i.e. they lend the company the money). The banking syndicate would then re-sell much of that debt to investors at a higher price and, hence, at a lower yield. Based on the company’s corporate credit rating of BBB, it would have to pay an annual interest rate of about 6.9%¹⁸ on ten-year corporate bonds. It could finance TWIT’s entire \$1 billion budget through corporate bonds, but there are other

variables that effect its funding decisions, so it may limit the use of corporate long-term debt. In 2010, Time Warner’s debt-to-capital ratio was 33.3%.¹⁹ The company made major efforts to lower its debt in an effort to boost its stock price and lower the cost of borrowing. It does not want to overload again with debt but, rather, to apply its debt financing ratio ceiling of 33.3% to the \$1 billion needed to fund TWIT. This would put a ceiling on its new borrowing.

SNIT

In order for SNIT to issue corporate bonds to the public bond market, it needs to be rated by the major rating agencies to satisfy investors. SNIT, as a startup, would not attain

a decent rating, if any at all. A SNIT borrowing would be considered a high-risk “non-investment grade” bond. It would receive a rating as a corporate “junk bond” rating of CCC, CC, or C.²⁰ It would probably hold a CC rating (“obligations which are highly speculative or which have a high risk of default”). This rating is associated with a steep cost of 30% interest before tax. We assume, hypothetically, that SNIT could find private investors who are willing to buy these highly speculative bonds directly through a private placement offering. This translates to the five-year average prime rate of 5.45% plus 24.55%. Even after tax deductibility, the cost would be at 21%, and hence not desirable for SNIT.

6.4 Other Types of Debt

6.4.1 Vendor and Buyer Financing

Quite frequently, one of the partners in a transaction grants credit to the other in order to conclude a deal. It is usually the seller who extends such

financing to the buyers. For example, a computer manufacturer may entice an animation production company to select its computers for its render farm. In other cases, it is the buyer who lends money to the producer, such as when a film studio or a TV network provides financing for a film which they will later distribute.

18 Besley, Scott, and Eugen F. Brigham. *Principles of Finance*. Independence, KY: Cengage Learning, 2009.

19 Martin, Laura, and Dan Medina. *Time Warner Inc. (TWX): An Investment Analysis*. New York: Needham & Company, LLC, 2010.

20 Fitch IBCA. “Credit Ratings.” June–November 2006. Last accessed July 19, 2012. ► http://www.tgbr.com/tgbr/cont/Credit_Ratings.pdf.

Often, vendor credit is used as a sales tool and can then be cheap, with sellers extending long-term credit or other favorable terms to clinch a sale. They often have advantages over financial institutions in extending such credit, as they have better private information about the business and the buyer. They may also be able to use leverage in terms of withholding future supplies, and they may be better positioned to repossess or resell collateral.²¹

Vendor financing (or its sibling, buyer financing) has existed for film and theater for a long time under various names. In film production, vendor/buyer financing includes funding (or loan guarantees) from studio distributors, theatrical distributors and others. The quid pro quo of a pre-sale financing deal is usually the licensing of the film's rights to a media distributor within a specific territory, or technical platform, or both. Photo laboratories, too, used to provide credit in order to enable the production of a film that would generate a large print order later.

The classic film financing deal is a studio production-finance-distribution (PFD) deal. The distributor (the studio), as the buyer, agrees to lend to the producer part of the cost of production, i.e. to finance it. Producers will often use the studio's facilities, for which the production budget will be charged; this will be repaid when box office revenues start rolling in. Here, the studio is the "seller" of production services. The studio also manages the distribution to exhibition channels. These expenses are charged to and paid for by the film's budget, with interest for the loan.²²

One alternative to such vendor (distributor) financing is a straight purchase contract. This is known in the film business as a "negative pickup deal" in which the distributor pays for a completed film, rather than by funding the production process itself. ("Negative" refers

to the photographic negative, not to a quality assessment). A "negative pickup" letter is a commitment to purchase or license film distribution rights post-production. The independent producer/borrower uses the pickup commitment letter by the distributor studio as collateral in order to borrow production funds from a bank. The producer gets more independence in creating the film, without having to worry about distribution while making the movie. The studio distributor, on their part, has no financial exposure if the producer fails to finish the film, or if it runs over budget.

6.4.1.1 The Impact of Vendor Financing on Content

Arranging advance financing favors established producers with experience, contracts and a proven track record. The selective availability of financing by distributors give these distributors significant influence over content, with the advantage going to established projects over truly independent producers. Distributors generally retain "final cut" rights—i.e. control over editing—for most of the films they finance. This allows them an opportunity for drastic changes to a film in order to make the film more commercially successful, which typically means happy endings, less ambiguity and less controversy. Studio financing can also come with strict procedures. Sometimes, studios demand cast approvals, script change approvals and daily screenings. With studio financing, the studio usually owns the negative and can exploit the film's future in new media. With independently financed films, filmmakers tend to retain ownership.

Vendor financing of media and digital activities is most developed in the film sector, perhaps because its funding requirements are the largest among content media. It is also used, to some extent, for video games, music and book publishing (when printing companies extend credit to small publishers). In the tech sector it is used for hardware. A computer firm, for example, can finance the developer of an advanced semiconductor chip in return for an early delivery of this technology.

21 Berger, Allen N., and Gregory F. Udell. "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle." *Journal of Banking and Finance* 22, nos. 6–8 (1998): 613–673.

22 Caves, Richard E. *Creative Industries: Contracts between Art and Commerce*. Cambridge: Harvard University Press, 2000.

6.4.1.2 Case Discussion

Vendor Financing

TWIT

For TWIT's tech hardware, vendors could contribute financing in order to boost sales for their firms. An established company could expect vendor financing at an interest rate of about 7.0%.²³ But TWIT's vendor financing would be limited for hardware upgrades to its network infrastructure. It will be hard to pre-sell TWIT's interactive video content because the product is new and unproven for buyers.

SNIT

SNIT would have some access to vendor financing for its hardware purchases. Beyond the 30-day vendor credit, vendors would typically charge startups such as SNIT 10–15% interest. SNIT's initial hardware acquisitions are estimated to be \$30 million. Hardware vendors may finance half of this amount (\$15 million).

6.4.2 Lease Finance

Using leaseback arrangements as a source of financing has become a popular vehicle. It is typically done when, instead of purchasing an asset, a company enters into a long-term lease with the seller. Such leasing frees cash for other purposes. It reduces the debt on a company's balance sheet and enables the firm to take on debt for other purposes. On the consumer level, such a leasing arrangement is popular for automobiles. And, of course, anyone who rents an apartment, rather than buys it, is involved in a lease transaction. In the United States, "equipment under lease" accounts for nearly one-third of the annual overall new equipment investment.²⁴

For the seller, leases can be used as a tool to improve sales. They can also serve as an arbitrage of the credit risk. A seller may have a better credit

standing than the potential buyer/ lessee and thus pay a lower interest rate.

Participants can transfer risk to the corporations that can not only better handle that risk, but also handle it inexpensively. These deals can also transfer tax benefits among companies, from the highly tax-burdened to the lightly taxed.

6.4.3 Government Financing

Governments around the world are important sources for the financing of media and information technology. This help is typically extended through direct grants, tax benefits and loan guarantees. Indirect financing support can be given through protectionism and favorable regulatory policy that make a project more profitable by enabling a company to charge higher prices.

Film is particularly favored as a recipient of cultural subsidies. (This has been discussed in ► Chap. 3 Production Management in Media and Information). The European Union's Commission supports films to the tune of €1.6 billion per year. In France, the Centre Nationale de la Cinematographie (CNC) spends over \$100 million per year financing films. France also offers tax incentives for the film industry and its investors.²⁵

In the United States, too, there is a well-established system of government finance of media and high tech. On the federal level, this is done through a variety of agencies and programs, such as those of the Small Business Administration, the National Telecommunications & Information Administration (NTIA), the National Endowment for the Arts, the Corporation for Public Broadcasting (CPB) and others. Tax benefits are frequently offered by state and

23 Nevitt, Peter K., and Frank J. Fabozzi. *Equipment Leasing*, 4th ed. New Hope, PA: Frank J. Fabozzi Associates, 2000; Mitcham Industries, Inc., Form 10-K, April 6, 2011. Last accessed May 17, 2017. ► http://www.faq.s.org/sec-filings/110406/MITCHAM-INDUSTRIES-INC_10-K/.

24 Sharpe, Steven A., and Hien H. Nguyen. "Capital Market Imperfections and the Incentive to Lease." *Journal of Financial Economics* 39, nos. 2–3 (1995): 271–294.

25 These tax shelters allow investors to write off 40% or more of their investments against their taxes, subject to the upper limit of 25% of taxable income and subsequently capped at €18,000. If such an entity, known as a SOFICA, uses 10% of its investment capital to acquire shares of production companies, then this deduction increases to 43%. Production companies may immediately write off 50% of the amount invested. Another major support mechanism is the quasi-monopoly status of the pay-TV provider Canal+, whose high consumer prices generate revenues that must be partly used for domestic film support.

local governments. Louisiana gives 15% in state tax credits that are transferable (i.e. can be sold to third parties), plus a 20% tax credit on wages paid to Louisiana residents. By 2005, the amount spent on production in Louisiana had risen to \$425 million, with the state providing \$65 million in tax credits.

Film is not the only industry favored in this way. Generally, entrepreneurial high tech is desirable as a clean and knowledge-intensive sector with a high multiplier. Many states and countries have support programs.

6

6.4.3.1 Impact of Government Financing on Media and Tech Firms

The aim of governmental support programs is partly economic, partly cultural. Where the private sector funding for media content underserves significant groups or tastes, the public sector may generate additional money to create such content.

Where financing comes from governmental organizations, it will often come with strings attached. A film financed in Portugal may require scenes in that country, which could be a clumsy fit. In other cases, a country's heritage must be treated with respect. For assisting the film *Ghandi*, the Indian government mandated script changes and other modifications.²⁶

When it comes to tax advantages, given the various approvals and greenlights from agencies across multiple countries that need to be assembled, it would be difficult for a small artsy film to create complex funding packages. A German investor tax shelter consortium, for example, would probably not be interested in a low-budget film. The high transaction and legal costs of such a highly involved deal would consume the profits and tax advantages from a leaseback agreement.²⁷

6.4.3.2 Case Discussion

Government Financing

TWIT

Government funding is an option even for a large company. Time Warner Media could receive state and local support in the form of subsidies for loans with an interest cost of around 2% below the prime rate for equipment and in-state software development. There will also often be tax credits against its state and local taxes. The government programs typically have a ceiling, often \$10 million, and a subsidized interest rate of 2% below market rate. The funding often comes with locational requirements, which may raise some of TWIT's operational costs.

SNIT

SNIT, too, could secure state and local grant subsidies of about 10% of the costs for tech equipment and infrastructure costs, in the form of low-interest loans.

Another alternative is for SNIT to apply for a Small Business Administration loan guarantee. But, for a startup with an unproven track record, such a guarantee will be difficult to secure.

6.4.4 Private Grant Financing

In some countries, in particular in the USA, direct government spending on cultural activities has been relatively low but tax laws provide incentives for private grants and contributions. In the USA, 57% of the income of public broadcasting comes from private sources including as foundations and donations. Corporate and individual funding to the arts exceed US federal funding considerably, and about 40% of private individual giving is paid for indirectly by the tax savings, i.e. is a "tax expenditure."²⁸

However, corporate and private donations are not a stable source of financing, since they decline in a business downturn. Also, corporations tend to use their funding as a way to enhance their national and local image and visibility, and as a way to network more effectively with high-level personalities. These underlying objectives make the contributions less likely to be a force for major

26 Grenier, Richard. *The Gandhi Nobody Knows*. Nashville: Thomas Nelson Publishers, 1983.

27 Epstein, Edward Jay. "How to Finance a Hollywood Blockbuster" *Slate*. April 25, 2005. ► http://www.slate.com/articles/arts/the_hollywood_economist/2005/04/how_to_finance_a_hollywood_blockbuster.html.

28 Americans for the Arts. "Average Source of Revenue for Nonprofit Arts Organizations (Estimated)." Last accessed July 20, 2012. ► http://artsusa.org/pdf/get_involved/advocacy/research/2008/revsources08.pdf.

cultural innovation.²⁹ Other factors that affect corporate giving are a company's relationship to the community, the culture of philanthropy prevailing in an entire industry and the benefits to employee loyalty by matching their contributions to their favored causes.

6.4.5 The Impact of Debt Financing on Content

In conclusion, debt financing reduces the risk-taking and innovation by companies relative to those prevailing with financing by equity. Lenders do not usually require profit maximization, only financial soundness—a high upside is not expected as long as the downside is low.

There is also an impact of short-term vs. long-term debt. A company that must seek frequent re-financing is under greater performance pressure to do well in the short term. Such companies need to be non-risky as well as non-controversial in their content, technology and labor relations. In contrast, long-term debt allows for a longer time horizon to enable managers to create and innovate.

The public good characteristics of media, networks and technology generate a major funding involvement by government in the finance of these activities. Such financing, too, tends to be supportive of non-controversial, relatively low-risk projects.

6.5 Risk Reduction Strategies

To gain access to funding, or to lower its cost, one of the most important tasks for media and tech firms is to reduce the risk involved in their projects. There are several approaches.

6.5.1 Risk Reduction Strategy: Diversification

Companies may internally pool multiple risky projects, making their aggregate cash flow safer.

Similarly, a venture capital fund will bundle numerous projects for investment, and thereby reduce the overall risk through diversification.³⁰ For media firms, being active in a variety of films, music recordings, book titles, games, software programs, TV shows and content genres, and at a variety of budget levels, attracts a wide range of audiences and reduces a media firm's vulnerability to a flop in any one of them. Firms will thus spread their risk by operating in different media projects and industries.³¹ Product diversity also generates information on developing market trends, giving the company a better chance of hitting a moving target.

A second factor for portfolios goes beyond the averaging of risk. It is the assembly of a portfolio of assets whose performances are not merely independent of each other, but are negatively correlated. This was discussed in ► Chap. 3 Production Management in Media and Information. The goal of diversification, then, is to reduce the risk of the portfolio as a whole, for a given return. Risk is defined as the statistical "variance": a measure of the dispersion of the observations from the average (i.e., expected) value. The higher that dispersion, the greater the probability of ending up either way above or way below the average, i.e. the greater the volatility of outcomes and, therefore, the greater the risk. (A similar measure for risk is the "standard deviation," which is just the square root of the variance. It is commonly depicted by the symbol σ .) Now, suppose that if Event 1 happens, Project A goes down but Project B goes up. But if Event 2 happens, it is the reverse. Both of the projects, seen individually, are risky. But, taken together, their joint portfolio has a very low riskiness. Whatever happens out there, one of the assets will counterbalance the other's downturn.³² The measure of how much two variables move together and counter to each other is their

29 LeClair, Mark S., and Kelly Gordon. "Corporate Support for Artistic and Cultural Activities: What Determines the Distribution of Corporate Giving?" *Journal of Cultural Economics* 24, no. 3 (August 2000): 225–241.

30 Caves, Richard E. *Creative Industries: Contracts between Art and Commerce*. Cambridge, MA: Harvard University Press, 2000.

31 Picard, Robert. *The Economics and Financing of Media Companies*. New York: Fordham University Press, 2002.

32 Chan-Olmsted, Sylvia M. "Diversification Strategy of Global Media Conglomerates: Examining Its Patterns and Determinants." *Journal of Media Economics* 16, no. 4 (2003): 227.

“covariance.”³³ Its values range between 1 and -1 . Values of -1 indicate perfect negative correlation. A value of 0 means that the returns on the two assets vary independently, and a value of $+1$ indicates a perfect positive correlation, which would make for a poor portfolio match. A strong positive correlation means that when one investment goes down, the other investment declines, too. To diversify, an investor does not want this; for risk reduction, it is preferable to have a negative correlation.

Thus, a product with a substantial risk may still be feasible if it moves in an apparent direction than other films in the same slate of production. The popular mood two years from now is uncertain. For example, a pacifist movie could be economically risky if a major terrorist activity occurs at the time of release. But, if paired with a war movie, the two films together will be less risky: one of them will probably catch the spirit of the time when released.

6.5.2 Risk Reduction Strategy: Hedging

One major way to reduce risk is to hedge it by “selling” it to another person who is willing to buy the risk, in the same way that people buy insurance. This is also discussed in ► Chap. 11 Pricing of Media and Information. There are several such instruments to reshape the risk profile, either increasing or decreasing exposure: commodity futures, forward contracts, options, swaps and so on. Collectively, these instruments are part of what has come to be called “derivatives.” The

33 In order to estimate the rate at which two assets co-vary, one multiplies the deviation in performance of asset A by the deviation of asset B in each of the N scenarios and then average the products. If A and B are two projects with returns r and probabilities p , then the covariance between the return on A and the return on B is as follows:

$$\text{cov}(r_A, r_B) = \sum_{i=1}^n p_i [r_{iA} - E(r_A)][r_{iB} - E(r_B)]$$

The concept of relatedness that the co-variance expresses can also be stated as the correlation. The statistical correlation between two variables is the co-variance, “normalized” to lie between $+1$ and -1 . Such normalization is done by dividing the co-variance by the product of the variances of the two variables. For the two projects A and B , the correlation between the return on A and the return on B is as follows:

$$\rho(r_A, r_B) = \frac{\text{cov}(r_A, r_B)}{\sigma(r_A, r_B)}$$

term has acquired negative public connotations but the concept is solidly positive (when applied in a transparent fashion). Derivatives transfer risk from people who do not want to bear it to others who are willing to accept it. For example, currency derivatives are attractive to a firm affected by foreign exchange fluctuation because they provide shelter from the worst of swings in the values of the euro, dollar, ruble and so on. Such derivatives can be a contractual arrangement between two parties, or they can be traded at an exchange.

As mentioned, option arrangements are quite frequent in the media and technology field. A film option is a contractual agreement between a production company on the one hand, and a writer on the other hand, in which the producer pays for the right to buy the rights to a screenplay or story from the writer before a certain date, and at a certain price.

6.6 Equity Financing

6.6.1 Types of Equity Arrangements

After self-financing³⁴ and debt, the third major form of financing is through *equity* financing. By this, we mean funding that includes an element of ownership. Equity financing arrangements include:

- Partnerships and limited partnerships,
- Venture and angel financing,
- Private and public equity.

For an order of magnitude, small businesses in the USA receive about 50% of their financing from equity (including self-financing) and the other half from debt.³⁵

Equity financing tends to be an expensive form of financing for a company due to investors taking on more risk with equity investments than they do with debt investments. In the case of bankruptcy, equity investors are usually wiped out but debt holders are paid off, at least partly, especially if they hold collateral. Debt is higher on

34 Self-financing is actually, depending on its structure, part equity, part debt.

35 Berger, Allen N., and Gregory F. Udell. “The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle.” *Journal of Banking and Finance* 22, nos. 6–8 (1998): 613–673.

6.6 · Equity Financing

the pecking order than equity in the case of liquidation and reorganization. Equity may be more risky, but it also offers a great upside—a share in the profits and a gain from an appreciation of the stock. Shareholders also have voting rights and thus affect the control of the firm.

“Preferred stocks” are a hybrid in terms of risk, since dividends must be paid before dividends are paid to common stockholders.

A major reason for a firm’s use of equity financing is that debt may simply not be available. Startups and Internet firms, for example, are mostly financed by equity because few banks will provide loans for such high-risk endeavors without a track record or stable cash flows, and with few assets that could be used as collateral. Another advantage of equity is that there is no obligation to pay interest. A firm may have a bright tomorrow but, when current debt falls due and cannot be paid, the firm becomes insolvent. Other reasons to sell equity include the need of existing owners to increase the liquidity of the company or of themselves, to pay off existing debt, to create funds for new acquisitions, or to facilitate estate planning.

And what are the disadvantages? There is the high cost of return that an equity investor would expect. There are also high transaction costs (underwriting fees) and a dilution of control of the existing owners.³⁶ To counter such dilution of control, the existing owners at times create a system where there are several classes of stock, each with different voting rights. Class A stock may be held by the entrepreneur, management, or the controlling family. It usually offers additional voting rights over other shares. Class B shares offer fewer voting rights but may offer higher dividend entitlements, or a lower acquisition price. It is usually referred to as “common stock.” Class A stock tends to be in control even while being in the minority in terms of investment or overall shares, which is mostly the reason for the arrangement. This may be rationalized as aiming to insulate corporate management from the swings in the stock price and to focus on long-term goals. The preferred class A stock is not available to the public and is usually not traded in the same way as common stock. Examples for minority owners holding full control are the following:

- The Murdoch family held 39% of voting shares in the global media firms News Corp and 21st Century Fox, but only about 16% of equity.
- The Roberts family has only 1–2% of outstanding stock of Comcast, the world’s largest cable TV operator and owner of NBC Universal, but holds 33% of voting shares.
- The Sulzberger family controls The New York Times Company through its 88% of class B shares, but holds only 19% of the total equity outstanding.³⁷
- The Washington Post Co. used to be 75% controlled by the Graham family through 40% of the outstanding stock.³⁸
- Cablevision was controlled by the Dolan family, which owned 20% of equity but 74% of the voting rights.
- In Germany, the Mohn family controls Bertelsmann through its domination of the Bertelsmann Foundation, which holds all of the company’s stock.

6.6.1.1 Partnerships

Equity investments come in many forms. By far the most prevalent in sheer numbers is the individual proprietorship. Usually, its owner also runs the business, assisted by employees. This form of organization is used most often for small businesses. In the media world, a producer may run a project in that fashion. Individual proprietorships could take the legal form of a small corporation, where the stock is not traded but, rather, is held by the sole owner. This provides a limited liability and thus protects the personal assets of the owner from creditors in the event that the business fails.

When a business based on a single proprietorship expands, there is usually a need for outside participation. The most basic form of participation, especially for small firms, is a partnership with others as co-owners and, possibly,

37 The New York Times Company. Notice of 2010 Annual Meeting and Proxy Statement. March 12, 2010. Last accessed May 19, 2017. ► http://s1.q4cdn.com/156149269/files/doc_financials/proxy/2010_Proxy_Statement.pdf.

38 Fox, Justin. “Murdoch vs. Family-Owned Newspapers.” *Time*. May 10, 2007. Last accessed May 19, 2017. ► <http://www.time.com/time/magazine/article/0,9171,1619562,00.html>. The Washington Post Co. was subsequently bought by Jeff Bezos, founder of Amazon.com. Bezos owns “Nash Holdings LLC,” a holding company created for the Washington Post deal. Nash Holdings owns 100% of The Washington Post, which was purchased for \$250 million.

co-managers. Partnerships are formed to pool the skills, resources and information of several individuals or companies. One major advantage of partnerships, in contrast to incorporated firms, is that in many countries there is no income tax on the profits of that partnership because, legally, it is not treated as a separate entity from its owners but merely a “pass-through entity” to each of the partners, who report their share of profits or losses as personal income. Therefore, taxes on partnership income must be paid only once by a partner,³⁹ in contrast to a corporation, which must pay its own corporate income taxes, and then the shareholders must pay income tax again on the distributed profit of the company, i.e. the dividend.⁴⁰

A simple partnership is easy to set up. The law provides a basic structure that defines respective rights (voting, profit participation and so on) and respective obligations (liability questions, loss participation and the like). In the USA, partnerships are governed by state law, except for federal taxes and other nationwide regulations, unless the partners specifically agree to different rules in their partnership agreement. There are two types of partnerships: general and limited partnerships. In a general partnership, all partners have a say in the day-to-day management of the firm and each partner is personally liable for the entirety of any business-related obligation. In other words, if in a film production company Partner A decides to buy the movie rights to a bestselling book, his Partner B must fulfill the payment obligation on behalf of the firm, even if he disagrees with the decision of Partner A and has never approved it. It is therefore prudent to select one’s partners carefully, since one is financially and legally stuck with responsibility for their actions. This risk exposure is reduced in a limited partnership. Here, at least one general partner is responsible for the day-to-day management of the company and is personally liable for business obligations. Limited partners, on the other hand, contribute capital but have minimal control over business operations. In return, their personal liability is capped at the amount of the initial investment. Limited

partnerships are often used in private equity and in hedge funds. The logic behind this division of liability is that it enables the limited partners to invest without having to worry about every move of the general partner that could trigger a potentially huge liability.⁴¹

An example for the fear of liability in a full partnership is Apple Computers. In 1976, Steve Jobs, Steve Wozniak and Ronald Wayne formed Apple Computers as a real partnership, with 45%, 45% and 10% ownership shares, respectively.⁴² But Wayne worried about the possibility of holding the bag in the event of a bankruptcy, given that Jobs and Wozniak had no personal assets, and he formally withdrew from the partnership just a few days later by filing a notarized statement to that effect. He sold back his 10% ownership stake to his two co-partners for \$2300. That stake would have been worth about \$94 billion in 2018.

It is more difficult to create and run a limited partnership than a full one without professional help, since there are requirements in terms of registration, the legal contracts between the partners, tax filings, and compliance with various regulators.

Although there are exceptions, limited partnerships tend to be used more in the early stages of a company or venture rather than in its mature stages, where corporate forms predominate. For investment funds, the limited partnership arrangement is prevalent, in part due to its tax treatment.

Film Partnerships

Partnerships were frequent in film financing. Before the 1976 and 1986 tax reforms in the USA, limited film partnerships were among the most effective tax shelters there. Subsequently, “passive losses” from tax shelters could no longer be used to offset income from wages, salaries, interest and dividends. Absent the tax angle, few movie partnerships have historically returned better than 10–15% annually and many have, in fact, lost money to limited investors. Occasionally, they generate high profits to investors, of course. Yet, from a purely economic standpoint, it is usually better to invest directly in the common stocks

39 On the other hand, India taxes partnerships twice, once with a flat rate of 30% of total income minus a deduction of interests and remuneration to the partners, and then the partners are also taxed.

40 The double taxation of corporate profits and dividends is one of the arguments made for setting corporate income taxes at a lower rate than individual income tax rates.

41 Bankman, Joseph. “The Structure of Silicon Valley Start-ups.” *UCLA Law Review* 41, no. 7 (September 1994): 1737–1768.

42 Isaacson, Walter. *Steve Jobs*. New York: Simon & Schuster, 2011.

of the production or distribution companies, especially considering the advantage of greater liquidity (ability to sell quickly.) But film investments have always been driven by considerations beyond those of pure economic rationale. Investing in film directly via partnerships is often seen as “glamorous,” which is a factor for many investors—whether they admit it or not. On top of that consideration limited partnerships in film are popular in many countries where tax shelters continue to exist to encourage investment in film production.

Some of these perfectly lawful tax loop holes existed by coincidence and were discovered and used by savvy financiers and lawyers until the respective government closed them down. But such tax shelters have often been deliberately designed to help rich and influential people lower their taxes while being justified as supporting the generally risky business of film, which in many countries is not profitable without some kind of governmental help.

A well-organized limited partnership seeking investors requires a prospectus that spells out all aspects of the deal and its downsides. It describes the general partners, other managers, the planned projects, the business plan, the tax angles and so on. The drafting of such a prospectus can cost hundreds of thousands of dollars when it covers a complex scenario. It spells out duties and obligations, which will affect lawsuits if the project is unsuccessful (or highly profitable) and conflicts arise. Creating the legal structure of a limited partnership, important as it is, is only an input toward the goal of finding investors. This will be discussed further later.

Technology Partnerships

In high tech ventures, early funds may also be provided by “angel” investors (the term is borrowed from theater financing), which typically are individuals (or sometimes a firm) specializing in high-risk, “early-stage” investments. Angels have a long business history. Some of the biggest companies (e.g. Ford, Amazon, or Apple) have had business angels in their startup phase.⁴³ By one count, in 2009, there were 260,000 such angels

in the USA, many of them actively sought out by entrepreneurs for investment. In 2008, in the midst of a major recession, over 55,000 ventures were funded with over \$20 billion from angels—an average investment of \$346,500 per deal.⁴⁴ In 2015, angels invested \$24.6 billion in 70,000 deals⁴⁵ for an average of \$351,000. In contrast, venture capitalists are far more selective, and often only after the angels had already invested their money earlier and taken greater risks. In 2015, venture capitalists invested \$59.7 billion in 4,497 deals, with an average deal size of \$13.3 million.⁴⁶

While venture capital funds mostly invest other people’s money, angels put their own personal funds at risk. The angel investors can also be advisors, mentors and facilitators. They are often successful businessmen and women with entrepreneurial experience and expertise in the chosen investment field, and attracted by the potential for getting into a promising technology venture early. For them, a non-financial reason to invest in a venture is active involvement. An angel should not be treated as a “moneybag” but as a business partner.⁴⁷

Angels prefer a low profile to limit the amount of unsolicited deals that may come their way. How, then, to find them? There are several possibilities, the best choice is to use one’s personal network—contacts from college, university, friends, family and so on.

Industry gatherings and forums are public and accessible—though often for a hefty fee—but often less productive. Law firms specializing in media and technology may have information, as may tax accountants. There are also online platforms, such as the Angel Capital Network (ACE-Net), or the website Active Capital.⁴⁸

43 Kelly, Peter. “Finance and Venture Capital Markets.” In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen, and Antti Ainamo. New York: Springer, 2003, 211–234.

44 Bowers, Brent. “In Pitching to Angel Investors, Preparation Tops Zeal.” *New York Times*. June 10, 2009. Last accessed May 19, 2017. ▶ <http://www.nytimes.com/2009/06/11/business/smallbusiness/11hunt.html>.

45 Angel Capital Association. “2017 Angel Capital Association Summit: Angel Investors Drive the Success of American Startups and Economic Growth” *PR Newswire*. April 12, 2017. ▶ <http://www.prnewswire.com/news-releases/2017-angel-capital-association-summit-angel-investors-drive-the-success-of-american-startups-and-economic-growth-300438845.html>.

46 PricewaterhouseCoopers. MoneyTree™ Report, Q1 2016. April 2016. Last accessed May 19, 2017. ▶ <https://www.pwc.com/us/en/technology/assets/national-moneytree-report-summary-q1-2016.pdf>.

47 Kelly, Peter. “Finance and Venture Capital Markets.” In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen, and Antti Ainamo. New York: Springer, 2003, 211–234.

48 In other countries, there are intermediaries such as the British Venture Capital Association (BVCA) ▶ <http://www.bvca.co.uk/home>, the Canadian organization of angel investors Mindfirst ▶ <http://mindfirst.com/>, and the European Trade Association for Business Angel Network (EBAN) ▶ <http://www.eban.org/>.

Pitch fests or business plan competitions from business schools, magazines or consulting firms are also a way not only to get practice, but also possibly leading to prize money and contact with potential angels. Industry trade magazines and webpages, and even the end credits of films, may show funds that have supported films in the past. But it is usually personal contacts that will provide leads and introductions. Trusted referrals are the best openers of doors.⁴⁹

The look-over must be in both directions. An entrepreneur should check out an investor carefully. Meetings with prospective investors must be well-prepared with a business plan and presentation. Investors look at people as much as at their business plan. They will check out the entrepreneur and team, and consider their experience, track record and reputation. Passion to the idea is important in a pitch, but a good business plan, credibility and realism carry more

weight.⁵⁰ A demonstration that the entrepreneurs themselves have invested in their venture is important.

Angels will also look for a profitable exit strategy, with specific potential merger partners or acquirers.

In general, the angel investor will expect a high rate of return, probably at least 30%. Most ventures fail, and those that make it must compensate for the losses of others. Usually, the angel investor will require a stake in the company whose value represents the expected return. Since normal valuation methods—such as discounted cash flows—do not work because they require figures on profits, revenues and expenses, one must rely on some implicit value of the company. This requires judgment as much as calculation. If the parties agree that the company's value is \$1 million, the investor, for a \$100,000 investment, should then expect a 10% stake in the company.

Case Discussion

Limited Partnerships

TWIT

Limited partners could, in concept, be a viable funding source for TWIT: The parent company could remain in control as the general partner and would bear most of the financial risk beyond the limited partner's direct investment. It could set up the limited partnership by selling partnership shares in TWIT. The company has run its projections and expects the internal rate of return (IRR) on the TWIT project to be 16.34%. If it sells a stake in TWIT to limited partners, it will be giving up a proportional amount of expected future profits with this expected return of 16.34%, to which

are added transaction costs. Even this high rate of return may not be enough, since limited partnership investors often require at least 20% return—though, in this case, they may take less. The general partner typically contributes 20% of the investment, in order to assure the outside investors that it, too, has “skin in the game.” Without such assurances, limited partners will require a higher return on their investment. On the whole, forming a limited partnership to fund TWIT would be unattractive to the company, since it has cheaper and more efficient forms of financing available.

SNIT

For SNIT, on the other hand, a limited partnership is a more feasible option. SNIT was started by entrepreneurs with significant experience in this field. These individuals have a combination of technical knowledge and entrepreneurial spirit. SNIT'S initial list of potential limited partners draws from family and friends. The cost of limited partnership funding is based on projections of SNIT'S IRR. The limited partners will also share in the losses, if the company does not do well. If SNIT is successful, then these limited partners could be bought out in the future.

49 Kelly, Peter. “Finance and Venture Capital Markets.” In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen, and Antti Ainamo. New York: Springer, 2003, 211–234.

50 Bowers, Brent. “In Pitching to Angel Investors, Preparation Tops Zeal.” *New York Times*. June 10, 2009. Last accessed May 19, 2017. ► <http://www.nytimes.com/2009/06/11/business/smallbusiness/11hunt.html>.

6.6.1.2 Private Equity

The term “private equity” has a variety of meanings. Almost all of equity is “private” in the sense of being owned by private parties rather than government. But equity is differentiated according to its trading status: *public equity* is stock that is traded on a stock exchange and accessible to the general investing public. Publicly offered securities are subject to securities laws and must adhere to strict legal standards. For example, financial documents such as the company’s balance sheet, income statement and other information have to be disclosed periodically. In contrast, firms whose stock is held *privately* (not traded on a stock exchange) are subject to much looser financial reporting.⁵¹

In most countries, public equity placements must be structured to comply with securities laws. In the USA, these laws, dating back to the 1930s, say that a stock offering must be registered with or approved by a government agency, unless it meets a specific exemption. A sale of securities that is conducted privately, without a public offering, will generally be exempt, on condition that the offering is made only to sophisticated and wealthy investors. The frequently used “Regulation D” stock offerings include a number of exemptions from registration requirements, depending on the size of the issuer, the number of investors and the manner in which the offering is conducted.

Private equity is an important source of funds for a variety of situations:

- Startup firms;
- Financially distressed firms;
- Public firms in need of buyout capital;
- Large shareholders who want to gain full control over their target firm;
- Small companies with untraded stock;
- Startups on the way to going public;
- Large companies withdrawing from public trading.

Private equity funds draw money for their investments either from individuals (who need to be wealthy enough to be legally admitted to invest) or from organizations that invest professionally. Private equity money tends to come from astute

investors with deep pockets, including rich people, insurance companies, pension and mutual funds, endowments and sovereign funds. In 2015, private equity firms raised \$629 billion and, in 2016, \$589 billion.⁵²

Private equity ventures are often financed by leveraged buyout (LBO) debt on the acquired company itself. The private equity firms typically only put up a percentage of the capital required to buy the target corporation.

Private Equity in the Media and Technology Industry

Media and technology companies have been particularly interesting to private equity investors, because there is a possibility of greater returns due to the volatile and risky nature of the business, which favors aggressive investors. In addition, private equity funds believe that the frequent lack of financial and managerial sophistication in newer media and digital companies provides an opportunity.

Impact of PE Acquisitions on Content

With much investment money in the hands of private equity fund managers, what has been the impact on media content or technology innovation? Private equity deals often lead to a breakup of large firms such as media conglomerates in order to reduce the debt that paid for the acquisition. Clear Channel used to be the largest radio company in the world, but the private equity owners, once they got control, sold off almost half of its 1100 radio stations.⁵³ Second, private equity partners will be generally be less interested in investing in quality or innovation that will only pay out in the longer run. Unlike startup venture capital, this kind of private equity is short-term oriented in its search for cash flows to meet debt payments and position the company for resale.

51 *The Economist*. “Public v Private Equity: The Business of Making Money.” July 5, 2007. Last accessed May 19, 2017. ► <http://www.economist.com/node/9440821>.

52 Drean, Antoine. “Private Equity Fundraising Is Set To Break Records, But The Plenty Holds Danger.” *Forbes*. December 8, 2015. Last accessed May 19, 2017. ► <http://www.forbes.com/sites/antoinedrean/2015/12/08/private-equity-fundraising-is-set-to-break-records-but-the-plenty-holds-danger/#495744d751ac>; MacArthur, Hugh, et al. “As Good As It Gets For Private Equity Fund-Raising” *Forbes*, March 10, 2017. ► <https://www.forbes.com/sites/baininsights/2017/03/10/as-good-as-it-gets-for-private-equity-fund-raising/#7b92398771d4>.

53 This was not enough to cover the debt. In 2018 the company filed for Chap. 11 bankruptcy.

Traditional institutional investors such as the Fidelity and other mutual funds rarely exert their influence over the management of companies they invest in. In contrast, private equity funds control the acquired company fully and often install new management with tough performance mandates. With so much capital at risk, as well as the immediate need to make debt service payments to pay back loans, the PE funds play a hands-on operational role beyond the merely financial.

Case Discussion

Private Equity—TWIT Versus SNIT

Private equity financing can be used by a young corporation lacking access to public debt and equity markets. TWIT, by itself, meets that category, but its parent company, Time Warner Media, is an established company with much cheaper funding options.

In contrast, companies such as SNIT that cannot raise finance from debt or public equity markets are candidates for the issuance of private equity to get early stage financing from private investors with faith in the project and its entrepreneur. The cost of such equity will be similar to that of venture financing. It is easily a whopping 40% or more.

6.6.1.3 Venture Capital

Venture capital firms finance new and rapidly growing companies. Venture capital funds are pools of capital, typically organized as limited partnerships, that invest in companies and industries that represent opportunities for a high rate of return. In return for financially backing a startup, they receive equity securities. Usually, they also assist in the development of new products or services. They are designed for institutional and deep-pocket investors. Venture capital firms have a long-term orientation, and take high risks and expect high rewards. They are often hi-tech focused, with less involvement in content media. Venture capital firms invest in a startup company and take a percentage of ownership. Typically, they will look for a 35–40%

return on investment on a single venture, knowing that many of their investments will never return a profit. It is claimed that 20% of venture deals are failures, 60% are disappointing and the remaining 20% are winners.⁵⁴

The main goal of a venture capital firm is exit: to see the portfolio firm go public (an IPO), be acquired, or be merged as soon as possible to make a sizeable profit. Once the stock is freely tradable after an IPO, venture capital firms distribute shares or cash to the limited partner investors.

The process of funding is structured in a benchmark system, similar to the option arrangements discussed earlier. Finance is provided to the portfolio companies in several stages called pre-seed, seed, first round (early stage) and second round (expansion). Funds for a next stage are provided only if the performance objectives are met for the previous stage. At every stage, the level of financing is very different due to a varying level of risk, and the expected return for that phase of the project. Some rules-of-thumb for expected rates of return for each stage of the company are⁵⁵:

- Seed stage: 80%+;
- Startup stage: 50–70%;
- First Stage: 40–60%;
- Second Stage: 30–50%;
- Bridge/mezzanine stage: 20–35%;
- Public expectations stage: 15–25%;

In the early days of venture capital firms, in the 1950s and 1960s, typical venture investors were rich individuals. Only later did venture capital firms emerge as major investment vehicles managing other people's money. Prior to the 1980s, US pension funds were effectively barred from any economically significant investment in venture capital firms due to of the “prudent man rules” that required financiers to be cautious with money they managed. However, in 1979 the US Labor Department reinterpreted the law regarding retirement protection to permit pension fund investment in venture capital if it did not endanger the entire portfolio. These and other

54 Kelly, Peter. “Finance and Venture Capital Markets.” In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen, and Antti Ainamo. New York: Springer, 2003, 211–234.

55 Junee, Ryan. “Startup Valuation –The VC Method.” September 20, 2006. Last accessed July 20, 2012. ► <http://blog.ryanjune.com/2006/09/startup-valuation-the-vc-method/>.

6.6 · Equity Financing

regulatory changes led to a large increase in the flow of investments into venture funds. In 2004, sources of venture capital funds included public pension funds (42%), commercial banks and life insurance companies (25%), and endowments and foundations (21%).⁵⁶ Individuals and families accounted for only 10% of venture capital sources of funds.

For most private equity funds (of which venture capital is a sub-category), the managers of the fund takes a fee of “2 and 20”; a 2% of asset value as an annual management fee and up to 20% of any profits made by their funds. Usually, there is a minimum so-called “watermark” (in the vicinity of 8%, depending on several factors) that must be exceeded in order for the 20% profit participation to kick in. If there are losses in one year and the following years are profitable, the watermark will prevent any profits being reaped by the venture capital fund until the sum of profits and losses exceeds the watermark.

The limited partners typically put up 98% or more of the funds necessary and receive 80% of the partnership’s profits. The general partner provides only a fraction of the investment but contributes the ideas, the entrepreneurship and the management effort. Venture capital firms are usually actively involved in the management of each of the portfolio companies. They often spend more than 100 hours per year on a portfolio firm and visit each firm a dozen times per year.

Venture capital firms are highly selective in the projects they pick. According to one venture capital firm, only 2–3% of deals presented to a venture capital firm get funded. If the business plan is submitted “cold” (without the referral by a trusted intermediary), the odds are practically zero.⁵⁷

The major drawback for venture capital funding is that it is an expensive form of financing, with the founder giving up a big chunk of the firm, thereby reducing their control and upside potential.

Case Discussion

Venture Capital TWIT Versus SNIT

Venture capital is an expensive form of startup financing, at a cost of at least 25% (prime plus 20%) interest. It is too costly in deep-pocket situations when a new project such as TWIT has Time Warner’s corporate backing. It would also dilute control of TWIT, since venture capital firms require a major stake in the venture in return for financing. The benefit of using

venture capital to provide business guidance is also less important to TWIT, since its corporate parent has knowledge resources and experience.

For SNIT, on the other hand, venture finance is much more helpful. Not only could venture capital firms provide much needed capital, but they would also deliver business management advice, contacts

and credibility. SNIT is a good candidate for venture capital as it is too small and too young to raise capital in the public markets, or to secure a bank loan. Yet obtaining venture capital is difficult. Given the first stage status of its development, SNIT should expect financing at an implicit cost of 40–45%, and may get \$5 million at that point.

6.6.1.4 Initial Public Offerings (IPOs)

“Public equity” is supplied by capital markets that are regulated by strict rules (securities laws) and agencies—such as the Securities and Exchange Commission (SEC). A company can access the public equity markets by issuing shares. (They are “public” in the sense of “generally accessible

to investors,” rather than in the sense of “governmental” or “state-owned.”)

Why would a company issue public equity?

- Present owners are not able or willing to increase their capital contribution.
- Present stockholders need cash, and cannot easily sell their shares unless they are publicly traded.

⁵⁶ Berger, Allen N., and Gregory F. Udell. “The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle.” *Journal of Banking and Finance* 22, nos. 6–8 (1998): 613–673.

⁵⁷ Kelly, Peter. “Finance and Venture Capital Markets.” In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen, and Antti Ainamo. New York: Springer, 2003, 211–234.

- Greater credibility of a company as a result of the publicity generated by issuing stock and being followed by security analysts and the business press.⁵⁸
- A wider universe of investors and pool of investment capital is accessible.
- Ability to attract and retain managers, if the firm offers stock options and other incentives.⁵⁹

Founders and shareholders are interested in cashing in their holdings in the company they helped to start up. There are also drawbacks to being a public company:

- There is much less confidentiality for a public company; for example, the salaries for top managers are public. Extensive disclosure of company financial information is required, especially when it is unfavorable.
- Even small IPOs can easily cost hundreds of thousands of dollars.
- The cost of regular compliance with regulation is costly. There are reporting requirements, which require extensive and expensive legal, accounting and investment banking services.
- Due to their increased exposure, public companies are an easier target for pressure groups—such as environmental, child protection, and morality groups⁶⁰—and may face various boycott campaigns.
- The control and vision of the founding managers by the addition of the new shareholders.
- Share fluctuations can be costly and, in some circumstances, place a public corporation in serious peril.
- Managers fixate on the short-term price of the stock and could potentially be ignoring future risks, opportunities and long-term growth.

When a company wants to finance through public markets (whether with debt or through equity), most often it will need to rely on the services of investment banks. In the banking world, one distinguishes between retail banks (for personal financing needs such as a checking account, a mortgage and so on), commercial banks (dealing with businesses about deposits, loans and so forth) and investment banks. The latter are specialty institutions that function mainly as advisors for big companies with respect to financing needs. There are only a few sizeable investment banks in the world and in a country (such as Goldman Sachs or JP Morgan in the USA). The services of an investment bank consist of four major functions:

- Providing advice on issuance, purchase and sale of securities, and on other financial matters.
- Providing capital for corporations and local governments by “underwriting” and distributing new issues of securities. “Underwriting” is the process of purchasing all new securities from a corporation at one price and selling the issues in smaller units to the investing public, usually with a markup.
- Maintaining markets in securities by trading and executing orders in secondary market transactions. Aftermarket trading begins after the new issue has been sold to buyers, at an issuing price.⁶¹
- Providing a “stamp of approval,” i.e. adding their credibility to investors who must decide whether to commit their funds.⁶²

For being listed on the Nasdaq exchange, a company must have a minimum of 1,250,000 publicly held shares, which is defined as “total shares outstanding less those held by officers, directors or anyone who is the beneficial owner of more than 10% of the company.”⁶³ The company is also

58 Investopedia. “What are the advantages and disadvantages for a company going public?” November 12, 2010. Last accessed July 20, 2012. ► <http://www.investopedia.com/ask/answers/06/ipoadvantagedisadvantage.asp>.

59 Inc. “Weighing the Benefits of Hitting the IPO Road.” November 1, 1999. Last accessed May 19, 2017. ► <http://www.inc.com/articles/1999/11/15714.html>.

60 The Economist. “The Business of Making Money.” July 5, 2007. Last accessed July 5, 2007. ► http://www.economist.com/displaystory.cfm?story_id=9,440,821.

61 Investopedia. “A Look at Primary and Secondary Markets.” November 20, 2010. Last accessed July 20, 2012. ► <http://www.investopedia.com/articles/02/101102.asp#axzz1Qg8yNJve>.

62 Callard, Abbey. “Banks, Firms, and Houses: Deciphering the Terms in the Financial Crisis Coverage.” *Slate*. September 18, 2008. Last accessed July 20, 2012. ► <http://www.slate.com/id/2200410/>.

63 In addition, the minimum bid price must be more than \$5, and there must be at least three market makers for the stock. The company must also have at least 450 round lot (100 shares) shareholders, or 2200 total shareholders, or 550 total shareholders with \$1.1 million average monthly trading volume over the preceding 12 months.

required to follow a variety of Nasdaq corporate governance rules, and its aggregate pre-tax earnings in the preceding three years must be at least \$11 million, and no one year in the preceding three years can show a net loss. In addition, its average market capitalization over the prior 12 months must be at least \$550 million, and revenues in the previous fiscal year must be at least \$110 million.

Traditional IPOs are cumbersome and expensive. There have therefore always been efforts to make it easier and less bureaucratic for small companies and startups to enter capital markets and reach potential investors. In 1976, the option of direct public offerings (DPOs) was established in the USA. *SCOR offerings* (small company offering registrations) followed. *Regulation A+ offerings* (known also as “mini-IPOs”) have been in force since 2015. More recently, there have also been moves to use new technology and to use online platforms so that small companies can reach small investors. DPOs over the Internet have risen in popularity. A full registration is still necessary, but a company can raise capital directly, from small investors in small amounts, without an intermediary investment bank or broker-dealer. It may be used by small firms that cannot find an investment bank interested in handling their business. It is then marketed directly via the Internet.

A relatively new method of financing productions is micro-funding, also called “crowdfunding,” where small investments are provided by a large number of enthusiasts for the technology or the creation. Here, “equity crowdfunding” that involves small direct investments in a company must be distinguished from the provision by users of money that is more in the nature of a reward, donation, or loan.⁶⁴ In “rewards crowdfunding,” the contributor receives a product or service once the company is operating. It is, in effect, a pre-sale of products such as software, a film download, or technology devices. PebbleWatch raised \$10 million in a single month with the promise to deliver the connected watches once they were being produced. In contrast, “Donation crowdfunding” involves a voluntary contribution by a fan

to a creator without an expectation of a benefit in return. Such projects include independent films, plays, music, journalism stories, video games, technology projects, even scientific research. For example, small-scale independent music may be funded by “fan-angels” in this way, utilizing micro-funding donation-oriented websites such as Kickstarter, ArtistShare, or IndieGoGo. An artist pitches their project, sets a monetary goal and a deadline, and hopes that fans will become patrons of the project.⁶⁵ An average contribution is about \$25. Kickstarter received about \$2 billion in pledges from almost ten million backers for over 250,000 creative projects. Donation platforms may also be purely charitable, such as DonorsChoose.

There is also “crowd-lending,” in which people lend small amounts to projects they consider promising or worthy. “Equity crowdfunding” platforms include Seedrs, EquityNet, AngelList, Crowdfunders and CrowdCube. To the startup company seeking funds, crowdsourcing provides an access to a wide pool of potential funders. Beyond the money raised, advantages are the creation of word-of-mouth publicity as contributors pass the word to others. The extent of public response is also a gauge for the market potential of a new product.

Equity crowdfunding is treated as a form of public offering of securities. Government concern with Internet-based IPOs is that they invite fraud and manipulation because the Internet provides an anonymous environment to inveigle money out of gullible investors. Securities laws in the USA therefore put conditions on equity crowdfunding. A company must file annual reports and update its crowdfunding disclosures continuously. A company must become a “public” reporting company if it has over 500 investors.⁶⁶ Certain companies are not eligible to use the relaxed rules on crowdfunding. These include non-US companies, for example.⁶⁷

64 Fundable. “Types of Crowdfunding” Last accessed May 19, 2017. [▶ https://www.fundable.com/crowdfunding101/types-of-crowdfunding](https://www.fundable.com/crowdfunding101/types-of-crowdfunding).

65 Billboard. “Rethink Music’s ‘Financing Creativity’ Panel Explores Concept of Fans as Patrons, Not Consumers.” April 26, 2011. Last accessed May 19, 2017. [▶ http://www.billboard.biz/bbbiz/industry/indies/rethink-music-s-financing-creativity-panel-1005154602.story](http://www.billboard.biz/bbbiz/industry/indies/rethink-music-s-financing-creativity-panel-1005154602.story).

66 Mirabile, Christopher. “2016 Crowdfunding Rules: How the Restrictions Work and Why it Matters to You” *Inc.* April 11, 2016. Last accessed May 19, 2017. [▶ http://www.inc.com/christopher-mirabile/2016-crowdfunding-rules-how-the-restrictions-work-and-why-it-matters.html](http://www.inc.com/christopher-mirabile/2016-crowdfunding-rules-how-the-restrictions-work-and-why-it-matters.html).

67 United States Securities and Exchange Commission. “Regulation Crowdfunding: A Small Entity Compliance Guide for Issuers.” May 13, 2016. Last accessed May 19, 2017. [▶ https://www.sec.gov/info/smallbus/sec/rccomplianceguide-051316.htm](https://www.sec.gov/info/smallbus/sec/rccomplianceguide-051316.htm).

The crowdsourcing concept and rules received much media coverage that enthused over the opening of opportunities for small entrepreneurs. Yet, the transaction costs are still formidable.

Impact of IPOs on Media Content and Conduct

When a project is funded by public equity, its managers are held responsible by shareholders. Public corporations therefore need to show

more caution, which makes them move more slowly. They also follow a more pure profit orientation to satisfy shareholders. There is less willingness to produce educational or socially beneficial content unless it, too, helps profits. They take fewer risks and pursue safer content or technology projects. They also have a greater short-term earnings orientation. In short, all other things equal, they are more risk-averse and less innovative.

6

Case Discussion

Initial Public Offering—TWIT Versus SNIT

A TWIT IPO, in which TWIT issues its own stand-alone shares, is difficult to arrange and comes with high cost relative to other financing options. TWIT, on its own, would have complications with a listing on a major stock exchange, as it does not meet requirements in terms of track record and so on. But it could probably have its stock listed on a smaller exchange. A TWIT IPO would also dilute the parent company's control over TWIT, as it would have to share ownership with other investors. TWIT would need to comply with government regulations, which can be intrusive and costly. But, as an alternative, the parent company could issue more of its own stock to finance just this venture, as a secondary public offering (SPO).

SNIT would not be able to undertake an IPO. It has no operating history. Even smaller stock exchanges require that a company has several years of pre-tax earnings, profitability, or cash flow and a minimum market capitalization.

However, after several years with a combination of a proven financial track record, venture capital funding and venture capital guidance, SNIT could aim for an IPO. Taking SNIT public at a good share price could make several categories of people rich: the founders, the financial backers, and those employees who had been partly compensated by shares. Financially, this is the goal of many startups. For example, suppose each of the founders had invested \$100,000 and has 20% ownership, that there are one million shares outstanding, and that the company issues ten million additional shares at a price of \$20. Then, each of the founders now holds a value of \$4 million, 40 times the original investment. If the shareprice rises, as IPO stock often does, their stake would rise correspondingly still further.

Should SNIT use crowdfunding? For once, ironically, SNIT may be too large a project. It is seeking \$100 million in financing. Barely over ten crowdsourcing projects

have been funded for more than \$10 million, most of them videogames or "rewards crowdsourcing" projects that were, in effect, pre-sells of products. SNIT could not expect a huge surge in small equity investor interest, and pre-selling of subscriptions does not seem to have major prospects. Thus, the expected money that could be raised for equity is likely to be modest in size. And at what cost? The various cost of raising and maintaining equity crowdfunded capital for a \$1 million is 25%,⁶⁸ plus the forgone capital gains, estimated at 25% for a tripling of the stock price over five years. There are also significant opportunity costs for the management time required to prepare the periodically required disclosure statements; foregone dividends, if those get distributed; and a dilution of control. Altogether, this does not seem to be an attractive funding option for SNIT: a limited amount of money that can be raised, yet at a high cost and with many headaches of regulatory requirements.

68 SeedInvest. "Title III Crowdfunding Cost Model." Last accessed May 19, 2017. ► <https://docs.google.com/spreadsheets/d/1g2Z0tUy5jd6s4-j0cNaSfoYMZcpJqKXQhVEfNOBRei4/edit#gid=0>.

6.7 The Ownership of Media and Communications Companies

“Equity financing” means, in plain language, “ownership.” We will now look at such ownership.

6.7.1 Individual and Family Ownership of Media

The fields of media, communications and ICT have been a source of great wealth. In 2000, almost one-quarter (99) of the Forbes 400 richest individuals in America had earned their prosperity in the media and communication fields. The 2011 Forbes 400 list⁶⁹ included 119 individuals whose wealth derived from the media, IT and telecom industries. This does not include the many financiers who made fortunes in the field of media, such as Warren Buffet or Ron Perelman.

Individual ownership varies by industry. Top telecom networks companies rarely have major individual owners. The main exception is America Movil in Latin America, with Carlos Slim of Mexico holding 52%. Several other large platform firms with high individual ownership stakes originated as a media or Internet company and added a presence in platforms. They are 21st Century Fox (and its Sky TV platform), controlled by the Murdoch family; Softbank in Japan, owned by Masayoshi Son; and Comcast, owned by the Roberts family. Most of these companies have a dual stock structure to allow the individual owners to maintain control while accessing outside capital. The other major platform companies are majority-owned by large institutional investors or governments, and have no dual stock structure.

In contrast, content oriented media firms around the world tend to be privately owned. Most of the top content companies have major individual or family owners—Globo Group (Marinho family, Brazil); L'Oréal (Lagardère family, France); Bertelsmann (Mohn family,

Germany); Fininvest (former Prime Minister Berlusconi, Italy); Softbank (Masayoshi Son, Japan); Fuji Television (Shikanai family, Japan); TF1 (Bouygues family, France); Fox/News Corp (Murdoch family); Google (Larry Page and Sergey Brin); Comcast (Roberts family); Liberty/Charter (John Malone); CBS/Viacom (Redstone family); Baidu (Robin Lee, China); Yomiuri (Shoriki family, Japan); Vivendi (Bolloré family, France) and Disney (Steve Jobs family with 7.8%).

Many companies are controlled by their founders/entrepreneurs or, later, by their top managers who also own significant stakes in the company. Among media companies, newspapers in particular have traditionally been owned by individuals and families. Even where they are publicly traded companies, the decision making power is usually exercised through special voting stock that is untraded. In other cases, control can be exercised through a family-controlled foundation.

IT firms typically start out with a high insider ownership but this declines over the years due to of the growth cycle of companies from founder-controlled startup to a giant established corporation. Microsoft, for example, was owned 66% by the insider-founders in 1988, but that share declined to 23.6% in 2005 and 11.6%⁷⁰ in 2011.

6.7.2 Institutional Investors

For many companies, the largest owners are institutional investors such as State Street, Vanguard, or Fidelity. The main categories of institutional investors are:

- Mutual funds;
- Pension funds;
- Hedge funds;
- Insurance companies;
- Endowments;
- Trust departments of banks.

Institutional owners control the shares they hold in two ways. First, they own shares outright in

69 Kroll, Luisa. “The Forbes 400 – The Richest People in America.” *Forbes*. September 21, 2011. Last accessed October 4, 2011. ▶ <http://www.forbes.com/forbes-400/list/>.

70 Fidelity. “MSFT Ownership and Insiders.” Last accessed November 15, 2010. ▶ <http://eresearch.fidelity.com/eresearch/evaluate/fundamentals/ownership.jhtml?stockpage=ownership&symbols=MSFT>.

their own account, partly to earn a dividend return and often for the potential gain in value. In some cases, they may have been part of an investment bank consortium that created and marketed the public shares in an IPO or SPO, and they may have kept shares for gradual sale.

The second way for financial institutions to control shares is to hold them as asset managers. They manage other people's money through various forms of investment funds which they run.

Institutional ownership is not a recent phenomenon, but it has increased with the growth of mutual funds and pension funds. Mutual funds are companies that seek and manage the money of investors and invest it in a portfolio of stocks, bonds and other assets. They attempt to optimize return for a given risk level or category of investment. In some countries, government rules aimed at protecting investors from imprudent risk-taking limit fund investment in any single company to no more than, for example, 5% of assets in any one company, and to no more than 10% of any company's outstanding shares.⁷¹ This limits the capacity of any individual fund to exercise much control over a firm.

Aggregate pension fund assets in the USA increased from \$260 billion in 1975 to \$1.7 trillion in 1990, to \$7 trillion by 1998, and \$22.1 trillion in 2014. For 16 major OECD countries, institutional pension funds managed \$23.3 trillion in 2009 and \$36 trillion in 2014.⁷²

Generally, the stake of institutional investors is much larger than those of individuals. In 2013, State Street had \$65 billion invested in major media and digital companies. Rupert Murdoch, in comparison, had "only" \$11.6 billion. Dodge & Cox, with \$20 billion, had more money tied

up in media than Berlusconi, Malone, Redstone and Lagardère combined. The largest institutional investor in the top 20 media and digital platform companies was the Vanguard Group, based in the United States. Vanguard owns shares of 10 of the top 20 platform companies, with a total value of \$47.5 billion, and shares of 12 of the top 20 content companies, valued at \$49.8 billion. Vanguard is invested in almost every major media and digital company: in the United States, the five major TV networks and content providers, the three major traded cable TV companies, and two major search engines; in Europe, three major TV companies; in Canada, Singapore, France and Germany, major telecoms.

More interesting than the components of the portfolio is their magnitude. Vanguard is hugely invested in Google (\$20 billion), Comcast (\$11 billion), Disney (\$10 billion), Time Warner (\$5 billion) and 21st Century Fox (\$5 billion), not counting another \$3 billion for the Time Warner Cable spin-off. Its stake in Google was almost as high as that of company founders Brin and Page (though without the voting power). It holds more shares in Comcast than the Roberts family (again, without the votes). It is by far the largest shareholder in Time Warner, Liberty and Disney (except for Steve Jobs' widow). And so on. Thus, on any objective measure, it is a huge media investor and owner. And yet, hardly anybody has heard of its CEO, F. William McNabb III, or of its headquarters location, Malvern, Pennsylvania.

The total media assets of the top 10 institutional owners add up to \$332.5 billion; the top 20 have \$423.4 billion and the top 30 have \$449 billion. Of overall global media value, estimated as \$4.7 trillion excluding state-owned media, the top 10 institutional owners hold 6.1%, and the top 30 hold 9.6%.

Institutional investors are usually viewed as primarily concerned with short- or medium-term gain, gauging corporate performance solely according to stock price and earnings. But, institutional investors cannot easily liquidate very large stakes and are therefore often in for the long haul. They have the capability to intervene, and top management knows that.

In 2006, several institutional shareholders, led by Carl Icahn, challenged Time Warner's conglomerate structure, advocating a breakup of the company. They argued that the sum of the parts

71 In the USA, institutional investors are required to file disclosure information when they own 5% or more of a publicly traded company. They are limited in their ability to profit on shares held for less than six months once they reach the 10% ownership threshold. If a mutual fund wants to promote itself as "diversified" and gain pass-through tax benefits, then the regulated 75% of the fund cannot own more than 10% of a company in its portfolio. Also, a "diversified" fund cannot have more than 5% of its total assets invested in a single company (Investment Company Act of 1940). Therefore, only 25% of a fund, the unregulated portion, can be concentrated in a single stock. Pension funds fall under the Employee Retirement Income Security Act of 1974 (ERISA), which requires each fund to diversify. But, under ERISA, pension fund managers are given some leeway to avoid diversification if it is "clearly prudent" not to do so.

72 Towers Watson. "Global: Global Pension Funds Up by 15% in 2009." March 2010. Last accessed July 19, 2018. ► <http://www.towerswatson.com/research/1380>.

was more valuable than the whole. Time Warner's management opposed the shareholder resolution and prevailed in a formal sense. But, within a few years, it sold or spun off these parts of the company: Warner Music Group, Time Warner Cable, AOL, TW Telecom, Time Books and Time Inc. magazines. By 2014, Time Warner itself was a target of acquisition, with AT&T signing the deal in 2017.

Has there been an impact of institutional investors on content? The actual ownership of each institutional investment firm in each company and sector may be small and fragmented. No single investor firm owns a majority, or could establish control. However, in the aggregate, institutional owners can influence company decisions through their buy and sell decisions, affecting the value of the stock and sending a signal of support or skepticism to management.

Generally, institutional investors will prefer safe mainstream content, rather than controversial content that may make some of their investors unhappy. Similar incentives for safe mainstream content exist also for corporate media management. It also exists for individual owners, unless their personal politics and commercial interests are intermingled. Institutional ownership may affect content quality through greater pressures for short-term profitability. Yet, it may also shield managers from control by erratic principal owners.

6.7.3 Governmental Ownership

In many countries, there are public service television organizations that are either controlled directly, by the state, or indirectly, through politically appointed boards that may reflect the government in power or a more pluralistic makeup. These broadcasting organizations are quite often the largest and/or most influential media organization in their country.

Also, around the world, many of the large incumbent telecom network companies, even after their privatizations (fully or partly) in the 1980s, have major majority ownership stakes held by their governments. This includes NTT in Japan (33% state ownership), Deutsche Telekom in Germany (32%), Orange in France (27%), China Telecom, China Unicom and China Mobile (100%), Svyazinvest in Russia (53%) and Telkom

in South Africa (50.7%). These governmental ownership stakes are particularly high in companies with fragmented private stock holdings.

Other ownership models are those by employees (e.g. *Der Spiegel*), non-profit organizations such as foundations, churches or universities, or by community groups (e.g. Ohmynews in South Korea).

6.8 Capital Structure

We have looked in the previous sections at various funding options and ownerships. We now address the questions of what mixture, if any, is the best for a firm. This is usually described as the optimization of the “capital structure” —the mix of debt and equity capital of a firm. Some firms or some industries depend more on debt, others more on equity. Within each funding category, there are sub-sets, such as short-term and long-term debt, or public and private equity. The overall mix is the “capital structure.” This composition tends to change over time, depending on interest rates, share prices, and the growth cycle of companies and industries.

The simplest measure of how much debt and equity a firm is using is the proportion of debt to total financing sources:

$$\text{Debt-to-Capital Ratio} = \text{Debt}/(\text{Debt} + \text{Equity}).^{73}$$

For example, the capital structure for incumbent US telecom firms is made up of about 60% debt⁷⁴ and 40% equity. Their Debt-to-Capital Ratio = 60%

Other terms for the same concept are “capital gearing,” “leverage,” or “debt-to-equity ratio”. The abovementioned debt-to-capital ratio of 60% (or 0.6) translates into a debt-to-equity ratio of:

$$\frac{60\%}{40\%} = 1.5$$

Firms with no debt on their balance sheet are called “unlevered” companies. After the issuance

73 Damodaran, Aswath. “Finding the Right Financing Mix: The Capital Structure Decision.” New York University Stern School of Business July 1, 2004. ► <http://pages.stern.nyu.edu/~adamodar/pdfiles/cfovhd/capstr.pdf>.

74 West, Rob. “Competing for Capital: The Diffusion of Bilateral Investment Treaties, 1960–2000.” Working Paper, University of Illinois. February 28, 2000.

of debt, the firm becomes “levered” or “geared.” Startups usually have no access to debt and, by necessity, favor equity. Their debt/equity ratios are therefore lower than those of established companies, such as telecom operators. The median “new economy” firm in the 1990s in the UK even had *negative* net debt/equity ratios, i.e. deposits of cash exceeded gross debt, making net debt negative.⁷⁵

6.8.1 Optimal Capital Structure

Where firms have access to various financing, is there an “optimal” mix between debt and equity?⁷⁶ Companies organize their funding priorities according to several operational principles.

6.8.1.1 The “Pecking Order” Approach to Determining the Capital Structure

The “pecking order” (or ladder) approach is not a theoretically well-defined model but, rather, a practical method based on the reality of availability.⁷⁷ Basically, a firm would use the cheapest method of financing first, up to the available limit, and then move to the next available funding option by ascending order of cost. According to one survey, seven out of ten CFOs prefer the “pecking order” method as a way to proceed.⁷⁸

The “pecking order” of financing is typically as follows, by rank of priority:

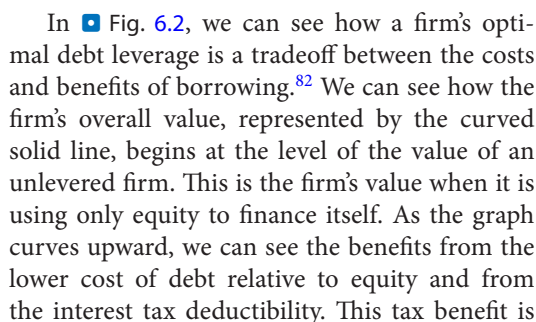
1. Internal funding (retained earnings);
2. Debt;
3. Equity.

Within each of these three classes, there would be an ordering of sub-categories—many of them discussed above—based on their after-tax cost and their availability. The pecking-order approach is practical. Furthermore, it can be used within

a desired debt-to-capital ratio, by applying two pecking orders, one for debt and one for equity, within their respective optimal allocations. The shortcomings are several. A debt option may be cheap but still requires liquidity for repayment, otherwise it could put the company into insolvency. Or, the expectation of dropping interest rates and/or rising stock market prices may favor short-term debt as a placeholder.

6.8.1.2 Optimizing Company Value

Perhaps the major problem with the Miller-Modigliani analysis and the pecking order approach is that, if a company issues more debt, the equity gets riskier, and thus requires a higher risk-adjusted rate of return. Beyond some point, more debt will reduce the value of the firm.⁷⁹ Therefore, when a corporation uses financial leverage (i.e. debt) properly, it can increase its overall market value. Introducing financial leverage into an unleveraged corporate capital structure will initially raise the market value (and then lower it) due to the change in overall returns to debt and equity holders. The company has a “sweet spot” of leverage to lower its cost of capital while simultaneously increasing its market value and share value. If the company increases leverage beyond this sweet spot, it will increase risk, and force investors and lenders to compensate by raising the interest they charge the company, which would raise its capital cost, lower its share value and, thus, the firm’s value.^{80, 81}

In  Fig. 6.2, we can see how a firm’s optimal debt leverage is a tradeoff between the costs and benefits of borrowing.⁸² We can see how the firm’s overall value, represented by the curved solid line, begins at the level of the value of an unlevered firm. This is the firm’s value when it is using only equity to finance itself. As the graph curves upward, we can see the benefits from the lower cost of debt relative to equity and from the interest tax deductibility. This tax benefit is

75 Brierley, P. G., and A. Kearns. “The Financing Patterns of New and Old Economy Firms in UK.” Bank of England. June 22, 2001. Last accessed May 19, 2017. [▶ https://www.bis.org/publ/cgfs19boe1.pdf](https://www.bis.org/publ/cgfs19boe1.pdf).

76 Lewellen, Katherina. “Capital Structure, cont.” MIT. July 1, 2004. Last accessed July 19, 2012. [▶ http://ocw.mit.edu/NR/rdonlyres/Sloan-School-of-Management/15-402Finance-Theory-II/Spring2003/LectureNotes](http://ocw.mit.edu/NR/rdonlyres/Sloan-School-of-Management/15-402Finance-Theory-II/Spring2003/LectureNotes).

77 Shyam-Sunder, Lakshmi, and Stewart C. Myers. “Testing static tradeoff against pecking order models of capital structure.” *Journal of Financial Economics* 51 (1999): 219–244.

78 Asaf, Samir. *Executive Corporate Finance*. Harlow, Essex: FT Prentice Hall, 2004, 50–70.

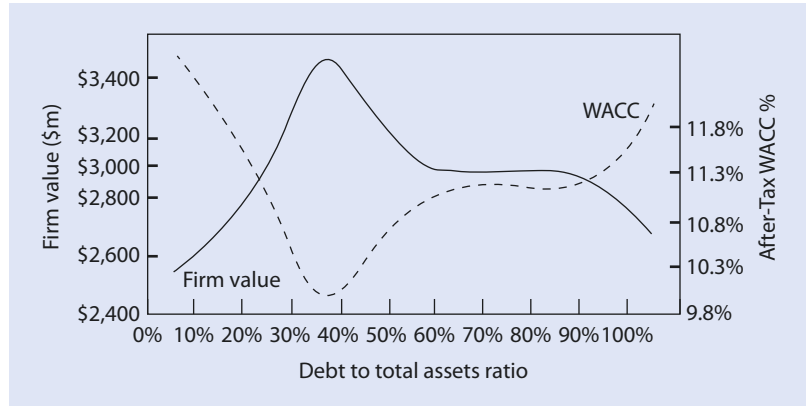
79 Smith, Dr. J. Herbert. “Analysis of Financial Statements.” *University of New Brunswick*. Last accessed July 19, 2012. [▶ http://www.unb.ca/web/jhsc/TME_courses/tme3013/ratios/index.htm](http://www.unb.ca/web/jhsc/TME_courses/tme3013/ratios/index.htm).

80 Brealey, Richard A., and Stewart C. Myers. *Principles of Corporate Finance*. New York: The McGraw-Hill Companies, Inc., 2003.

81 Asaf, Samir. *Executive Corporate Finance*. Harlow Essex: FT Prentice Hall, 2004.

82 Myers, Stewart C., “The Capital Structure Puzzle.” *The Journal of Finance* 39, no. 3 (July, 1984): 575–592.

■ Fig. 6.2 The Optimal Leverage Ratio



a byproduct of using debt (whose interest cost is deductible), and it increases with additional leverage. These factors initially raise the firm's value because they lower the firm's overall cost of capital. But, if a company were to keep ramping up leverage (debt) too much, it would eventually suffer value erosion. As risk increases and, with it, the interest rate it must pay rises. The overall cost of capital rises, the firm's value declines and share prices fall. At the top of the curve, firm value is maximized. That point identifies the optimal leverage.⁸³ In ■ Fig. 6.2, the optimal financial leverage ratio is 34%. If the firm operated at this ratio, it would be maximizing the total benefit from its current overall value.

According to this approach, the firm should stay at (or at least near) the optimal point in terms of capital structure. It should issue equity or cut back debt when leverage rises above the target level. It should buy back stock or issue debt when leverage falls below the target capital structure level.⁸⁴

There are various ways to find the “sweet spot.” One method is to minimize the cost of capital. A firm would seek to operate at the lowest cost of capital across its several financial sources—the firm's weighted average cost of capital (WACC).⁸⁵

The WACC is a calculation of a company's cost of capital where each source of capital is weighted in proportion to the amount of capital that it supplies to a company. A low WACC indicates that a corporation obtains capital inexpensively. Businesses will discount their cash flows at the WACC rate to determine the NPV of a project, or of the firm.

$$\text{Net Present Value} = \text{Present Value of cash flows, discounted at WACC}$$

A company's WACC is a function of two primary components: (1) the cost of the equity capital (K_e) and debt capital (K_d) that a firm employs, and (2) the mix of equity capital and debt capital used to finance a firm's operations. The cost of debt (K_d) is given as the cost after tax deductions were made on the debt interest payments:

$$\text{WACC} = (W_e \times K_e) + (W_d \times K_d)(1 - t)$$

W_e and W_d are the proportions of equity and debt capital, respectively, used to fund the firm's operations; t is the tax rate. As an example of the application, assume a company with \$100 million debt, \$50 million market value of equity, 10% cost of debt, 20% cost of capital, 35% tax. This information yields:

$$\begin{aligned} \text{Debt to capital ratio} &= \$100/\$150 = 66\% \\ \text{Equity to capital ratio} &= \$50/\$150 = 33\% \text{ and} \end{aligned}$$

$$\begin{aligned} \text{WACC} &= (0.33 \times 0.20) + (0.66 \times 0.10[1 - 0.35]) \\ &= 11\% \end{aligned}$$

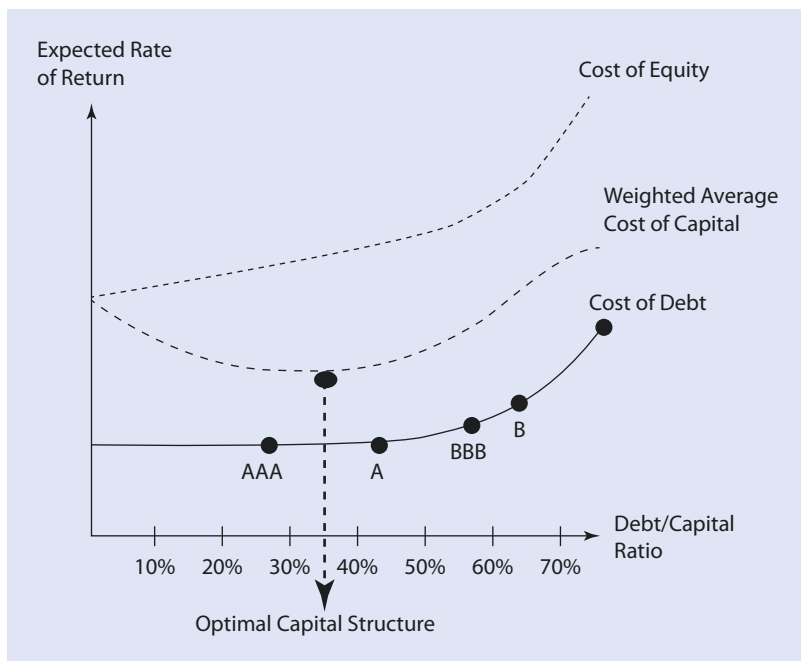
The relationship between the amount of leverage (debt to capital) and the expected rate of

83 Shyam-Sunder, Lakshmi, and Stewart C. Myers. “Testing static tradeoff against pecking order models of capital structure.” *Journal of Financial Economics* 51 (1999): 219–244.

84 Lewellen, Katherine. “Capital Structure, cont.” MIT. July 1, 2004. Last accessed July 19, 2012. ► <http://ocw.mit.edu/NR/rdonlyres/Sloan-School-of-Management/15-402Finance-Theory-II/Spring2003/LectureNotes>.

85 Fairchild, Richard. “An Investigation of the Determinants of BT's Debt Levels from 1998–2002: What does it tell us about the Optimal Capital Structure?” Working Paper, University of Bath School of Management, February 2003. Last accessed May 19, 2017. ► <http://www.bath.ac.uk/management/research/pdf/2003-03.pdf>.

Fig. 6.3 Cost of Capital and Optimal Capital Structure



return by investors and lenders is represented in Fig. 6.3.⁸⁶ The top line represents the cost of equity and the bottom curved line represents the cost of debt. The middle line is the weighted blend of both these financing costs: the WACC. During the initial leverage (debt/capital) ramp-up, the expected rate of return on debt stays constant, the expected rate of return on equity increases very slightly and the WACC falls due to the tax advantages of debt offsetting the slight increase in expected return on equity. But, as the leverage (debt/capital) increases (past 36% on the graph), things change. Both investors in debt and equity

begin to demand higher returns for each incremental increase in leverage, because the firm and its debt become riskier. The WACC begins to rise accordingly. Thus, as a firm increases debt relative to equity, the average cost of capital decreases because debt is cheaper. However, rising debt will eventually lead to higher interest rates charged and to a lower stock price. The lowest WACC is at a 0.36 debt-to-capital ratio. Since the firm value is the firm’s income stream discounted by the WACC, with identical income streams the firm’s value is highest when the discounting by the WACC is lowest.

6.8.1.3 Case Discussion

The Financial Funding Mix

TWIT

The cheapest method of financing TWIT is for it to fund itself entirely using the corporate parent’s (Time Warner Media) debt. TWIT would choose the least expensive composition to fund itself. Based on the case discussion throughout this chapter, this funding would

include, in ascending order of cost:

- \$300 million in CPs at 2.24% after-tax;
- \$10 million in government loans at 2.42% after-tax;
- \$250 million through its line of credit (i.e. bank debt) at 3.50% after-tax;

- \$333 million in convertible debt (i.e. bonds that convert into stock shares) at 4.13% after-tax;
- \$107 million in corporate long-term debt at 4.83% after-tax.

The WACC for the funding would be 3.81%.

⁸⁶ Based on Morris, Matthew R. “Creating Shareholder Value Through Capital Structure Optimization.” *Value Incorporated*, 2001.

SNIT

We found SNIT's optimal capital structure to be at the 30% debt-to-capital ratio. SNIT's funding would be composed of:

- \$10 million in government loans at 2.42% after-tax;
- \$15 million in vendor financing at 8.75% after-tax;

- \$5 million in lease financing at 10.50% after-tax;
- \$3 million of internal funding at 15.02%;
- \$67 million limited partnership financing at 16.34%.

SNIT would have a 15.15% cost of capital to raise \$100 million. In comparison, TWIT has a 9.27%

cost of capital to raise \$1 billion, a cost advantage of almost 40% over SNIT. A much lower funding cost and its higher available volume provide significant advantage to TWIT. This kind of advantage can only be overcome by SNIT through much greater innovation and lower operating costs.

6.8.2 The Lifecycle of Capital Structure


Each firm must decide its optimal capital structure based on its specific needs and the needs of its industry. These needs and availabilities change, and depend on the stage of the firm's life cycle. A capital structure must be analyzed regularly and adapted for specific scenarios in which the company finds itself. It may also need to be tailored to the expectations of investors.

The financial needs of a firm are affected by cycles of the macro economy, of the industry and of the firm itself. The general business cycle affects investment needs, riskiness, costs, availability of funding, interest rates and share prices.

The industry cycle is based on technology trends and market demand for new categories of services. Mobile telecommunications, smartphones and apps are an example. The telecom company Verizon invested a very substantial \$30 billion from 2004 to 2007 in fiber optic lines. After the build-out of the desired fiber footprint, the company's investment needs in fiber infrastructure declined considerably, to less than \$1 billion per year in 2015.⁸⁷ On the other hand, Verizon's investment in wireless infrastructure, including spectrum license acquisitions, rose from \$5.6 billion in 2004 to \$11.7 billion in 2015.⁸⁸

The third cycle is the company's own progression. It typically consists of four phases: startup, growth phase, maturity and decline. During the

startup phase there is little debt. There is plenty of risk, little taxable income to make the tax deductibility useful, and lenders are cautious. But, in the *growth* phase, debt increases in the capital structure. During the *maturity* phase, the company will start to distribute higher dividends to shareholders, rather than invest that money, and will rely less on equity funding because debt will be inexpensive since the company is a good credit risk. In the *decline* phase of the company, internal financing becomes scarcer, equity financing becomes more costly, but the firm's asset base permits an expansion of debt, though under less favorable conditions than before.

The main sources of capital also follow the pattern of the company's life cycle. In  Fig. 6.4,⁸⁹ funding sources are plotted horizontally, representing the stage of company maturity. The vertical axis shows the degree of risk an investor faces.⁹⁰

In the initial phases, angel investors and personal acquaintances both take a great deal of risk investing in the business, as very little is known about it. When the business matures slightly, venture capitalists may be available. In the growth phase, with a longer and stronger track record, banks and other financial institutions will provide debt financing. These investors also usually have a larger investment capital available. As the business keeps growing, an IPO may be issued that opens up equity funding. Together with higher-quality commercial bank debt, these are the mainstays

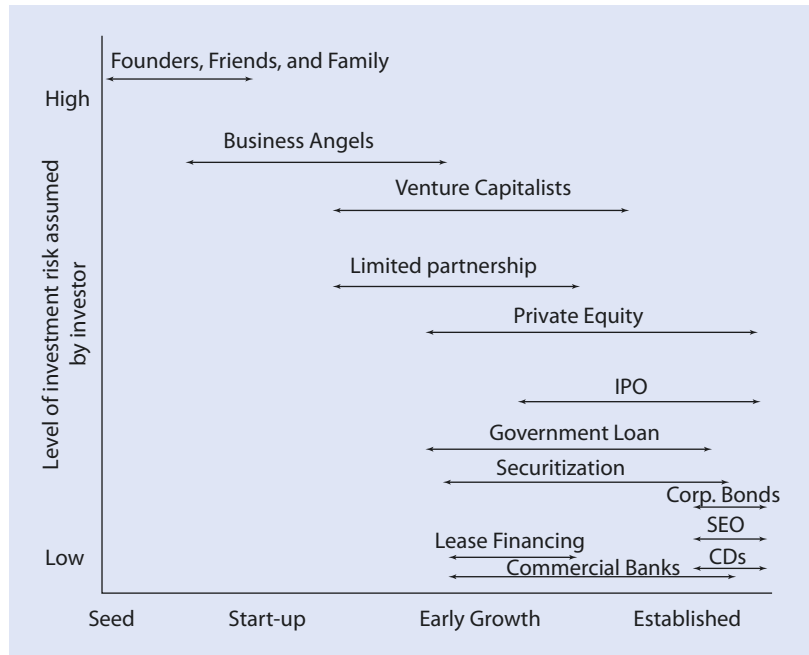
87 Brodtkin, Jon. "Verizon nears 'the end' of FiOS builds." *Ars Technica*. January 23, 2015. Last accessed May 19, 2017. ► <http://arstechnica.com/business/2015/01/verizon-nears-the-end-of-fios-builds/>.

88 Baburajan, K. "Verizon lowers telecom network Capex to \$17.7 billion in 2016." *Telecomlead*. January 21, 2016. Last accessed May 19, 2017. ► <http://www.telecomlead.com/4g-lte/verizon-lowers-telecom-network-capex-17-7-bn-2016-66805>.

89 Partly based on Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. New York: Springer, 2003, 211–234.

90 Using and supplementing Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen, and Antti Ainamo. New York: Springer, 2003, 211–234.

Fig. 6.4 Funding Options over the Life Cycle of a Company



for the mature company. As its revenues grow, the self-financing component rises.⁹¹ In the decline phase, the asset base permits funding through debt backed by collateral and by the selling off of assets.

6.9 Outlook

As the examples of the Hollywood film industry and of the Silicon Valley technology startups demonstrate, financing techniques and practices for traditional and new media and information sector industries are a major factor for their health. Good ideas, creative concepts, R&D and personal energy are important, but they will usually go nowhere without funding. Creativity and innovation require a financial base.

We have seen how these industries show a rising demand for financing. This is due to an increasing production of content, the growing complexity of electronic distribution networks, and greater and faster R&D cycles. Such financing is inherently risky.

The financing of media and information activities is therefore becoming an ever more central function. It requires effective financial understanding inside media and technology companies. And it requires financial institutions and business practices to channel funds from investors to firms and projects, and to provide a screening and monitoring of projects.

Navigating financing techniques, flows and institutions is therefore a major factor for the strength of media activities and tech ventures. With an effective understanding of the system and its opportunities and pitfalls, a financial manager can make an important contribution to innovation and culture.

6.10 Review Materials

Issues Covered

We have covered the following issues in this chapter:

- Why capital investments in media and communications are high;
- What different funding sources are available to established companies and startups;

⁹¹ Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen, and Antti Ainamo. New York: Springer, 2003, 211–234.

- The pros and cons of debt financing;
- The difference between short-term and long-term financing;
- The different types of debt sources that are available;
- What the various bond ratings mean;
- The impact of vendor financing and PFD deals;
- How negative pickup deals work;
- Why many projects use lease financing;
- The impact of government financing;
- The impact of debt financing on content;
- How risk reduction strategies work;
- How private equity and venture capital work;
- How to set up limited partnerships;
- The requirements for IPOs;
- The opportunities and limitations of private equity and crowdfunding;
- The difference between individual and institutional ownership;
- How a company's optimal capital structure can be determined.

Tools Covered

We used these tools to address financing issues:

- The Miller-Modigliani theory of the irrelevance of funding;
- Capital budgeting;
- Cost of internal funding;
- Capital asset pricing model (CAPM);
- Portfolio diversification and hedging;
- Net present value and discounted cash flow;
- Internal rate of return;
- Duration matching;
- Weighted average cost of capital (WACC);
- Financial funding mix;
- Pecking order approach;
- Debt to capital and equity ratio;
- Life cycle of financing.

6.10.1 Questions for Discussion

1. What are the advantages and disadvantages of debt for an Internet company?
2. What are the advantages and disadvantages of equity for a media company? When should a firm generally choose equity over debt, and debt over equity?
3. What role do institutional investors play in media companies? What accounts for an increasing role?
4. How does governmental funding of media vary across the world? Discuss the US, the EU and the Asian tigers.
5. What are the advantages and disadvantages of a digital company going public—not only in relation to its management, but also its investors? Discuss the impact of IPOs on media content and conduct.
6. How does accessibility to capital vary across a media firm's life cycle?
7. Discuss the pros and cons of financing and distributing a film independently vs. through a studio distributor.
8. Discuss the effect of availability of vendor/buyer finance and lease financing to different types of media firm.
9. Discuss the effects of different kinds of ownership on the way a media company is run. In what ownership model does management have the greatest autonomy?
10. Discuss the advantages and disadvantages of internal funding.
11. What aspects of finance in the media industry are different from other industries?

6.10.2 Quiz

- 6
1. If a radio station sells its transmitter tower to a finance company and then leases it for its use, this is called a:
 - A. Capital lease.
 - B. Operating lease.
 - C. Lease-back.
 - D. Secondary lease.
 2. Which is not a characteristic of the media industry that makes financing difficult?
 - A. Periods of revenue from products are short.
 - B. Period between investment outlay and revenue realization is short.
 - C. Intangible nature of product makes it difficult to charge a price.
 - D. Investments in pioneering technology are uncertain.
 3. Which is not a characteristic of a junk bond?
 - A. Usually offered by a company that has debt of $> 4x$ EBITDA.
 - B. Usually offered by a company that has a quick ratio > 1 .
 - C. Often issued by “fallen angel” companies.
 - D. Has a default rate of 3–4%.
 4. What are the characteristics of a negative pickup deal?
 - A. Making a distribution deal before production gives crew and cast extra incentive to complete movie on time.
 - B. Distributor must bear risk of film going over budget.
 - C. Favors producers with a proven track record.
 - D. Unsuccessful date.
 - E. Does not require advanced financing.
 - F. Both C and D.
 5. Which one of the following is true about leasing as a form of financing?
 - A. Reduces company’s ability to borrow.
 - B. Temporarily increases debt on balance sheet.
 - C. Accounts for more than half of all annual investment in equipment.
 - D. Allows arbitrage of credit risk.
 6. The most common and least expensive form of film financing is:
 - A. Equity.
 - B. Senior term debt.
 - C. Subordinated debt.
 - D. Revolving line of credit.
 7. The largest source of equity for small firms is:
 - A. Principal owner.
 - B. Angel investors.
 - C. Venture capital.
 - D. Publicly raised equity.
 8. What strategy is followed most often in achieving an optimal capital structure?
 - A. Modigliani-Miller theory.
 - B. Target capital structure.
 - C. The pecking order of raising capital.
 - D. No particular strategy comprises a majority of firms’ strategies.
 9. How do media companies often alter the pecking order?
 - A. Resort to debt before equity.
 - B. Rely more heavily on internal financing.
 - C. Place equity before debt.
 - D. They do not.
 10. Which is not a risk reduction strategy for a media product?
 - A. Diversify revenue streams.
 - B. Lengthen term of debt to attract more investors to the higher interest rate.
 - C. Shift risk onto investors with equity offering.
 - D. Develop derivative financing options as hedging devices.
 11. At what part of the firm life cycle is a firm most likely to use venture capital or angel finance?
 - A. Startup.
 - B. Growth.
 - C. Mature.
 - D. Decline.

6.10 · Review Materials

12. Which of the following is a reason that a new startup company would not initially turn to a bank for a loan?
- Interest rates are very high and make a loan cost prohibitive for a startup company.
 - The cost of hiring attorneys to prepare financial documents to secure a loan is too high for a startup company.
 - New companies lack credit records, assets for collateral and other items banks look for when providing loans.
 - Banks require an equity stake in young companies to provide loans, which raises the cost of the loan significantly.
13. Which of the following is a limit on commercial paper?
- Issuers can only offer short-term CPs, with a limit of 270 days.
 - Issuers can only offer interest up to 5%.
 - Issuers are required to have a AA+ credit rating.
 - Issuers are prohibited from offering CPs to individuals.
14. Which of the following is not a reason a company would issue public equity?
- Equityholders of the company need capital and their shares are not easily tradeable in private equity.
 - The firm wants to be able to attract and retain managers that would only be attracted if they received stock options and other incentives expected from a publicly traded company.
 - It is much cheaper for a company to issue an IPO than to borrow funds from a bank, or to attract money from venture capitalists.
 - A wider pool of investors is attracted and the company can raise more money.
15. What is not an attribute of commercial papers (CP)?
- CP is a way for established companies to raise money for short periods.
 - CP interest is paid at the maturity date.
 - The companies borrow money from financial institutions and issue CPs as promises to repay.
 - CP is most appropriate for companies with steady cash flows or strong growth prospects.
16. Which statement about vendor financing is correct?
- Vendor financing of media and digital activities is most developed in the film sector, perhaps because its funding requirements are the largest among content media.
 - It reduces the debt on a company's balance sheet and enables the firm to take on debt for other purposes.
 - Under vendor financing the financier typically doesn't influence the production in any way.
 - Vendor financing in the film industry is also referred to as a negative pickup deal.
17. Which statement is incorrect for Venture Capital (VC) Financing?
- VC firms finance new and rapidly growing companies.
 - VC firms also assist in the development of new products or services.
 - VC firms differentiate among several stages of startup financing.
 - Inexpensive for startups as they don't have to pay interest.
18. One source of funding is often self-financing from undistributed profits. Which statement about internal funding is incorrect?
- Transaction costs are lower relative to the insurance of securities.
 - No supervision and review by banks.
 - Internal funding has no cost to the company.
 - Less disclosure of financial details that could benefit competitors.
 - Self-financing has an impact on content and innovation.

19. Which statement about the CAPM is not correct?
- A. 12-month US treasury bonds are typically used to estimate the risk free rate of interest.
 - B. A β value of greater than one, indicates that the company is more volatile than the market.
 - C. According to CAPM, a security's expected return is equal to the risk free rate plus a premium.
 - D. None of the above.
20. What does the β in the "capital asset pricing model" (CAPM) stand for?
- A. Estimated cost of capital.
 - B. The company's riskiness.
 - C. Risk free rate of interest.
 - D. Expected rate of return.

Quiz Answers

- ✓ 1. C
- ✓ 2. B
- ✓ 3. B
- ✓ 4. C
- ✓ 5. D
- ✓ 6. D
- ✓ 7. A
- ✓ 8. C
- ✓ 9. C
- ✓ 10. B
- ✓ 11. A
- ✓ 12. C
- ✓ 13. A
- ✓ 14. C
- ✓ 15. D
- ✓ 16. A
- ✓ 17. D
- ✓ 18. C
- ✓ 19. D
- ✓ 20. B

Intellectual Asset Management

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7.1 Intellectual Assets

7.1.1 What Are Intellectual Assets?

In this chapter, we will cover a key element of media and information management: how to create, protect and manage intellectual assets (IAs). IAs are more commonly referred to as intellectual property (IP) or intellectual property rights (IPRs), terms derived from a legal perspective. For business purposes, we should think of them as assets—items of value that are designed, invested in, produced, improved, valued, priced, sold, licensed, or exchanged.

It is characteristic of information products that they are expensive to create but easy to duplicate. Technology makes it easier for a producer to create and distribute information, but it also makes it more difficult to protect information from unauthorized copying and distribution by rivals and users. This applies to new content as well as to new technology. Due to the difficulty in excluding others from use, the ability to collect payments is reduced and, with it, the incentives to create new information and innovation. These fundamental characteristics have led to the creation of the legal construct of IPRs.

To discuss intellectual property one must first clarify, more generally, what “property” means. Property is the collection of ownership rights held by someone in an item, that are protected by the state. This “bundle”¹ includes some or all of these rights: to use, consume, destroy, sell, rent, extract, and exclude. “Property” is a central feature of the economic system. Under feudalism, when land was the main resource, real property (i.e. land) was central to law and commerce, and defined the social and economic order of the era. In the industrial age, machinery and financial resources became all-important and “personal and financial property” became the focus of legal and managerial attention. In the information age, information is the key resource, and intellectual assets are an increasing center of economic activity and, hence, of management efforts. However, this area has been left primarily to lawyers and, until recently, it was under-appreciated as a managerial task.

We should start with a broad picture. Individually-held property, i.e. the notion of private ownership, is an alien concept to some cultures. For example, before European colonization most Native American tribes exercised a communal rather than personal ownership of land,² though individuals or families personally owned items such as weapons, clothing and jewelry.

Even in Western cultures, not everything is property—i.e. owned by someone. Much of the oceans, which constitute two-thirds of the world’s surface, are not owned by anybody, even by states. Space is another example. Also, many places and things are not owned privately but, rather, collectively—such as parks, roads, national forests, and military installations. Approximately 40% of the US land area is publicly owned.³

As late as the 1950s and 1960s, the expression “intellectual property” was rarely used⁴ and was applied narrowly. Certain creations with potential economic value were left outside the notion of “ownership,” such as dance steps, weather predictions, a great scientific idea, or business strategies. But, for each of these examples, the realm of intellectual property has expanded and private ownership is now being claimed.

7.1.2 History

Intellectual Property is not a new concept; it has been around for well over 500 years, at least. In 1469, the Venetian Senate granted John of Speyer (Spiro) the exclusive right to print classic works for a period of 5 years. This privilege ended soon with his death; freed from exclusivity, Venice printing flourished in subsequent decades and it became Europe’s major publishing center. Venice was also the first jurisdiction to grant, after 1450, patents on inventions, particularly in glass-making. In Britain, the statute of Anne (1710) created

1 Penner, J. E. “The Bundle of Rights Picture of Property.” *UCLA Law Review* 43, no. 3 (February 1996): 711–820.

2 Isakson, Hans R., and Shauntreis Sproles. “A Brief History of Native American Land Ownership.” In *Indigenous Peoples and Real Estate Valuation*. Eds. Robert A. Simons and Rachel Malmgren. New York: Springer, 2008, 63–75.

3 Lobowski, Ruben N. et al. *Major Uses of Land in the United States, 2002*. Washington, DC: Economic Research Service, United States Department of Agriculture, 2006.

4 Scherer, Frederic M. “The political economy of patent policy reform in the United States.” *Faculty Research Working Papers Series*. Cambridge, MA: Harvard Kennedy School of Government, October 2007.

7.1 · Intellectual Assets

property rights for authors and publishers.⁵ In the USA, the drafters of the Constitution of 1787 made special provisions for IP protection in Article I of the document: “Congress shall have the power...to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.”

Though IPRs create incentives to innovate, they also encourage monopoly pricing. AZT, the first antiretroviral effective against AIDS, sold initially for \$10,000, while incremental production costs were much lower.⁶ Many patients—or public health systems—could not afford such expensive drugs. Patents lead to high medicine prices and may prevent treatment of patients living in poor countries. On the other hand, without patent protection some of the drugs may not have been developed in the first place.

It is similar for copyrights, where protection keeps prices way above marginal cost. The incremental cost to produce and ship a CD-ROM copy of the PC operating software Windows is about \$2.40, including the disc, packaging, shipping and so on. For an electronic download version, incremental cost is close to zero, except for minor administrative expenses. But the price charged is \$350 for professionals, \$200 for residential use and \$120 for students.

Beyond affordability, IPRs can also create petty restrictions. For example, in 1996, the American Society of Composers, Authors and Publishers (ASCAP) threatened to sue girl scouts organizations for singing campfire songs such as “This Land is Your Land” without obtaining a license and paying for it. Some large restaurant chains did not serenade their patrons with “Happy Birthday” since that ditty was claimed by Warner Music Group to be under copyright until 2030, despite its dubious origins. (Eventually, the copyright claim was invalidated in 2015 in a court challenge.)

Every change in the property system is a change in the ownership of assets and resources,

and is hence a fight over wealth and income in society. Therefore, it is not surprising that IP is an area whose growth has been accompanied by increasing controversy, both economic and political. Opponents argue that patents often reward very little innovation, stifle progress and suppress the free flow of information. Companies use them to block each other. Furthermore, critics state that patents and copyrights rights have become too broad, and give excessive rights to first movers, shutting out competition.

Intellectual assets affect non-profit organizations, too. An example is the licensing income received from patents by Columbia University, which in 2008 was \$134 million, highest among American universities^{7,8} according to the American University Technology Managers, and \$115 million in 2014.^{9,10} This income benefitted its students and faculty. But, at the same time, the same university had a student body that topped a list by the film industry of film piracy at universities in the USA with 1198 “unauthorized uses of copyrighted material.”^{11,12} This kind of internal contradiction mirrors the similarly conflicted roles of many individuals: they are consumers of media and information, and yet they often are also producers of content of some value to others—as writers, managers, artists, or entrepreneurs. Often, they do not mind sharing their ideas and creations, but are not willing to let someone else “rip off” their creations to make money.

Despite the importance of patents and copyrights, most firms have no effective IA strategies. A 1998 survey of 360 US companies found that 71% admitted wasting patents through mismanagement. Another study showed that more than

5 The German philosopher Immanuel Kant provided an ethical rationale. Kant believed that an author has an inherent right to protection against unauthorized compulsion to speak, and that unauthorized publishing would violate the individual's personal autonomy. Kant, Immanuel. “Of the Injustice of Counterfeiting Books (Von der Unrechtmässigkeit des Buchernachdrucks).” *Essays and treatises on moral, political, and various philosophical subjects*. London, 1798.

6 Scherer, Frederic M. “The political economy of patent policy reform in the United States.” *Faculty Research Working Papers Series*. Cambridge, MA: Harvard Kennedy School of Government, October 2007.

7 Gordon, Larry. “How the UC system is making patents pay off.” *Los Angeles Times*. October 10, 2015. Last accessed May 22, 2017. ► <http://www.latimes.com/local/education/la-me-uc-patents-20,151,011-story.html>.

8 National Academy of Inventors. “Top 100 Worldwide Universities Granted U.S. Utility Patents 2015.” Last accessed May 22, 2017. ► <http://www.academyofinventors.com/pdf/top-100-universities-2015.pdf>.

9 Gordon, Larry. “How the UC system is making patents pay off.” *Los Angeles Times*. October 10, 2015. Last accessed May 22, 2017. ► <http://www.latimes.com/local/education/la-me-uc-patents-20,151,011-story.html>.

10 In 2015, Columbia was the ninth highest recipient of patents (119) among educational institutions in the world. National Academy of Inventors. “Top 100 Worldwide Universities Granted U.S. Utility Patents 2015.” Last accessed May 22, 2017. ► <http://www.academyofinventors.com/pdf/top-100-universities-2015.pdf>.

11 Fisher, Ken. “MPAA Names its Top 25 Movie Piracy Schools.” *Law and Disorder*. April 2, 2007. Last accessed June 9, 2010. ► <http://arstechnica.com/tech-policy/news/2007/04/mpaa-names-its-top-25-movie-piracy-schools.ars>.

12 Columbia University was followed by the University of Pennsylvania with 934, Boston University with 891, University of California, Los Angeles with 889, and Purdue University with 873.

35% of US patents go unused by their owners, though they are potentially of value to others.¹³ The estimated value of wasted patents was \$150 billion. The value of under-utilized copyrights is vast, although even more difficult to estimate.

The questions for this chapter are what options exist for a media and information firm to create and protect its innovations? How can a firm optimize the benefits from its IAs? We will use the firm General Electric (GE) as the main example.

7.1.2.1 Case Discussion

GE Intellectual Assets

In 2012, at its peak, GE was ranked the fourth largest firm in the world in *Forbes Magazine's* Global 2000, based on a set of several metrics. The company was active in consumer electronics, aviation engines, appliances, financial services, energy, health and transportation. It was the most successful conglomerate in America.

From 1981 to 2001, legendary CEO Jack Welch led the company. Welch raised GE's market value by 4000% to make it the most valuable company in the world. In 1999, he was picked by *Fortune Magazine* as the "Manager of the Century."¹⁴ GE was the 4th largest company in the world by profits, 7th for management, 5th for global brand, 15th "most admired," and 19th for "most innovative." It had 333,000 employees working in 160 countries. By 2018, however, the sprawling company was performing poorly and narrowed its focus by divesting several of its operations.

GE operates with 12 major divisions, each holding substantial

autonomy. It acquired the electronics technology firm RCA in 1986 and, with it, its subsidiary, the major media company NBC. It also acquired the Universal Pictures film studio from French video game company Vivendi in 2004. GE then sold control of the combined NBCUniversal to the major cable firm Comcast in 2012. NBCUniversal is one of the world's leading media and entertainment companies. The NBC Television Group consists of the NBC network with its many in-house produced shows in entertainment, news and sports; numerous owned and operated local stations; the Spanish-language channel Telemundo; and many cable channels such as MSNBC, CNBC, E!, Bravo, Syfy and the USA Network. Universal Pictures is a major motion picture company. It also owns Universal Theme Parks & Resorts, a popular entertainment destination, and Dreamworks Animation. Hulu.com is an online video service offering TV shows, movies and clips, of which NBC owns 30%.¹⁵

GE owns valuable trademarks. It holds trade secrets, confidentiality agreements and business methods for which it owns business process patents. It holds patents for complex technology. GE received 1652 patents in 2016 alone. In 2012, it was the third largest patent creator in the USA.^{16, 17} GE spent \$5.5 billion on R&D in 2016. In just one year, 2011, it collected 184 "green energy" patents (the highest number of such patents received in the USA).¹⁸ Over the course of its corporate history, GE has amassed more than 67,500 patents.

GE was a major content producer when it owned NBC and Universal Pictures, holding a vast collection of valuable copyrights.

There are several questions for discussion:

- How does GE manage these assets?
- How does GE protect and exploit its innovations?
- How does GE deal with the property rights of others?

7.1.3 How Companies Organize Their Intellectual Property Management

With the importance of IAs rising, the question is how companies organize the management of this area. Often, the function is delegated to the legal

department—the people who deal with a company's contractual rights and obligations. Other companies assign different types of IP to different departments. For patents, the R&D unit is in

13 Rivette, Kevin G., and David Kline. *Rembrandts in the Attic: Unlocking the Hidden Value of Patents*. Boston: Harvard Business School, 2000, 122.

14 Comstock, Beth. "Best Advice: What I Learned From Jack Welch Hanging Up on Me." *LinkedIn*. February 26, 2013. Last accessed July 16, 2013. ► <https://www.linkedin.com/today/post/article/20130226113021-19748,378-best-advice-what-i-learned-from-jack-welch-hanging-up-on-me>.

15 NBCUniversal. "This is NBCUniversal." Last accessed July 15, 2013. ► <http://www.nbcuni.com/corporate/about-us/>.

16 Anderson, Ash. "IBM, King of the Patents." *SFGate*. January 16, 2013. Last accessed May 22, 2017. ► <http://www.sfgate.com/business/fool/article/IBM-King-of-the-Patents-4199052.php>.

17 GE. "GE Reports." March 8, 2010. Last accessed June 13, 2013. ► <http://www.gereports.com/twenty-thousand-patents-this-decade-and-counting/>. GE list of its patents (over 20,000 in a decade) can be viewed on FreshPatents.com.

18 GE. "GE Reports." April 13, 2012. Last accessed June 13, 2013. ► <http://www.gereports.com/ge-tops-clean-energy-patent-list/>.

7.2 · The Different Types of Intellectual Assets

charge; for trademarks, the marketing unit;¹⁹ for licensing, contracts, and infringements, the Legal Counsel; for trade secrets, the HR department;²⁰ and for valuation, the corporate finance group. Whatever the company's organizational structure, it is clear that collaboration between various departments within a company is essential, often implemented through an IA review team with representatives from all groups.^{21, 22}

7.1.3.1 Case Discussion

How GE Organizes Its Intellectual Asset Function

GE's IA function is led by a Chief Intellectual Property Counsel at the corporate vice-president level, an upgrade of the position in rank from what it had previously been. That person reports to the Corporate General Counsel. All 12 GE business groups have a dedicated IP division,²³ which includes a Head of Intellectual Property, Senior Intellectual Property managers, a legal counsel and others.

At the corporate level, GE Licensing is in charge of outbound patents and trademarks. Inbound licensing is handled by the units in need of a license. GE also has a Central IP Group, which supervises trademarks and foreign patent filings.

In the 1990s, GE changed its accounting practices, providing an incentive to its individual units to generate licensing revenue. License fees received were credited from the corporate level back to the business unit that had created the IA.

7.2 The Different Types of Intellectual Assets

One can distinguish five basic types of IAs: trade secret protections, contract-created rights, patents, trademarks and copyrights. The pyramid in

Fig. 7.1²⁴ ranks them in terms of frequency and difficulty in creation.

Patents are fairly rare and very difficult to obtain. Trademarks are easier to get but offer less protection. Copyrights are created frequently and easily, but have limited protections. Most abundant are trade secrets, which will now be discussed.

7.2.1 Trade Secret Protections

By one estimate, 90% of overall commercial value in IA is found in trade secrets.²⁵ A trade secret is information which is not already well-known publicly, which benefits a business commercially and which the owner has taken reasonable measures to keep secret. For example, the fast food chain KFC keeps its Kentucky fried chicken recipes secret. Only a handful of people are told the recipe after signing strict confidentiality agreements. KFC goes so far as to use different companies to blend the spices together so that no company has the complete recipe.

Firms may use trade secrets when it is not feasible to obtain a patent. Some creations

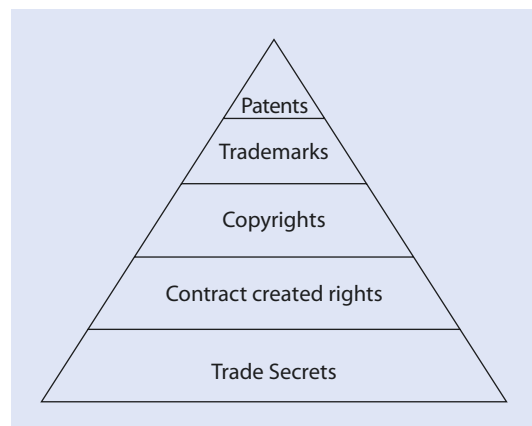


Fig. 7.1 Hierarchy of intellectual property rights by frequency

19 Tao, John et al. "Developing an Effective Strategy for Managing Intellectual Assets." *Research-Technology Management* 48, no. 1 (January/February 2005): 50–58.

20 *Managing Intellectual Property*. "25 ways to be a more effective TM manager." May 1, 2006. Last accessed May 22, 2017. ► <http://www.managingip.com/IssueArticle/1254631/Archive/25-ways-to-be-a-more-effective-TM-manager.html>.

21 Thomas, Brad. "Intellectual Property Management Tips." *The CPA Journal* 73, no. 8, (August 2003): 10.

22 "Meeting of the Minds." *Risk Management* 49, no. 12, (December 2002): 28.

23 Wild, Joff. "The GE Revolution." *Intellectual Asset Management*. (August/September, 2004): 25–28.

24 Poltorak, Alexander I., and Paul J. Lerner. *Essentials of Intellectual Property*. New York: John Wiley & Sons, Inc., 2002.

25 Anton, James J. "Little Patents and Big Secrets: Managing Intellectual Property." *RAND Journal of Economics* 35, no. 1 (Spring 2004): 1–22.

are not readily patentable; for example, David Copperfield's magic tricks or Coca Cola's syrup formula. But many patentable inventions have not been submitted for a patent. The reasons are that companies ask themselves whether it worth trying to get a patent for 20 years, spend considerable money and time to obtain it and, in the process, disclose the invented technology thereby risking imitation, particularly from abroad. Or is it better, faster, safer, and cheaper to use trade secrets? This is particularly the question in those areas of technology where innovation is rapid and accelerating, and where patents are less important than a head start which is helped by adequate measures of trade secret protection.²⁶ This helps, in particular, where innovation exists in the production process itself. Here, secrecy can be better protected internally than for consumer products that circulate widely and can be reverse-engineered.

Keeping innovations as trade secrets avoids the costs of applying for patents and the disclosure of the technology to rivals. But it is not cost free. There are costs associated with protecting the secret. The more valuable the trade secret, the more a firm should spend to protect it,²⁷ by deterring theft and inadvertent disclosure.

There are several approaches to protecting trade secrets. One is physical security, such as guards, locks and paper shredders, as well as

locked document files. There is electronic security, including password protection, firewalls and so on. Employee background checks and training are part of HR security. There are non-disclosure agreements with employees and business partners (discussed later), as well as internal access and document control.

Obtaining confidential information about a rival's plans and products is not an offense as long as it does not involve a criminal act, such as breaking and entering, or bribery. In many countries, the theft of trade secrets is a criminal offense and is punishable by substantial penalties. To remedy some trade secret breaches, a firm can use its lawyers to obtain a court order (injunction) that aims to stop the beneficiaries or perpetrators of the breach. To discourage frivolous applications for such an order, the firm usually has to post a substantial bond, which costs money. Firms whose trade secrets were violated can also sue for damages, including punitive damages.

Trade secrets and their laws do not prevent "reverse engineering."²⁸ Reverse engineering is used to analyze how a competitor's product works, or how it is made, and to develop similar or interoperable products. This is common in software, games, consumer electronics and microchips. Where no patent exists, the reverse-engineered copycat product is perfectly legal.

7.2.1.1 Case Discussion

GE and Its Trade Secrets

GE possesses a wide array of highly confidential information that is important for its business. It includes contract terms for deals, the manufacturing processes for jet engines, primetime TV schedules, business plans, technology in development, story ideas, royalty rates and much more.

In 1997, GE charged a former employee of using the

confidential knowledge he acquired while working for GE in order to start his own company. A Chinese court agreed with GE but imposed a fine, at only \$120,000, a small sum relative to the competitive gain and business volume obtained by the Chinese company.²⁹ In another lawsuit, *General Electric v. Sung* (1994), the company won protection for

trade secrets used to manufacture synthetic industrial diamonds.³⁰ The defendant was a synthetic diamond expert who worked for GE in the 1980s. He pleaded guilty to stealing numerous documents and trade secrets from GE; he was sentenced to a lenient six months of house detention and fined \$200,000, plus another \$120,000 in restitution. The firm

26 Anton, James J. "Little Patents and Big Secrets: Managing Intellectual Property." *RAND Journal of Economics* 35, no. 1 (Spring 2004): 1–22.

27 Friedman, David D., William M. Landes, and Richard A. Posner. "Some Economics of Trade Law." *Journal of Economic Perspectives* 5, no. 1 (Winter 1991): 61–72.

28 *NPD Solutions*. "What Is Reverse Engineering?" Last accessed May 25, 2017. ► <http://www.npd-solutions.com/reverse-engineering.html>.

29 People's Republic of China, Ministry of Commerce. "GE Wins Trade Secret Infringement Case against Jiuxiang." *Intellectual Property Protection in China*, November 12, 2007. Last accessed June 1, 2011. ► http://www.chinaipr.gov.cn/casesarticle/cases/caseothers/200711/247674_1.html.

30 *New York Times*. "GE Wins a Stolen Secret." August 3, 1993. Last accessed October 5, 2010. ► <http://www.nytimes.com/1993/08/03/business/ge-wins-on-stolen-secret.html>.

which bought the information was a Korean company named Iijin Corp, but no damages were awarded against it.³¹

Complaints go both ways. GE has also been the subject of trade

secret litigation as a defendant. In 1997, the Dow Chemical Company sued GE for theft of trade secrets. Dow claimed that GE employed 14 engineers who previously had worked at Dow, and put them to

work on similar and competing projects.³² Dow's former head of plastics sales and marketing had taken a confidential Dow document and used it after he started work with GE. GE settled the case.

7.2.2 Contract-Created Intellectual Assets

Contractual agreements are a major practical way of protecting many trade secrets, in particular those that cannot be copyrighted or patented. The law expects employees to be loyal to their employers, and this includes not disclosing trade secrets to competitors, even without any particular signed agreements. However, specific agreements can be made to toughen confidentiality requirements of employees, to spell out restrictions and penalties, and to put them on notice that they must not disclose sensitive information.

Companies thus attempt to create contract-based IAs by non-disclosure agreements (NDAs), work-for-hire agreements, and covenants to not-compete (CNCs). These are also known as “confidentiality agreements.” Such contracts require employees to refrain from activities that compete with their employer after their employment ends and, for others involved, such as potential investors or partners, not to make use of the information gained.³³ However, many NDAs and CNCs are actually legally invalid and, hence, unenforceable. They must be limited in duration and apply to specified and relevant information. Unreasonable parts of a contract are voided by judges as being contrary to good public policy. They would make it difficult for an employee to quit and could, for example, prevent former employees from ever working again in their chosen field. CNCs are typically held valid for up to three years. In addition, confidentiality agreements do not cover third parties that have no obligations, such as a

taxi driver who overhears privileged information. In other instances, CNCs are simply a “golden handshake”—a way to pay a great deal of money to former top managers beyond their term of actual work for the firm.

Software companies create contract-generated IP rights by way of a “shrink-wrap” contract. The seller considers users to have agreed to and to be bound by a contract once they open the shrink-wrap packaging. The same term applies to software that is downloaded. In order to be valid, such contracts must be stated in a conspicuous, legible and printable manner, and the user must have the opportunity to turn it down. (This is usually not much of a realistic option, even assuming that a user will peruse a lengthy agreement.)

Ideas can also be the subject of contractual IA protections. A writer who pitches a story idea to a studio or publisher is vulnerable to theft, since ideas are not protected under copyright law. However, a story idea can be protected by making it the subject of a contract, where a film producer agrees not to use the story idea presented except with those who pitched it. Realistically, a struggling writer is usually in no position to demand a signed advance agreement from an influential producer. A less threatening approach is to make the producer orally agree to confidentiality, in the presence of other participants who could be witnesses.³⁴ An agent who does repeat business with the producer adds a layer of protection. The writer could start by saying something like: “I want to make sure you understand that I am telling you this idea with the understanding that it is confidential and, if you decide to use it, I expect to receive reasonable compensation.” The producer will probably nod affirmatively or say “sure,” and this would create an agreement. The writer should follow up with a polite letter restating verbal

31 Kennedy, John H. “Jury rules Korean company misused GE diamond secrets.” *Boston Globe*, July 31, 1993. Last accessed May 25, 2017. [▶ https://www.highbeam.com/doc/1P2-8238711.html](https://www.highbeam.com/doc/1P2-8238711.html).

32 Gilpin, Kenneth N. “Dow and G.E. Resolve Suit on Theft of Trade Secrets.” *New York Times*, April 10, 1997.

33 Anawalt, Howard C., and Elizabeth F. Enayati. *IP Strategy Complete Intellectual Property Planning, Access and Protection*. Eagan, MN: West Publishing, 1999, 536–537.

34 Litwak, Mark. *Contracts for the Film & Television Industry*. Los Angeles: Silman-James Press, 1998.

agreements made in the meeting. But, if the producer does not agree, warning lights should go off and the author may choose not continue disclosing information.

That said, it is not easy to define what constitutes the theft of an idea. Story elements are often similar. Not everyone who writes a play about two young lovers from hostile families has stolen the idea from Shakespeare (who, in turn, was not the first to come up with the story). It has been claimed that “there are only six basic plots.” Some instances of parallelism may be quite innocent. Others are not. Media firms have been subject to legal challenges from authors who believe they have been plagiarized. To reduce such lawsuits, media firms will often not review unsolicited manuscripts unless submitted through a reputable agent or other trusted intermediary.

7.2.3 Patents

7.2.3.1 Patent Overview

The term “patent” is derived from Latin, meaning “to lay open.” It was applied to many rights—such as offices, military commissions, titles, status and monopolies—conferred by the ruler, often in return for payments or some other service to the Crown. In its modern and narrower meaning, a patent is the grant of an exclusive right to make (or use, sell, import, or license) an invention. The grantee of a patent has the exclusivity for the production and use of the product, or process. In return, he must disclose details of the invention. There are several ways to make money from a patent. In particular, companies can use it, sell it (assignment), rent it (licensing), or not use it at all but instead prevent rivals from using it.

After a government agency grants a patent, the product is protected typically for 20 years. But, since patented technology tends to become quickly outdated in many fields, the average economic life of a patent is said to be 5 years.³⁵ After the patent expires, the innovation is in the “public domain,” and anyone can use it without permission.

Inventors who obtain patents have a monopoly on the exploitation of their innovation, which helps recoup research and development costs. The patent also adds credibility to a startup venture. However, the downsides of patenting are, as mentioned, that not only must inventors disclose details of the invention, but they also shoulder the high cost of obtaining and protecting the patent.

A patentable invention can be a product, a process, a method, a composition of matter, a design, or a plant. Innovations that cannot be patented include ideas (“sail westward to reach India”), laws of nature ($E = MC^2$), mathematical formulas, unsafe drugs and surgical techniques. Albert Einstein could not patent his scientific discoveries, but he obtained eight patents with another famous physicist, Leo Szilard, for something as mundane as a refrigerator pump. However, the recent patentability of software and “business methods” edges toward patents for formulas and ideas. Other things that cannot be patented include inventions for illegal purposes (e.g. devices to counterfeit money) and naturally occurring substances, plants and animals.

7.2.3.2 How to Get a Patent

Patents are granted by governments through a patent and trademark office (PTO). The process typically takes between two and four years. Examiners search the databanks to determine if an invention is new. The inventors need not actually construct the invention or demonstrate that it works, as long as they can describe plausibly how one could make it work. In theory, the description must allow a skilled person to make and use the invention, but patents are often complex, under-described and hard to understand, often on purpose.

The PTO usually responds to the application within 12–18 months after the application. Typically, the patent office rejects most of the claims, which have often been drawn over-broad to maximize coverage. The inventor and patent lawyer then dispute the ruling, resulting in give-and-take between the inventor and the PTO, and a reinstated application, typically with a narrower focus.

Due to this complex interplay, only one-fifth of patent applications in the USA were filed without the assistance of a patent lawyer. To get a US patent typically costs between \$10,000 and \$25,000. To obtain additional patents in other countries costs a further \$10,000 to \$20,000 per

35 Poltorak, Alexander I. “Valuing Patents as Market Monopolies.” *Patent Strategy & Management* 4, no. 5 (September 2003).

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country.³⁶ One study estimated that a European Patent Office filing valid for 13 EU countries costs an average of €30,000 per patent.³⁷

7.2.3.3 Case Discussion

GE and Its Patents

GE's first patent was to Thomas Edison, initiator of General Electric, for electric lights using a carbon filament (1880). Over the first half of the twentieth century, GE won more patents than any other US company and, over the course of its corporate history, GE has amassed more than 67,500 patents.^{38, 39} GE spent \$5.5 billion on R&D in 2016, in areas such as aviation, renewable energy and power, and transportation.⁴⁰ The majority of GE's many thousands of patents probably have little value. Even so, the sizable patent portfolio represents a significant deterrent to competitors.

7.2.3.4 Patent Infringements

Applying for patents is not cheap, but the cost of maintaining them can be much higher. If the patent has commercial value, it will attract imitators. The inventor will have to defend the patent in the courts. Often, the cost of litigation is larger than the revenue the inventor may subsequently earn from royalties or licensing.

A patent infringement occurs if another person uses the elements of the "claims" of a granted patent. To stop them, the original inventor can obtain a court injunction (a cease-and-desist order), seek payment for damages, or demand the return of up to three times the infringer's profits (treble damages). Microsoft had to pay IBM \$30 million in a patent infringement suit. The patent holder need not actually produce the invented product or process to claim infringement. Companies can just use their patents to block somebody else. Patent

holders can then threaten to shut down the operations of other companies.⁴¹

For many years, large companies rarely sued each other over patents. But, today, it is normal. "Patent trolls" are firms that buy or file patents and later sue other firms in their field.⁴² They buy patents and operate in plaintiff-friendly states or countries.⁴³ Patent infringement suits grew in the USA from an annual 1500 in the 1990s to more than 3000 in the 2000s. Complex patent trials can easily cost over \$5 million. The average cost to challenge a patent is \$1.2 million; thus, it is often cheaper and faster to pay royalties than to challenge a patent. Most suits are settled before the trial. In trials, and even with the ability of the challenger to the claimed patent to seek a friendly jury, the defenders of the patent win 58% of copyright infringement trials and 68% of jury trials.⁴⁴

Protecting patents is relatively more costly for small firms than for large firms. Small companies, even with solid patents, can be overwhelmed by legal challenges from deep-pocketed firms who tie them up while catching up in their R&D, or by patent trolls with spurious claims but with the ability to create delay.

The risk of a challenge to a vital patent has led to the emergence of IP insurance. This strengthens a small firm's bargaining position in licensing deals, since the license is more secure.⁴⁵

7.2.4 Trademarks

Trademarks are another major category of intellectual assets. A trademark is a word, name, phrase, sound, logo, or symbol used to identify a company and to distinguish its products and services. The aim of a trademark is to protect the

36 Quinn, Gene. "Overview of the US Patent Process." *Patents & Patent Law*. February 15, 2008. Last accessed June 15, 2010. ► <http://www.ipwatchdog.com/patent/patent-prosecution/>.

37 Von Pottelsberghe, Bruno. *Lost Property: The European Patent System and Why It Doesn't Work*. Brussels: Bruegel Blueprint Series, 2009.

38 General Electric. "Fact Sheet." Last accessed May 25, 2017. ► <http://www.ge.com/company/factsheets/corporate.html>.

39 IPI Claims Patent Services. "2016 U.S. Patent Trends & Insights." January 6, 2017. Last accessed May 25, 2017. ► <https://www.ificlaims.com/news/view/ifi-claims/2016-u-s-patent-trends.htm>.

40 General Electric. GE 2016 Annual Report. Last accessed May 25, 2017. ► https://www.ge.com/ar2016/assets/pdf/GE_AR16.pdf.

41 Griffin, Greg. "System patently out of date, some inventors complain A CU symposium dissects U.S. patent procedures in light of an explosion in technological innovation." *Denver Post*. April 10, 2006.

42 Chapman, Glenn. "Patent wars plague Internet Age, add innovation tax." *The Sydney Morning Herald*. April 16, 2012. Last accessed October 22, 2012. ► www.smh.com.au/it-pro/business-it/patent-wars-plague-internet-age-add-innovation-tax-20120416-1x2ej.html.

43 Crovitz, L. Gordon. "Google, Motorola and the Patent Wars." *The Wall Street Journal*. August 22, 2011. Last accessed October 22, 2012. ► <http://online.wsj.com/article/SB10001424053111903639404576518493092643006.html>.

44 Poltorak, Alexander I., and Paul J. Lerner. *Essentials of Intellectual Property*. New York: John Wiley & Sons, Inc., 2002.

45 Lanjouw, Jean O., and Mark Schankerman. "Protecting Intellectual Property Rights: Are Small Firms Handicapped?" *The Journal of Law and Economics* 47, no. 1 (April 2004): 45–74.

investment in a name or logo to build reputation and brand, avoid confusion by consumers, or create brand awareness. Examples of trademarked terms are “Windows 10,” “Disney World,” or “iPhone.”

Some names started out for distinct products by a company but were not registered. They became generic over time and lost protection. Examples are aspirin, cellophane, escalator, kerosene, yo-yo, zipper and trampoline. In consequence, companies now make major efforts to clarify that the names of products that are used in everyday language—such as Xerox, Kleenex, or Band Aid—are identified as distinctive trademarks and use a clarifying qualification such as “Xerox copier” or “Kleenex tissue.”

How does one obtain a trademark? Typically, trademark registration goes through a country’s patent and trademark office. Such PTO grants the use of the registration symbol (R in a circle). But there are also “common-law” trademarks, for which no registration is required. An unregistered trademark holder can generally only defend in the area in which it does business, not necessarily in the entire country. Also, it cannot sue to recover damages; it can only prevent the use of the name or logo. The symbol “TM” is used for unregistered trademarks. This also prevents others from using the same or similar marks. In Europe, a trademark regulation was passed in 1993 that made a trademark valid throughout the EU and established the European Trademark Office in Alicante, Spain. In the USA, Europe and Japan, official trademark registration lasts ten years and can be renewed forever. But, if a trademark is not used for two years (five years in the EU), a presumption of abandonment is created.

What kind of words can a firm register as a trademark and thus get legal protection of some exclusivity? Easiest to protect are arbitrary new words, such as Xerox.⁴⁶ According to photography pioneer George Eastman, a good trademark should be short, easy to spell, punchy and mean

absolutely nothing—such as his company’s name “Kodak”. Trademark names to avoid, because they are hard to protect, are personal and family names, nicknames, initials, or words that describe a product’s characteristics or location. Personal names can get protection if they become distinct, such as “Ben & Jerry’s” for ice cream (but not for a garage, especially if the owners are indeed named that way, and avoid misleading customers to believe that they are connected to the ice cream company).⁴⁷ To create trademark names, there are name consultants, websites and software programs such as NameStormers. They also offer to screen for meaning in other languages, avoiding the problems of the French soft drink Pschitt.

Beyond names, there are trademarks for unique symbols, for phrases such as “Don’t leave home without it,” for musical jingles, for distinctive colors associated with a company and even for odors. One can trademark a film or book title, if it has acquired a distinct secondary meaning.⁴⁸

Internationally, trademarks are covered by the Singapore Treaty concluded in 2006, which established a regulatory framework of common standards.⁴⁹ If a company is regularly doing business in another country, a trademark registration there may help to protect it.⁵⁰ Companies may spend much effort on protecting their trademarks. At the consumer products company Unilever, the trademark team alone consists of 54 professionals based in three different countries.⁵¹

46 Gardner, Steven. “Basics of Trademark Law and Trademark Registration Procedures for the General Corporate Practitioner.” *Campbell Law Observer*. April 1, 1999.

47 Elias, Stephen and Kate McGrath. “Trademark Legal Care for Your Business & Product Name.” Berkeley: Nolo Press, 2010.

48 Greene, K. J. “Abusive Trademark Litigation and The Incredible Shrinking Confusion Doctrine – Trademark Abuse in the Context of Entertainment Media and Cyberspace.” *Harvard Journal of Law & Public Policy* 27, no. 2 (2004): 608–642.

49 New International Treaty. *WIPO Magazine*. April 2006. (An earlier common framework was the “Madrid Protocol,” which offered a trademark owner in one country the ability to obtain registration in many other foreign countries.)

50 Internicola, Charles. “What Are The Benefits of The International Trademark Registration Process?” Charles N. Internicola, Business and Franchise Lawyer, 2011. Last accessed June 2, 2011. ► <http://www.franchiselawsolutions.com/faqs/what-are-the-benefits-of-the-international-trademark-registration-process.cfm>.

51 *Managing Intellectual Property*. “25 ways to be a more effective TM manager.” May 1, 2006. Last accessed May 25, 2017. ► <http://www.managingip.com/IssueArticle/1254631/Archive/25-ways-to-be-a-more-effective-TM-manager.html>.

7.2.4.1 Case Study

GE Trademarks

GE has over 2000 registered trademarks in the USA alone. GE's primary trademark since 1900 has been the well known "GE" monogram, with the stylized letters "GE" inside a circle with four curlicues (■ Fig. 7.2).⁵²

In 2003, *BusinessWeek* ranked the GE brand the fourth most valuable in the world. GE trademarks the actual letters "GE" across many different industries, from medical technologies to fuel cells to chemical research. When it owned NBCUniversal, GE held many iconic trademarks of

entertainment media, such as the NBC peacock and chime jingle, and Universal Studios' globe, both recognizable to most TV and film viewers.

GE also held the trademarks owned by Universal, including those for films and TV series such as *Jurassic Park*, *Magnum P.I.*,⁵³ *The Tonight Show* and *Saturday Night Live*. Not only is the name *Saturday Night Live* protected, but NBC also trademarked the initials of "SNL," a nickname by which the show is commonly known.

In 2011, a subsidiary of the office supply chain Staples reached a deal with NBC Universal to create a "Dunder Mifflin" paper brand that was based on the fictional paper company of the popular TV series *The Office*. NBC receives 6% of Staples' revenue from its paper sales under the Dunder Mifflin brand name. The cases of paper are sold (at a price that is well above market price) for \$65 each, so NBC gets \$3.90 for each case of paper reams sold.⁵⁴



■ Fig. 7.2 GE trademarked logo

7.2.5 Copyrights

7.2.5.1 Copyright Overview

Copyright is the property right created by law that grants to the creator of an original work the exclusive rights for its use and distribution. It originally covered books and then expanded far beyond printed works to almost any form of expression, including dance, music, paintings, photographs, movies, software, TV shows, sports, computers,

architectural sketches and computer chip designs. In music, for example, these rights include reproducing, distributing and making copies of derivative works based upon the copyrighted work, performing publicly and more. Copyright gives the owner, for a certain period, exclusive rights to use (or to not use) a work, and to transfer ownership of the work. After that period, the work moves into the "public domain."

As mentioned earlier, the first copyright privilege was issued in Venice in 1469. In 1710, the first copyright law was passed in England, known as the "Statute of Anne," after the contemporary English queen. In 1787, the US Constitution listed the protection of authors as one of the specific powers of federal government, and the first US copyright law was passed in 1790, among the very first pieces of legislation at the federal level. Exclusive rights were given for 14 years, renewable for a further 14 years. But, by the twenty-first century, both American and European copyrights had lengthened considerably. In 1962, US copyrights were extended to 28 years, renewable for

52 Intellectual Property Watch. "Inside Views: General Electric's View on Green IP And Technology." June 12, 2009. Last accessed August 1, 2012. ► <http://www.ip-watch.org/2008/06/12/inside-views-general-electrics-view-on-green-ip-and-tech/>.

53 LegalForce Trademarkia. "Magnum." July 15, 2013. Last accessed May 25, 2017. ► <http://www.trademarkia.com/magnum-73281111.html>.

54 LoGiurato, Brett. "Dunder Mifflin Paper Comes to Life as NBC, Staples Strike Licensing Deal." *International Business Times*. November 28, 2011. Last accessed June 18, 2013. ► <http://www.ibtimes.com/dunder-mifflin-paper-comes-life-nbc-staples-strike-licensing-deal-375734>.

an additional 28 years. Over the next 40 years, the US Congress extended the lengths of copyrights 11 times. In 1998, the Sonny Bono Act—named in commemoration of its chief sponsor, the Congressman and pop singer (of the duo Sonny and Cher) who died in a skiing accident—added another 20 years to the previous periods of 50 years beyond the life of the author, and 75 for works of corporate authorship.

These are very long periods, especially since the economic value of most copyrighted works is far shorter than these extensive periods of protection. But there are notable exceptions, among them creations whose authors and artists died in the early or middle part of the 20th century, but whose works still produce income today. This includes films by Charlie Chaplin and Walt Disney, which benefitted from the 20-year retroactive extension. Other beneficiaries were the heirs to Edward Munch, Glen Miller, Wassily Kandinsky, Jerome Kern, Hank Williams, Buddy Holiday, Albert Camus, Ernest Hemingway and Ian Fleming.

A copyright notice contains three elements: the symbol for or word “copyright,” the year, and the name of the copyright owner. Use of the © mark is not necessary. However, in an infringement lawsuit the extent of how much notice is given will affect the size of damages that would be awarded. To obtain a copyright, no formal registration is necessary. But if there is no registered copyright, one cannot usually sue for damages but only stop the copying and distribution. Registration provides evidence of the creation and is a notice to others that they cannot use the work. This is especially necessary for screenplays and manuscripts that circulate. While contract-based protections such as non-disclosure agreements are also available, registration provides good evidence in a potential court case.⁵⁵

To register for a formal copyright, the owner sends a copy of the work to the Copyright Office (in the USA, at the Library of Congress), files a copyright registration application and pays a registration fee.

7.2.5.2 What Can Be Copyrighted?

Many things can be copyrighted. Literary and dramatic works, sound recordings, choreographic works, pictures, graphics and sculptural works, motion pictures, computer software, names (and logos) of programs, or a program format and set designs can all be protected by copyright trademark. After 1984, copyright protection was provided in the USA and other countries for mask works (the original etching) of semiconductor chips, providing protection for ten years.

What cannot be copyrighted? An idea or a fact, by themselves, cannot get a copyright, though the actual expression of the idea or fact is protected. But, if a different wording is used for the idea, there is no copyright violation, at least not in America. Simple lists of facts do not get a copyright, for example, phone directories arranged alphabetically. That was decided by the US Supreme Court in 1991 when it denied copyright protection for databases that did not involve some original “creative” selection and/or organization of data. Until then, the legal theory was that a “sweat of the brow” effort created copyright for a database. The management consequence therefore is for such lists to be either kept as a trade secret, or augmented and transformed in some fashion.

Direct and unauthorized copying of someone else’s work is a copyright violation. Quotes and paraphrases with attribution are acceptable within reason, as are innocent omissions of attribution, especially where the content is not central to the new work or is not truly unique. But there is much of a gray zone when it comes to the commercial use of another person’s central ideas without attribution or compensation. Such borrowing has a long history, like the retelling of someone else’s joke. But today, some authors (or wannabes) will sue.

Patent protection deals mostly with technological property, whereas copyright protection is mainly concerned with literary and artistic property. But, in some cases, both are available. Computer software or semiconductor designs qualify for either. Which, then, to choose? A patent offers strong protection but for a relatively short period (17–20 years) and must satisfy strict standards, such as novelty. Obtaining a patent can be long process and expensive, and the inventor has no enforceable rights until a patent is issued.

55 Litwak, Mark. “Frequently Asked Questions: Copyright.” *Mark Litwak’s Entertainment Law Resources*. Last accessed June 27, 2011. ▶ <http://www.marklitwak.com/faq/copyright.html>.

7.2 · The Different Types of Intellectual Assets

A copyright offers relatively soft protection against direct copying for a very long period (the creator's life plus 70 years). It can be obtained easily and quickly.

Copyright laws differ somewhat in every country. In some jurisdictions, such as France, the “moral rights” of creators against the alteration of work gives them the right to participate in the future profits of resale. Moral rights in a work refer, in particular, to the right to be known as the author of a work, and to the right of authors to prevent others from doing things to their work which can hurt their reputation. Moral rights are retained by an author even if all of the other rights are assigned to another. Moral rights cannot be assigned to anyone else by the author.

7.2.5.3 International Copyright Protection

The USA was pro-piracy in its early years—in fact, the first US copyright law of 1790 explicitly limits the protection of foreign works (typically British ones). This attitude toward foreigners' IP rights encouraged the widespread legal piracy of English books. Only in 1891 did the USA begin to recognize international copyrights. This follows the classic pattern that a country which is primarily an importer of creations and innovations is disdainful of foreigners' IPRs, until that country becomes an exporter itself.

There is no such thing as an “international copyright.” However, through international treaties and agreements, many countries recognize each other's copyright legislation. Such agreements began with the Berne Convention for the Protection of Literary and Artistic Works in 1886.⁵⁶ Each country respects the copyrights of other signatory countries and applies the copyright laws of the nation in which the work is originally copyrighted. The minimal protection period is 70 years for authors and 50 years for performers. The USA eventually adopted the terms of the Convention in 1989. The Berne Convention aimed to help non-national authors and publishers receive payment wherever their works are sold.

Another treaty—the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIP, 1994)—established minimal requirements and procedures for enforcement.⁵⁷ Most importantly, that Treaty created the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations in Geneva, with over 180 member nations. Because WIPO has its own financial source in its hefty payment and patent registration fees, it is said to be the richest United Nations agency.

The WIPO's principles are “national treatment” and “material reciprocity.” A government is obligated to protect the IP rights of foreign owners in the same way that it protects the rights of national holders, as long as the foreign country grants reciprocal rights. WIPO has also created an arbitration and mediation system.

7.2.5.4 “Fair Use”

The “fair use” exemption permits making and distributing copies for research, teaching, parody, journalism and library activities. Media firms hate fair use but universities rely on it.⁵⁸ “Fair use” was at issue in 2005 when book publishers sued Google for copyright infringement.⁵⁹ Google had started to scan books and make them available through its search engine when they were out of copyright, but also intended to expand the project to copyrighted works. Developing an electronic library, as many university and public libraries have done, falls under the terms of “fair use.” However, creating such a digital library for commercial purposes requires permission of the copyright holders. Publishers argued that Google, while not charging for access to the books, was using the digital library to increase the number of visitors to its site, and therefore raising its advertising revenue.⁶⁰

56 United Nations. *Berne Convention for the Protection of Literary and Artistic Works*. 1979. Last accessed June 6, 2011. ► http://www.wipo.int/treaties/en/ip/berne/trtdocs_wo001.html.

57 United Nations. *Agreement on Trade-Related Aspects of Intellectual Property Rights*. 1994. Last accessed June 6, 2011. ► http://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm.

58 Minow, Mary. “How I Learned to Love Fair Use.” *Stanford Copyright & Fair Use Center*. July 6, 2003. Last accessed May 25, 2017. ► http://fairuse.stanford.edu/commentary_and_analysis/2003_07_minow.html.

59 Gilbert, Alorie. “Publishers Sue Google Over Book Search Project.” *CNET News*. October 19, 2005. Last accessed June 21, 2010. ► http://news.cnet.com/Publishers-sue-Google-over-book-search-project/2100-1030_3-5902115.html.

60 Gilbert, Alorie. “Publishers Sue Google Over Book Search Project.” *CNET News*. October 19, 2005. Last accessed June 21, 2010. ► http://news.cnet.com/Publishers-sue-Google-over-book-search-project/2100-1030_3-5902115.html.

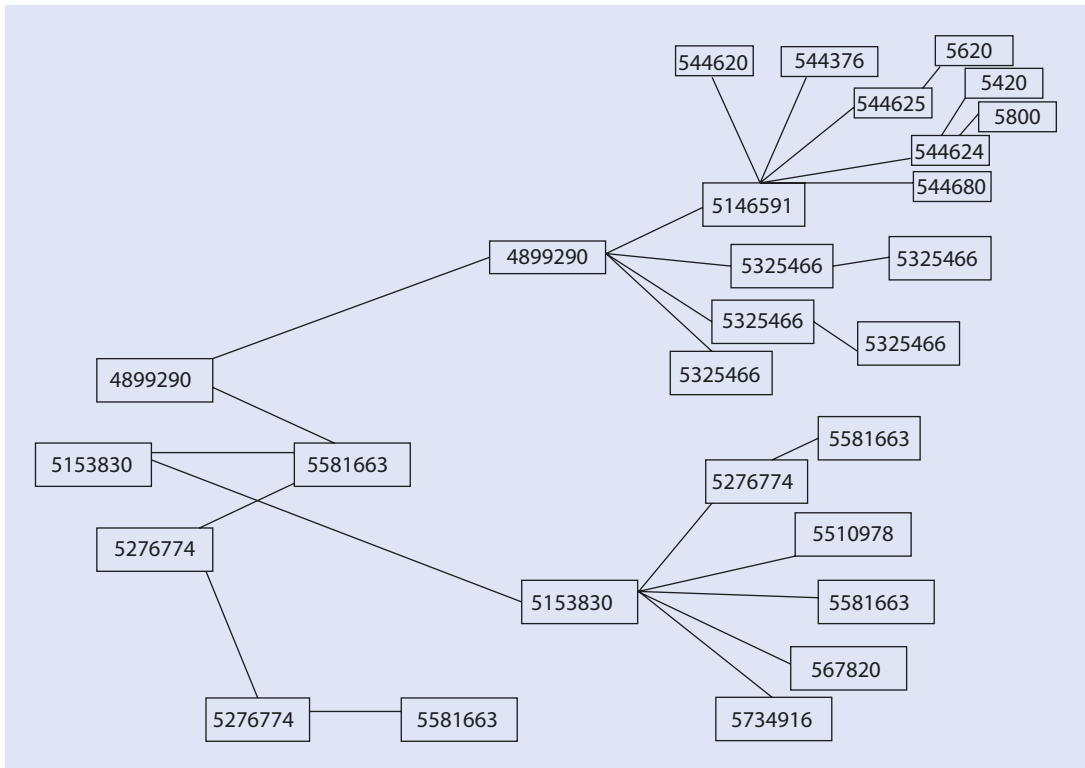


Fig. 7.3 Mapping of the *Prior-Art* interrelationship of patents

7.3 The Commercialization of Intellectual Assets

Now that we have described IAs and their scope, we will look at how one creates value from them.

7.3.1 How Important Is an Intellectual Asset?

How to judge the importance of an item of intellectual property? One way is to use the public record. Applications and registrations for patents, copyrights and trademarks are public.⁶¹ In the case of patents, the applications require specific references to “prior art.” This permits a check on which patents are out there and which seem to be important to subsequent inventors. This information can be used to check on the importance of

a patent and its place in the broader technology trends of its field, as well as the technology status of rival firms and inventors.

Patent “parents” (backward citations) show the influences of prior art, and assess whether an innovation potentially infringes on a prior patent, and whether a firm should acquire a license before using the technology. One can also trace an invention’s “children” (forward citations): Who has been influenced? Where did it lead? Are there potential infringements? Does it provide clues to technology competitors and to potential licensees?

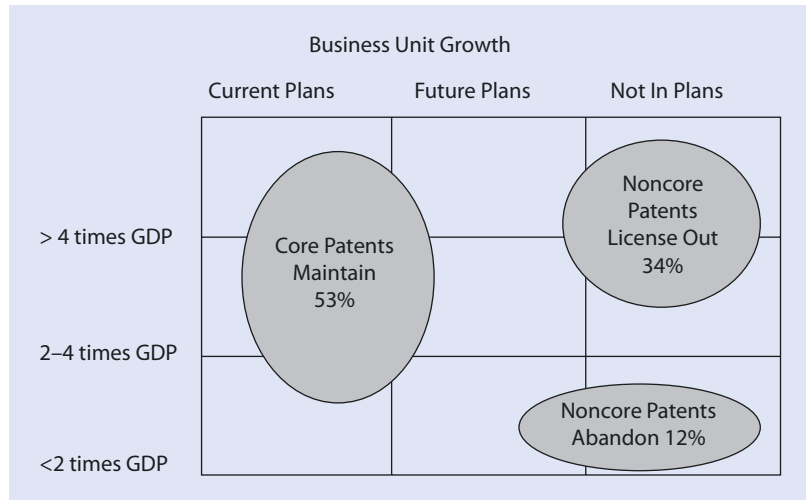
Figure 7.3⁶² shows the “children” of patent no. 5153830 (“Method and apparatus for providing assistance with respect to the development, selection, and evaluation of ideas and concepts”) awarded to Fisher Idea Systems. Six subsequent patents refer to it. And 14 patents refer to patent no. 4899290 (“For a system for specifying and executing protocols for using iterative analogy and comparative induction in a model-based computation system”,

61 The free US government PTO website for patent searches is ► <http://patents.uspto.gov>. A for-pay source for US patents is Micropatent (► <http://micropat.com>). European patents can be searched through the European Patent Office (► <http://www.epo.co.at:80/index.htm>). Japanese patents can be found in translation through the International Science and Technology Associates (► <http://www.intlscience.com> and ► <http://www.jpo-miti.go.jp>).

62 Based on Aurigin Systems, Inc. 1999. Aurigin is now part of the Clarivate company.

7.3 · The Commercialization of Intellectual Assets

■ Fig. 7.4 Intellectual asset audit map



awarded to the Digital Equipment Corporation (DEC), which seemed to be a rival.

7.3.2 Aligning Intellectual Assets with Strategy: Intellectual Asset Audits

A second tool for IA analysis is the internal IA audit. A company must systematically review what it owns, what it needs, and what it could sell or otherwise dispose of. An “audit map” visually represents what IAs are most valuable to the firms’ business strategy (see ■ Fig. 7.4).⁶³ The X-axis is for IAs and shows the asset’s fit and importance in the company’s current and future plans; the Y-axis is the rate of growth of that business line as a ratio to GDP growth.

■ Figure 7.4 shows in broad terms which IAs have the most commercial value for the business. The most valuable patents are in the north-west quadrant—the high growth area. The map also shows which IAs should be supplemented, licensed, sold, or abandoned. The audit helps differentiate between core and non-core patents. Core patents are technologies central to current or future products, and are not usually licensed. Non-core patents are technologies not being used in current or planned products, and these are often licensed.⁶⁴

Using such an audit, Dow Chemical audited its 29,000 patents and, after identifying and valuing them, assigned each to one of the 15 major Dow business units, which thereafter assumed responsibility for its use. Dow then abandoned or donated the unused patents to universities or non-profit groups, yielding a savings of \$50 million in taxes and the lower maintenance cost for unneeded patents. At the same time, patent licensing revenues rose from \$25 million in 1994 to \$125 million in 1999.⁶⁵

7.3.3 How to Value Intellectual Assets

7.3.3.1 The Book Value Approach

Business assets are normally recorded at the cost of creation or purchase. But IAs are treated differently. The main issue is that accounting standards treat in-house developed IAs as an expense rather than an asset. The development of a videogame or a film may create an asset of considerable value, but it will not show up on the balance sheet. If, for example, a company develops a new software product and gains a valuable copyright, patent and, perhaps, trademark, the costs (performers, programmers, editors, overheads and so on) are written off as expenses against current revenues. The IA rights to the software are not assets on the balance sheet and they cannot be depreciated. In contrast, for a

63 Based on Rivette, Kevin G. and David Kline. *Rembrandts in the Attic: Unlocking the Hidden Value of Patents*. Boston: Harvard Business School, 2000, 68

64 Rivette, Kevin G., and David Kline. *Rembrandts in the Attic: Unlocking the Hidden Value of Patents*. Boston: Harvard Business School, 2000.

65 Rivette, Kevin G., and David Kline. *Rembrandts in the Attic: Unlocking the Hidden Value of Patents*. Boston: Harvard Business School, 2000.

machine, the cost of that machine would be written off against revenues over a period of several years. The exception is where the intellectual asset has been acquired in a purchase transaction from another party and thus has a clearly stated value as an asset. It should be noted, however, that companies' stock price valuations reflect, to some extent, the value of the patent holdings and the earnings that they produce, even if they do not show up as assets on the balance sheet.⁶⁶

In the USA, the rules are set in a document called FASB Statement 142, which decrees that patents, copyrights and trademarks with finite lives are amortized over their useful lives, and for not more than 40 years. Thus, although copyrights are granted to the author of a work for the life of the creator plus 70 years—which could easily exceed 100 years—according to the rules, the cost of the copyright is amortized only over the expected life of the benefit, not to exceed 40 years. Similarly, the cost of creating or acquiring trademarks must be amortized over the period of the benefit, not to exceed 40 years. Domain names have a depreciation period of 2–10 years and website development has a period of 3–5 years.

7.3.3.2 The Cost Approach

The *cost approach*, closest to an accounting treatment, defines the value of the IA to be the expense that it took to create it. It is rarely straightforward to measure such costs, given the high overheads and the joint costs of several projects, and to assign them to the particular patent or copyright that was created. Beyond the measurement problems, there is a more fundamental point. The problem is that the cost expended for an invention or creation is not necessarily related to its economic value. Many costly developments do not lead to successful inventions or products, i.e. they are worthless. Should the costs of such unsuccessful inventions be counted as an asset?⁶⁷ Conversely, would one value an invention or melody conceived in a flash of creativity at the cost of that brief effort, rather than at its much greater economic worth as an asset?

7.3.3.3 Market Valuation

The third technique, market valuation, assigns the value of the IA as the value given to it by the market. If there are buyers for the rights to a particular video game at \$1 million, but not higher, then that is the value of such an asset. This is fine in concept but, for this approach to work, a market must be active with the exchange of comparable products and must incorporate only arms-length transactions (i.e. transactions in which both sides are independent of each other). It must also provide readily available transaction data. Because those conditions are seldom met, the market approach is rarely used for intangible assets. In the media sector, the market approach is sometimes used for “commodity” TV series such as game shows.⁶⁸ There are computer programs that simulate a market and draw parameters from other similar industries or products. These valuation models use various formulas to crunch data about the markets, competition, forecasts and assumptions, and then come up with a value that might serve, at least, as the starting point to negotiation.

7.3.3.4 Income Approach

The income approach is based on the net present value (NPV) of the income stream the patent generates. This method identifies the value of income flows related to the IA in each time period and then capitalizes cash flows by discounting them to the present.⁶⁹ The income approach is best suited to the appraisal of licenses and franchises.⁷⁰ The income approach is implicit in various rules-of-thumb. Typically, music licenses are valued at 5–8 times the revenues they generate per year, or sometimes even 12–13.

The income approach has major challenges: how to estimate revenues into the future, and how to pick a discount rate to use. More fundamentally, the income approach has a major conceptual flaw. It does not distinguish between the value of the IP and the value of the technology.⁷¹ A newly invented technology or a new movie would have

66 Penman, Stephen H. “Accounting for Intangible Assets: There is Also an Income Statement.” *Abacus* 45, no. 3 (September 2009): 358–371.

67 WIPO. “WIPO National Workshops on Assessment and Valuation of Inventions and Research Results for Technology Transfer and Commercialization.” August 12, 1997.

68 WIPO. “WIPO National Workshops on Assessment and Valuation of Inventions and Research Results for Technology Transfer and Commercialization.” August 12, 1997.

69 Bertolotti, Nick. “Valuing Intellectual Property.” *Managing Intellectual Property* no. 46 (February 1995): 28.

70 WIPO. “WIPO National Workshops on Assessment and Valuation of Inventions and Research Results for Technology Transfer and Commercialization.” August 12, 1997.

71 Poltorak, Alexander I., and Paul J. Lerner. *Essentials of Intellectual Property*. New York: John Wiley & Sons, Inc., 2002.

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a value even without the patent or copyright. The patent or copyright's value is the *extra* value due to the monopoly in commercializing the patent or copyright. (This objection is applicable to some of the other valuation methods, too). For example, the value of Intel's patents is difficult to determine because of its comparative advantages in chip production. Intel would have significant revenues from its chips even without any patent protection, and it would therefore be incorrect to attribute all of Intel's revenues from a particular chip to the patents associated with it.

The simplest practice to use in the income approach for the patent value is to estimate the price differential obtainable with an IA above the price of a comparative generic, unbranded product; to estimate sales volume and thus calculate gross revenues attributable to the patent; and to deduct the corporate overheads, support costs and incremental costs that are associated with obtaining and protecting the patent, and the relevant taxes on the extra profit. The industry rule-of-thumb is that a patent is typically worth four to five times the extra profit figure.⁷²

7.3.3.5 The Residual Approach

The key question identified in the preceding section is how to figure out the extra value that the IA gives to a product. Baruch Lev, an accounting professor at New York University, proposed a solution by capitalizing what is left of earnings after deducting the normal expected return from a business's financial and physical assets. These residual earnings are then attributed to intangibles including IAs. A variant of the approach is called calculated intangible value (CIV). Lev's approach makes it possible for outside investors to estimate the value of intangibles.

The problem with this method is that it lumps together all intangible assets, of which intellectual assets are only a subset. Also, they are all aggregated, and one cannot calculate the value of a particular IA.

7.3.4 Intellectual Asset Management

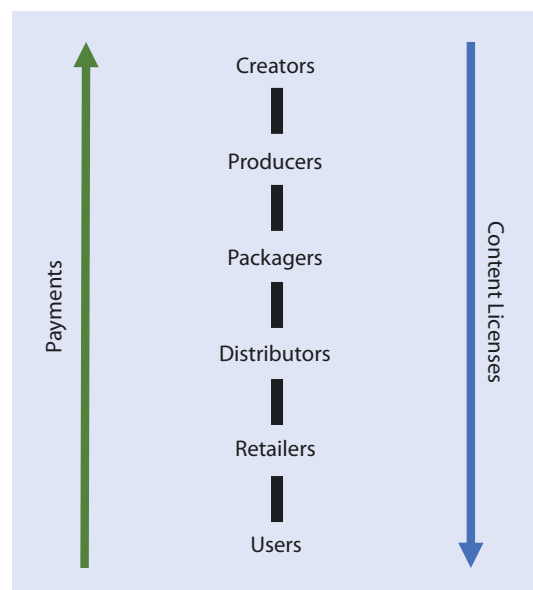
So, now you've set up an IA department. You understand the legal issues of IPRs. You've

identified the importance of your assets and their fit in overall company strategy. You know how to value IAs. The next step is to develop IA-savvy management. We start with licensing.

7.3.4.1 Licenses

A major way for profiting from IAs is by licensing them out. Licensing is an allocation of rights to a product or property among parties. It is somewhat analogous to a rental or lease in real estate. Licensing can take place at any point in the value chain of media, from creators to producers to packagers, distributors, retailers and end users.

■ Figure 7.5 shows the flow of rights and license fees. The rights flow from the creators to the producers to the packagers, to the distributors, retailer, and end users. The license fees flow in the opposite direction, from the users and retailers toward the creators. Creators are writers, game programmers, musicians, athletes and so on. Producers are book publishers, film production companies, music labels, sports teams, newspapers, or bundlers of content products (e.g. a TV channel). Packagers are sometimes part of producers and sometimes part of wholesale distributors (such as a TV network.) A distributor is a wholesaler to retailers, such as a cable TV channel, a book distributor company such as Ingram, or a film distribution studio. Retailers are a local



■ Fig. 7.5 The Flow of Rights and License Fees

72 Poltorak, Alexander I., and Paul J. Lerner (2002). *Essentials of Intellectual Property*. New York: John Wiley & Sons, Inc. 2002.

TV station, a cable multi-system operator, a book store, an online streaming service and so on.

Payments from IA licensing are often called “royalties.” Royalties can be paid in two ways: in an upfront lump sum, called a “paid up” license, or based on sales, profits, units, or other measures of the licensed products, called a “running royalty.” Profits are often difficult to define and measure. Sales revenue figures may seem to be easy to track but, in practice, they are also not easy to define and measure. Counting units sold, too, has its own problems, since it may not differentiate between different product grades.

For “running royalties” based on sales revenues, typical rates for patent licensing range from 1% to 5% of the gross sales related to the patents.^{73, 74} For important technologies, rates are 3% to 5% of gross sales. For computer hardware, typical royalty rates also range from 1% to 5%. In patent infringement litigation, courts have typically ordered payments in the range of 1% to 5% of the gross sales related to the patents, and maybe twice as high for important technologies.⁷⁵

When the royalty is tied to profits, rates for fully commercialized technology are often a 50% profit share. For less-developed technology, the licensor will receive a lesser profit share (e.g. 25%).⁷⁶ Application software could have royalties of up to 25% of profits.

For videogames, a publisher typically pays the game developer a percentage of wholesale revenues with a flat advance fee upon signing the deal. Similar arrangements are used when a game publisher or developer creates a game about an existing movie. The license will typically include an upfront payment as well as royalties based on sales.⁷⁷

After firms license a patent or copyright to others, many lose track of their licenses, the revenues generated for the licensee and the use to which they are being put. Thus, it is necessary to establish a licensee accounting and tracking system, and to check on licensees frequently. This is known as a “royalty audit.” Any license given must include audit provisions that allow the licensor to review and inspect the licensee’s books that are relevant to the license.⁷⁸

7.3.4.2 Strategic Licensing

“Strategic licensing” by a firm can be part of a wider attempt to shape the market. A firm can use licensing to deter the entrance of strong competitors, or to select the preferred competitors for the time after the patent protection expires by giving them a head start through a license. For example, pharmaceutical firms are often reluctant to license firms considered tough rivals, and prefer licensing friendlier firms with whom they collaborate on other matters.⁷⁹

Exclusive licensing is often not the best way to go. Given a non-exclusive license at a reasonable price, a firm’s competitors may become its technology followers.⁸⁰ Thus, a firm can use the licensing process to create industry standards around its technology.

In one classic example, Matsushita/Panasonic licensed the VHS system used in videocassettes to other companies, and it became industry standard. In contrast, Matsushita’s competitor, Sony, did not offer licenses for its rival Betamax video recorder, which became a business failure despite its technical superiority.

A similar dynamic exists for the price of the licensing royalty. A high royalty can be counterproductive if it creates incentives to develop alternative technologies, or join another standard coalition, or even engage in unlicensed use. An overpriced royalty will also weaken the competitiveness of the licensee and, therefore, its sales.

73 Kinsella, P., R. Leonard, and G. Weinstein. “Four keys to successful technology in-licensing.” *Licensing in the Boardroom*. October 8, 2007. Last accessed March 15, 2017. ► <http://www.iam-media.com/Intelligence/Licensing-in-the-Boardroom/2009/Articles/Four-keys-to-successful-technology-in-licensing>.

74 Lichtenhaler, Ulrich. “Corporate technology out-licensing: Motives and scope.” *World Patent Information* 29, no. 2 (June 2007): 117–121.

75 Megantz, Robert C. *How to License Technology*. New York: John Wiley & Sons, 1996, 55–69.

76 Megantz, Robert C. *How to License Technology*. New York: John Wiley & Sons, 1996, 55–69.

77 Wiley, Sam, and Adam Falconer. “Licensing and IP Issues for Mobile and Social Game Developers.” *Ipstrategy.com*. June 13, 2013. Last accessed June 3, 2014. ► <http://ipstrategy.com/2013/06/13/licensing-and-ip-issues-for-mobile-and-social-game-developers/>.

78 IAM magazine supplement “Licensing in the Boardroom.” “The How’s and Why’s of Monitoring your Licensees.” (October 2005): 44–46.

79 Rockett, Katharine E. “Choosing the Competition and Patent Licensing.” *RAND Journal of Economics* 21, no. 1 (Spring 1990): 161–171.

80 Shapiro, Carl, and Hal R. Varian. *Information Rules: A Strategic Guide to the Network Economy*. Boston: Harvard Business School Press, 1999.

7.3.4.3 Cross-Licensing and Patent Pools

When several firms hold critical patents and block each other, cross-licensing is often necessary to get a new technology moving. “Patent pools” reduce the risk of litigation and intentional blocking, but they also lower innovation, because firms have fewer incentives to leapfrog each other’s technology.⁸¹ In the USA, the government and courts had a skeptical view on cross-licensing due to its potential to reduce competition by substituting collaboration.⁸²

Nevertheless, cross-licensing has become frequent. Often, entire fields, rather than single patents, are cross-licensed. One reason is that, in some fields, innovations build on each other. To avoid the risks of mutually blocking patents, firms often cross-license all their patents in that field. To engage in such cross-licensing, a portfolio of strong patents that covers large areas of the partner’s product markets is essential. If the patent portfolios of the firms are not equally strong, some balancing payments may be required. A listing of a firm’s most valuable patents (the “proud list”) is used to assess their value.⁸³ A royalty rate is assigned to each patent and is multiplied by its quality weighting factor and by the annual sales of its product base. This determines the royalty rate percentage of a patent holder in total sales revenues.

7.3.4.4 Music Licensing

Music rights are a highly complex system with many types of participants. Every musical recording consists of two separate copyrights. The first is for the underlying musical creation (the music and the lyrics). Copyrights for this “musical work” are typically owned by the songwriter(s) and/or their music publisher. Royalties for this musical creation, when it is performed publicly, are collected and distributed by performance rights

organizations such as ASCAP, BMI and SESAC on behalf of composers and lyricists.

The second type of copyright is for the “sound recording”—the actual recording itself. This includes the artist’s performance and interpretation of the musical composition, and the contributions of the producer, sound engineers and background musicians. The copyright to the sound recording is held by the music label, or an independent musician. Thus, an audio transmission of a musical recording—for example, by an online music service such as Spotify—usually requires payment for both the underlying musical work and the actual sound recording.

Songwriters typically let “music publishers” manage the IA created by them, either on their behalf, or through direct ownership by the publisher. Music publishers must be distinguished from the labels and distributors, which do the actual production, marketing and distribution of the music. In practice, the major music publishers are owned by the major music groups, which also own labels and distributors. But the functions are distinct. There are music publishers who do not produce or distribute, and vice versa. Bertelsmann Music Group (BMG) sold its labels and its production and distribution system to Sony but kept the music publishing part and, indeed, strengthened it through acquisitions.

Using a recorded piece of music in a visual medium—such as film, television, advertisements, video games and so on—requires a “synchronization” royalty. Usually, these are negotiated between the music rights owner and the maker of the visual material such as a film producer. The rights owner will charge a one-time use fee, which will vary based on several factors—such as the centrality of the song, how much of it is used, how well-known the song is, how wide a release the material will have and so on. This payment can range from a few hundred dollars up to hundreds of thousands of dollars.

Music Licensing by Performing Rights Organizations

Large media companies have licensing departments that negotiate and collect copyright licenses. They have legal departments that monitor violations and file legal complaints accordingly. Small copyright holders, in the music field, however,

81 Crovitz, L. Gordon. “Google, Motorola and the Patent Wars.” *The Wall Street Journal*. August 22, 2011. Last accessed October 22, 2012.
 ▶ <http://online.wsj.com/article/SB10001424053111903639404576518493092643006.html>.

82 *Standard Sanitary Mfg. Co. v. United States*, 226 U.S. 20 (1912).

83 Grindley, Peter C., and David J. Teece. “Managing Intellectual Capital: Licensing and Cross-Licensing in Semiconductors and Electronics.” *California Management Review* 39, no. 2 (1997): 8–41.

must resort to joint collection agencies. These are known as performing rights organizations (PROs). PROs grant licenses to all types of venues and broadcasters, including TV and radio stations, networks, bars and the like.⁸⁴ PROs were first established in France in 1851. They license and collect royalties for the public performances of members' copyrighted works. Members include composers and authors, but not artists or record companies.

Performing rights organizations exist in many countries.⁸⁵ Major PROs in the USA are the American Society of Composers, Publishers (ASCAP); the Society of European Stage Authors and Composers (SESAC, owned since 2017 by the Blackstone private equity firm); and Broadcast Music, Inc. (BMI), which is owned by broadcasters. There is also Sound Exchange, which is appointed by the Library of Congress and is a non-profit performance rights organization that collects royalties from digital broadcasting media, such as cable TV music channels and satellite radio.⁸⁶

In the USA, terrestrial radio broadcasters pay royalties to songwriters and composers but not to performers. A license fee is paid by the radio stations to PROs. These, in turn, distribute the revenues to their members, who are songwriters and composers. But a song being played on an FM station will not generate royalties for the artist. The idea is that the promotional value of being played on the radio is the benefit conveyed to the artist. PROs such as SESAC track songs on an online database (DJMonitor). DJMonitor has a playlist management system (PMS) that allows rights holders to review the music performed to verify the results and to make corrections.

PROs give radio stations a blanket license for all of the music of its members. The typical fee for such a blanket license in the USA is about 1.6% of

the radio station's net revenues. Alternatively, stations may purchase a "per program" radio license, keep track of all music used and pay periodically for those songs used.⁸⁷ The rates negotiated for blanket licenses vary, depending on bargaining strength and the value of the music to the distributor. A 1993 court case disclosed that the broadcast network NBC paid 0.44% of gross network revenue (TV and radio) to ASCAP for licenses for use by its 261 TV and radio outlets.

The PRO distributes the license fees it collects, minus administrative costs of about 20%. ASCAP determines performance credits based on the number of uses, the type of use and the estimated audience. There are various formulas for the distribution of revenues. For example, for a musical, five-twelfths (approximately 42%) could go to the composer, three-twelfths (25%) could go to the author, and four-twelfths (33%) could go to the publisher.⁸⁸ In the USA, no license fees at all are paid by radio stations to artists and labels. They deem to be adequately compensated by the promotional value of being played on the air to wide audiences.

For live venues such as restaurants and bars, PROs usually charge a flat fee per year, with a set limit of number of people covered. The rate varies based on the type of establishment and its size. A small restaurant may pay \$105 per year flat rate for music events up to 2100 customers. Beyond that number, the restaurant may have to pay an additional 0.05 cents per person.

For live concerts, the performer himself gets paid by the concert promoter/venue. The upper echelon of the music touring industry (Rolling Stones, Bon Jovi, Taylor Swift and the like) will get paid a flat, upfront fee for a specific number of shows (i.e. \$10 million for 40 shows in the USA). The performers are then responsible for various costs (i.e. backing band, background dancers, scenery, special effects, equipment, grips and so on). They also may receive a percentage of the net as well (what is left over after the concert promoter/venue covers all costs for the show). This is called

84 Obringer, Lee Ann. "How Music Royalties Work." *Howstuffworks Entertainment*. April 2011. Last accessed June 28, 2010. ► <http://entertainment.howstuffworks.com/music-royalties.htm>.

85 Examples are the Kenya Association of Music Producers (KAMP), the Indian Performing Right Society (IPRS), the Argentine Society of Music Authors and Composers (SADAIC), the Russian Organization for Intellectual Property (VOIS), and the Japan Society for Rights of Authors, Composers and Publishers (JASRAC). In the EU, there are 25 collection societies, each one the sole society for that country, established as a government-affiliated monopoly that collects all of the royalty money in the country. PROs try to coordinate internationally in order to reduce the ability to bypass national payments.

86 *SoundExchange*. "SoundExchange." Last accessed June 8, 2010. ► <http://www.soundexchange.com/>.

87 American Society of Composers, Authors, and Publishers. "Common Licensing Terms." Last accessed June 28, 2010. ► <http://www.ascap.com/licensing/termsdefined.html>.

88 To calculate performance royalties, PROs use different methods. ASCAP, for example, gives different weights to different performance types. A song that is featured on TV or on the radio is weighted higher than background music in a radio commercial. Similarly, the time of day a song is played is a factor. The total number of credits of a song is then multiplied by a "credit value," a factor which equals the total credits for all writers and publishers, divided by the total collected money for that quarter. Royalties are paid out quarterly.

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a “door split” deal. For lesser-known performers, a door split deal is usually the way they are paid. The performer’s take might be 50–75% of the net receipts, i.e. after many others get paid as expenses. Music labels may offer performers a loan called “tour support.” Because it comes with a variety of strings attached, not all performers will elect to take this and, instead, self-finance their tours.

Another type of rights representation negotiates on behalf of copyright holders/publishers with the music labels. In the USA, the Harry Fox Agency (owned since 2015 by SESAC) is the major clearinghouse for “mechanical licenses” by music publishers to music labels. It was established by the National Music Publishers’ Association in 1927 and mostly serves these music publishers/ rights holders.⁸⁹ It negotiates with labels and collects and distributes royalties.

7.3.4.5 Licensing of Books

In book publishing, acquisition editors sign authors to book contracts. A contract gives the publisher the rights to the book, usually worldwide, and may include rights to all derivative works, such as TV shows, films toys and so on. Royalties to authors range from 5% to 15% of gross sales revenues. Authors typically receive a higher percentage for hardcover books and a lower rate for paperbacks and romance books. A publisher may hire a writer as a contractor or employee to write a book for a set honorarium rather than a royalty, either under the publisher’s name, such as in a travel book series, or under the author’s name, or under a pen name.

The purchase price for a screenplay is subject to negotiations, but the minimum terms for a Hollywood production are set by an industry-wide contract negotiated with the writers’ union (the WGA). The minimum purchase price for an original screenplay, is around \$30,000–\$70,000, depending on the production budget. But the WGA agreement does not cover books, articles, or plays that form the basis for a film. The copyright holder may get a fixed amount upfront, or a percentage of the production budget, or a percentage of the net profit of production (typically 5%).

Online book publishing has somewhat different arrangements. Amazon.com’s Kindle store

pays authors or publishers a 70% royalty rate of retail revenues.⁹⁰ There are several conditions, including that the price of the book must be below \$10, and above \$3, and at least 20% lower than the price charged for a paper version of the book.⁹¹ Outside of these brackets, Amazon keeps a much steeper cut of 65% in order to discourage such pricing. In contrast, Apple iStore keeps a flat 30% regardless of the publisher’s list price.

7.3.4.6 Licensing of Films and TV Shows

Film producers or distributors often issue licenses to pay-TV networks such as HBO or Canal+, and to advertising-supported TV networks such as CBS or Televisa. Each of these programming wholesalers buys licenses for hundreds of titles a year, spending billions of dollars to license slates of films from major Hollywood distributors.⁹² Such licensing of films to programming wholesalers can give studios and producers a solid base of financing in advance of production. Another option is to sell distribution rights of the film in exchange for an agreed royalty or sharing percentage in gross or net revenue (“participation”). Producers can borrow money from banks using these agreements as collateral.⁹³ A film or TV show can be sold by a producer to a distributor in every aspect, or limited in terms of rights to a particular language market, geographical territory, media type (PPV, VOD, TV, in-flight movies, etc.). The producer tries to keep the license specific and narrow in order to license the product to other licensees.⁹⁴ Films also have future potential licensing opportunities through sequels, TV series, books, products, and so on. The ownership of these rights needs to be clearly partitioned from other licensing agreements.⁹⁵

90 Trachtenberg, Jeffrey A. “Amazon Launches Royalty Plan for E-Books.” *The Wall Street Journal*. January 21, 2010. Last accessed May 31, 2017. ► <https://www.wsj.com/articles/SB10001424052748704320104575014653299582416>.

91 Engadget, “Amazon announced new option they put their royalties to 70% and it will start from end of July.” January 20, 2010. Last accessed August 22, 2011. ► <http://japanese.engadget.com/2010/01/20/kindle-70-6/>.

92 Marich, Robert. *The European Commission EC versus the Hollywood Studios*. New York: Informa, 2004.

93 Garon, Jon. “Film Financing and Distribution Deals.” Gallagher, Callahan and Gartrell, August 2009. Last accessed August 1, 2012. ► http://www.gcglaw.com/resources/entertainment/film_distribution_deals.html.

94 Lisotta, Christopher. “Reality Gets Reworked for Prime.” *Television Week* 23, no. 33 (August 16, 2004): 41–42.

95 Litwak, Mark. “Frequently Asked Questions: Music.” *Mark Litwak’s Entertainment Law Resources*. Last accessed June 27, 2011. ► <http://www.marklitwak.com/faq/music.html>.

89 The Harry Fox Agency. “About HFA.” Last accessed June 28, 2010. ► <http://www.harryfox.com/public/AboutHFA.jsp>.

Production companies license programming to networks. A typical network licensing fee in the USA for regular television shows is about \$1–2 million per episode, with one rerun, and \$0.7–0.8 million for reality shows. Exclusive and unique shows such as award ceremonies have higher licensing fees.⁹⁶ Additionally, networks or independent producers may license—or “syndicate”—their program licenses to other broadcasters. In 2010, NBCUniversal bought exclusive syndication rights to the hit sitcom *Modern Family* for its USA channel for \$1.4 million per episode, and *Glee* for its Oxygen channel for \$500,000 per 1 hour episode. TV shows are often licensed for syndication at major TV trade fairs, such as the NATPE Market in the USA and MIPCOM in Cannes, France.

7.3.4.7 Licensing of Online Video

Licensing of online distribution of video content is an active area of development. Download services for feature films, such as Amazon, typically pay about 50–60% of their revenue to the copyright holders. This payment is somewhat lower for subscription services. Streaming services such as Netflix negotiate a time release (such as 12 months from the opening date) when the film enters the streaming service. The rate at which the streaming service pays varies based on the film’s box office performance. Netflix uses a rate card which in 2016 set the rate which it paid for the film; this could range from \$787,500 for a film grossing less than \$1,000,000 up to \$19,000,000 for a film grossing more than \$125,000,000.⁹⁷ Such rate cards are negotiated between the two sides, based on various factors such as exclusivity, the time frame of the contract (how many years it runs) and other factors.

7.3.4.8 Compulsory Licenses

So far, we have mostly discussed the licenses among producers and distributors, or between distributors and retailers. These are commercial transactions, with prices set by market forces and bargaining among the parties. Inevitably, various economic interests and constituencies will try to modify the commercial transaction through governmental intervention. Some parties will argue that they are being expropriated, or overcharged, or excluded, or that consumers suffer and, in consequence, that regulated license fees are necessary. In the USA, a compulsory license exists for most musical compositions. An artist may use someone else’s composition in live performance or recordings. The artist must give notice to the copyright owner (or the copyright office, if the owner cannot be found) and pay a royalty set by the governmental body in charge. Compulsory licenses exist for “cover songs,” in which an artist plays another artist’s song. Example: The Jimi Hendrix version of Bob Dylan’s “All Along the Watchtower.” To cover this song, Hendrix had to serve notice of intention to do so on Dylan and the copyright office. He had to pay the then-current royalty rate, which was 9.1 cents per normal length song (or 1.75 cents per minute of playing time).⁹⁸ The compensation rate is set by bodies such as Copyright Tribunals (UK, Australia and other countries), or the Copyright Royalty Board in the USA. Artists and composers were often unhappy with this system. The late singer Prince complained: “A lot of times, people think that I’m doing Sinead O’Connor’s song and Chaka Khan’s song when in fact I wrote those songs. ...there’s this thing called the compulsory license law, which allows artists, through the record companies, to take your music, at will, without your permission. And that doesn’t exist in any other art form, be it books, movies—there’s only one version of ‘Law and Order.’ But there are several versions of ‘Kiss’ and ‘Purple Rain.’”⁹⁹

In 2018, the US Congress debated a “Music Modernization Act” that would create a mechanism for music streaming services to pay

96 Networks pay a fee of between \$5.5 million and \$7.5 million for the Emmy awards and \$5 million annually for the Grammy awards. ABC has a seven-year contract for the Oscars for a total of \$350 million (\$50 million per year). Albinia, Paige. “The Emmy goes...nowhere.” *Broadcasting & Cable*. November 17, 2002. Last accessed May 31, 2017. ► <http://dev.broadcastingcable.com/news/news-articles/emmy-goes...nowhere/94525>.

97 The information regarding this rate card came about due to an ongoing lawsuit between Relativity Media and Netflix. Gardner, Eriq. “Relativity’s \$1.5 Billion Lawsuit Offers Rare Peek at Netflix License Agreement.” *The Hollywood Reporter*. October 18, 2016. Last accessed May 31, 2017. ► <http://www.hollywoodreporter.com/thr-esq/relativity-15-billion-lawsuit-offers-939463>.

98 17 U.S.C. § 115 “Scope of exclusive rights in nondramatic musical works: Compulsory license for making and distributing phonorecords.” The UK’s copyright tribunal in 1991 set the record royalty rate for musical works at 8.5% of the dealer price (excluding VAT) of every record. This can alternatively be expressed as 6.5% of the retail price (excluding VAT).

99 Masnick, Mike. “Prince claims when someone covers your songs, the original no longer exists.” *Techdirt*. April 21, 2011. Last accessed February 27, 2012. ► <http://www.techdirt.com/articles/20110420/13280113977/prince-claims-when-someone-covers-your-song-original-no-longer-exists.shtml>.

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songwriters and music publishers. It would create a government-sanctioned mechanical licensing collective overseen by both songwriters and streaming services, and enable the latter to get blanket licenses rather than having to track down the rights holders. It would also create a database of rights holders so they would receive their license royalty payments.

7.3.4.9 Sports Licensing

Traditionally, major sport rights have been controlled by industry cartels (“leagues”) of content producing companies (“teams”), or by event sponsors such as the International Olympic Committee (IOC) and the international soccer federation (FIFA). They operate through three legal mechanisms¹⁰⁰:

- Control of access to private location (e.g. stadium, racetrack, etc.);
- Control of IP for distribution of the content (media rights);
- Control of event partners (major advertising “sponsorships” and “sponsorships”).

The laws are favorable to sports firms. For example, baseball is specifically exempted from the antitrust laws in the USA.¹⁰¹ Also, the sport content product is perishable, which reduces piracy.

In sports licensing, there are two principal types of rights:¹⁰²

- Media rights;
- Sponsorship and franchising rights.

Although the categories are overlapping, the former is focused on copyrights and the second on trademarks.

Media Rights Licensing

Media rights are typically sold to TV networks, cable channels, local television stations, and/or radio. Media rights are differentiated by time, territory, medium and so on.¹⁰³ Successful teams in

large media markets command the best prices for licenses. The duration of media rights deals can range from a one-shot event to an entire league’s matches over several years.

In the early decades of TV, the monopoly public services broadcasters in Europe claimed that they had the right to cover sports events in the same way as the print press. They paid trivial amounts to the event sponsors, just to compensate for the logistic arrangements. Until the 1980s, most TV in Europe consisted of public service broadcasters operating as monopolists in their countries. Hence, there was no competition for sports rights and prices were low, despite sports programs attracting huge audiences.¹⁰⁴

But when private commercial networks emerged in the 1980s—and, with them, competition for viewers—sports events became a big attraction, and the sports leagues cashed in. Soon, the individual team companies, too, claimed their share.¹⁰⁵ In 1999, Rupert Murdoch’s News Ltd. went one step further and sought to buy a content producer itself—the world’s most popular soccer team, Manchester United. But the UK regulators blocked the deal.

To reduce the financial clout of commercial broadcasters, the EU Commission empowered each member state to draw up a list of events, national or non-national, that the state considered as being of major importance for its society, so that it has to be shown on the free major channels.¹⁰⁶

Franchise Rights Licensing

For franchise licensing, the rights are administered by a branch of a league known by names such as the “properties division.” It approves licenses for products, polices the trademarks infringement, distributes licensing revenues among league franchises, and handles marketing and sponsorship efforts.¹⁰⁷ National Football League Properties, Inc. (NFLP) is a company set up and owned by all the clubs of the NFL. Each

100 Couchman, Nic. “Sports Right Issues.” September 2000. Last accessed August 2, 2012. ► http://www.couchmansllp.com/old_site_2005_11_18/library/sports_rights_issues.doc.

101 Weinberger, James D. “Baseball Trademark Licensing and the Antitrust Exemption: An Analysis of New York Yankees Partnership v. Major League Baseball Enterprises, Inc.” 23 Colum. – VLA J. of L. & Arts 75 (Winter 1999).

102 Couchman, Nic. “Sports Right Issues.” September 2000. Last accessed August 2, 2012. ► http://www.couchmansllp.com/old_site_2005_11_18/library/sports_rights_issues.doc.

103 Couchman, Nic. “Sports Right Issues.” September 2000. Last accessed August 2, 2012. ► http://www.couchmansllp.com/old_site_2005_11_18/library/sports_rights_issues.doc.

104 Noam, Eli. *Television in Europe*. New York: Oxford University Press, 1992.

105 Thus, in 1998, a German court awarded the media rights to the clubs themselves. Gratton, Chris, and Harry Arne Solberg. *The Economics of Sports Broadcasting*. New York: Routledge, 2007.

106 Gratton, Chris, and Harry Arne Solberg. *The Economics of Sports Broadcasting*. New York: Routledge, 2007.

107 Mullin, Bernard J., Stephen Hardy, and William A. Sutton. *Sport Marketing*. 2nd ed. Champaign: Human Kinetics, 2000.

club grants NFLP an exclusive license to act as a licensing agent for its trademarks, logos and so on. NFLP then negotiates with manufacturers for licenses to produce merchandise with the NFL and member clubs' trademarks. The royalty fee is set at 6.5% of all net sales of the licensed products. Of NFLP receipts, 15% goes to the league itself.¹⁰⁸ NFLP maintains a quality control program of its licensees' merchandise, and investigates and enforces adherence.¹⁰⁹ Licenses can also be given by players themselves for their endorsements of products. Players' unions can administer this for its members, or a player's personal business representatives does so. For example, the NFL Players Association annually issues about 100 licensees, for about \$30 million.¹¹⁰ It collected more than \$35 million in royalties from the games manufacturer Electronic Arts in 2008.¹¹¹

For college sports, the inter-collegiate sports association, the NCAA, has long enforced strict rules barring college athletes from cashing in on their celebrity status. Athletes, however, have challenged these restrictions in court for the right to control the use of their images.

For individual professional sports (as opposed to team sports), athletes have agents who handle licensing agreements. For example, skateboarding champion Tony Hawk got \$1.5 million per year for licensing and endorsements.¹¹²

All this is dwarfed by the fees collected by the sponsors of the Olympic Games and of the Football (Soccer) World Cup. The IOC, headquartered in Lausanne, Switzerland, set up a sponsorship arrangement called The Olympic Partner (TOP) Programme that included big sponsors, such as Coca-Cola and McDonald's, who paid many millions of dollars. These

payments are shared between the host cities that foot the bill for the venues and infrastructure, and the IOC. Sponsors are given exclusive rights to the Olympics trademark of five rings, and only their products can be sold at the Olympic venues.¹¹³ For the 2012 London Games, these TOP sponsorship corporations paid the IOC over \$100 million each. The next tier of sponsors each paid \$40 million.¹¹⁴ The London Organising Committee of the Olympic and Paralympic Games, which did the actual staging of the summer games, raised another £700 million in sponsorship.¹¹⁵ Beyond the sponsorships, the IOC raised \$4.87 billion in broadcast fees and sponsorship for the London and Vancouver Olympics.

The Football World Cup in Brazil, sponsored by the international soccer federation FIFA, also headquartered in Switzerland, similarly generated about \$4 billion in revenue, with \$1.4 billion from sponsorships by 22 companies and \$2.6 billion from TV rights to the matches.¹¹⁶ There were three sponsorship tiers with the top tier (\$730 million combined) for 2014 comprising six companies (Adidas, Coca-Cola, Sony, Hyundai/Kia, Emirates and Visa). In addition, the various national teams and individual athletes had their own deals, sometimes also with Adidas and other major FIFA sponsors.¹¹⁷ Nike, for example, sponsored the teams of Brazil, England, France and Portugal. In some cases, an advertising agency itself, such as Dentsu in Japan, buys the rights to an event or season and then place advertisement spots for its various clients into the available slots.

Do sports sponsorships make business sense? It seems that sports licensing has a marketing impact due to fan identification.¹¹⁸ Sport provides

108 Friedman, Avi. "Protection of Sports Trademarks." *Loyola of Los Angeles Entertainment Law Review* 15, no. 3 (1995): 689–716.

109 The trademarked categories of NFLP are numerous and include: NFL Pro Line (the league's most elite or prestigious label because it is the same product and apparel worn and used by players and coaches), NFL Fitness (a brand of equipment and apparel for letting fans work out like the pros), NFL Spirit (apparel for women), NFL Classic (for everyday use), NFL Kids, NFL Pro Line Kids, NFL Baby, NFL Back to School, NFL at Home (pillows, bedspreads, wallpaper, lamps), NFL Tailgate (coolers, tablecloths, barbecue grills), NFL Pet Shop, NFL Auto, NFL Quarterback Club, NFL Throwbacks (vintage replica items), NFL Trading Cards, NFL Collectibles, NFL Publishing, and NFL Films.

110 Mullin, Bernard J., Stephen Hardy, and William A. Sutton. *Sport Marketing*. 2nd ed. Champaign: Human Kinetics, 2000.

111 Thomas, Katie. "College Starts Sue over Likenesses in Video Games." *New York Times*. July 3, 2009. Last accessed May 31, 2017. ► <http://www.nytimes.com/2009/07/04/sports/04ncaa.html>.

112 Covell, Daniel, and Sharienne Walker. *Managing Sport Organizations: Responsibility for Performance*. New York: Routledge, 2013.

113 Peck, Tom. "Father of Olympic branding: My rules are being abused." *The Independent*. July 20, 2012. Last accessed May 31, 2017. ► <http://www.independent.co.uk/sport/olympics/news/father-of-olympic-branding-my-rules-are-being-abused-7962593.html>.

114 O'Reilly, Terry. "The ever-increasing cost of being an Olympic sponsor." *CBC News*. February 8, 2014. Last accessed May 31, 2017. ► <http://www.cbc.ca/news/business/the-ever-increasing-cost-of-being-an-olympic-sponsor-1.2527993>.

115 *The Economist*. "Victors and spoils." July 21, 2012. Last accessed May 31, 2017. ► <http://www.economist.com/node/21559326>.

116 Wiesman, Tom. "FIFA World Cup Sponsorship: Is it Worth It?" *Analytic Partners*. March 10, 2014. Last accessed May 31, 2017. ► <http://www.analyticpartners.com/news-blog/2014/03/fifa-world-cup-sponsorship-is-it-worth-it/>.

117 Wiesman, Tom. "FIFA World Cup Sponsorship: Is it Worth It?" *Analytic Partners*. March 10, 2014. Last accessed May 31, 2017. ► <http://www.analyticpartners.com/news-blog/2014/03/fifa-world-cup-sponsorship-is-it-worth-it/>.

118 Burton, Rick. "Teams as Brands: A Review of the Sports Licensing Concept." In *Sports Marketing and the Psychology of Marketing*. Eds. Lynn R. Kahle, and Chris Riley. New York: Psychology Press, 2004.

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a collective identity and solidarity, especially among young people.¹¹⁹ Fans see themselves as members of the team, which leads to an elevation of their self-perception of status. A committed fan identifies with a team and, therefore, with the team's sponsors in retail settings.¹²⁰ As auto manufacturers with stock cars at the NASCAR circuit have long believed, “Win on Sunday, Sell on Monday.” On the other hand, the National Guard in the USA could not trace a single recruit who was due to its NASCAR sponsorship in 2012. Yet, in 2014, it again paid \$32 million for

NASCAR-related sponsorships. It also paid \$12 million to sponsor one of the teams on the Indy Car circuit.

These racing and sports sponsorships make up 37% of the National Guard's marketing budget, with the aim of strengthening its “brand,” not necessarily for direct recruiting. In contrast, the US Army dropped NASCAR sponsorship, stating: “Currently, only 5% of the NASCAR audience is made up of 18–24 year old males, NASCAR is the highest cost per qualified lead and cost per engagement property in our portfolio.”¹²¹

7.3.4.10 Case Discussion

NBC Sports Licenses

Football

NBC aired NFL football games starting in 1939. In 2005 it paid an annual fee of \$603 million for a NFL package, that included the season kickoff, three pre-season games, all Sunday night games, two Saturday playoff games, two post-season “wild card” games, two Super Bowls and two Pro Bowls (2009 and 2012). NBC's contract was renewed for the seasons 2013–2022 for an annual fee of \$1.05 billion, a 74% increase from the prior contract. The agreement was similar to the prior package and included the rights to broadcast the Super Bowls in 2015, 2018 and 2021.

Soccer

In 2012, NBC acquired the rights to broadcast English Premier League Soccer in the USA for 2013–2014 for \$250 million. Prior to that, Fox

(News Corp) had held the US rights for nearly two decades. With this deal, NBC became the exclusive English- and Spanish-language media rights holder to all 380 Premier League matches across all platforms and devices in the USA. Its aim was, in particular, to reach the Latino audience in America.

Formula One Racing

In 2012, NBC signed a four-year deal for exclusive US media rights to Formula One car racing for an undisclosed price. This deal provided NBC with more than 100 hours of programming, including the 2012 Grand Prix Monte Carlo. NBC aired four races—the Canadian Grand Prix and the final three races of the season—on its main network, and the remaining 16 races were shown on the NBC Sports Network.

Olympic Games

The Olympics have long been NBC's signature programming event and part of its brand. NBC bought the rights to carry the six Olympic Games in the United States from 2022 to 2032 on all current and future distribution platforms. It paid \$7.75 billion, i.e. \$1.12 billion per game (the Summer Games as well as the Winter Games, with the latter less valuable). This was vastly higher than in earlier years. NBC had paid \$77 million, on average, for the 2004, 2006 and 2008 Olympics. In 1995, NBC made the first multiple-Olympics deals, for the 2000 and 2002 games at \$1.2 billion.¹²² For the 2014 Winter Olympics in Sochi, Russia, it paid \$775 million; for the 2016 games in Rio de Janeiro, \$1.23 billion; and for the 2020 games in Tokyo, \$1.45 billion.

7.4 Challenges to Intellectual Assets

7.4.1 Piracy

Digital technologies have made the issues of IA more relevant than ever. Creators and copyright

owners now face parties with new tools enabling them to copy for themselves and to distribute and commercialize to others.

119 One study (conducted by Sports Illustrated for Kids) found that 60% of boys and 37% of girls claimed to own NBA-branded apparel.

120 Burton, Rick. “Teams as Brands: A Review of the Sports Licensing Concept.” In *Sports Marketing and the Psychology of Marketing*. Eds. Lynn R. Kahle, and Chris Riley. New York: Psychology Press, 2004.

121 Brook, Tom Vanden. “Army found NASCAR's price too high,” *USA Today*. May 9, 2014. Last accessed May 31, 2017. ► <http://www.usatoday.com/story/news/nation/2014/05/09/army-national-guard-recruiting-scandal/8908841/>.

122 Sandomir, Richard. “All the Way to 2032, Come What May,” *New York Times*. May 8, 2014. Last accessed May 31, 2017. ► <http://www.nytimes.com/2014/05/09/sports/olympics/nbc-olympic-tv-deal-accounts-for-advances-in-technology.html>.

Music, movies, television shows, software and other media are pirated¹²³ via various ways of physical and electronic copying, streaming, or distribution, such as via peer-to-peer networks. In 2005, the music industry claimed that 37% – or 1.2 billion – of all CDs purchased globally were pirated, i.e. manufactured without license.¹²⁴ The movie industry, too, saw a quick rise in piracy. Already by 2003, a study found that 60% of 312 popular movies to be available on file-sharing networks, (of those, 77% seem to have been released illegally by industry insiders).¹²⁵

7.4.2 Protection Strategies

Given the growing problem of unlicensed use of content for producers and distributors, what can they do? It is difficult for media companies to protect against piracy. An effective IA protection strategy against the constantly changing challenges requires a wide array of measures. All actions must be balanced against the harm from inconveniencing and alienating potential customers.

7.4.2.1 Moral Appeals

The first protection strategy to use is moral appeals. This approach has been largely unsuccessful because users tend to feel that they do not impose marginal cost on the copyright holder and that they are therefore not really “taking”. Other users engage in an anti-corporate justification, or argue that they would not have bought the music or video anyway.

7.4.2.2 Enlisting Government

Firms seeking protection from piracy lobby for stronger laws, better enforcement and diplomatic pressure on other governments. At one point, US government representatives tried to restrict the doctrine of first sale internationally, even though it is legal in the USA.

The international WIPO Copyright Treaty (1996) requires all signatory countries to enact laws against the circumvention of protective measures. The US Congress enacted laws to enforce IP rights domestically, or to sanction other countries that did not sufficiently protect American IPs.¹²⁶ In France, the 2009 HADOPI law provided for a mandatory termination of any Internet connectivity to a user who violated copyrighted materials for third time. After one million warnings had been sent out by the government, and after significant public opposition, the law was dropped. Other developed countries take relatively similar protection positions. For China to become a member of the WTO required its commitment to protect other countries’ IAs.

In 2008, the US Congress passed a law aimed at protecting IAs which created an Intellectual Property Enforcement Division under the President. The law created US prosecutors specializing in IP enforcement and international IP specialists based in US embassies worldwide, and added money for state IP enforcement programs. It also revised the law to increase statutory damages and penalties in counterfeit cases, and prohibited the export of counterfeit or pirate goods from the USA.

In the USA, the most important law to protect IAs has been the Digital Millennium Copyright Act (DMCA) of 1996. The DMCA prohibits the circumvention of technological protection measures such as encryption used by copyright owners to control access to their work. It also outlaws the manufacture, sale and distribution of tools that make circumvention possible.¹²⁷ The DMCA shields ISPs from copyright infringement liability as long as they have no actual knowledge of the infringement, have not financially benefitted, have established a system for dealing with infringement complaints and comply with “takedown”

123 The word “piracy,” which is frequently used, is a loaded term. But, since it has been adopted proudly by some of those engaged in such use (who have even formed political “pirate parties” that have, at times, been remarkably successful in elections), we will use this term to loosely refer to a use without permission by the holder of a valid IPR. The term is less pejorative than “theft,” which the content industry uses, and less euphemistic than “sharing.”

124 IFPI. “The Recording Industry 2006 Piracy Report.” July 2006. Last accessed August 2, 2012. ▶ <http://www.ifpi.org/content/library/piracy-report2006.pdf>.

125 Byers, Simon et al. “Analysis of Security Vulnerabilities in the Movie Production and Distribution Process.” *Telecommunications Policy* 28, nos. 7–8. (August–September 2004): 619–644.

126 The examples include the Caribbean Basin Economic Recovery Act of 1984, the Computer Software Protection Act, the No Electronic Theft Act of 1997, the Trademark Anti-Counterfeiting Act of 1984, the Semiconductor Chip Protection Act of 1984, Copyright Infringement Act, Computer Fraud and Abuse Act, Economic Espionage Act of 1996, Copyright Felony Act of 1992, the Counterfeit Access and computer Fraud and Abuse Act of 1986, and the National Information Infrastructure Act of 1996. Additionally, each US state has enacted corresponding legislation offering additional statutory IP protections.

127 Electronic Frontier Foundation. “Unintended Consequences: Twelve Years under the DMCA.” March 3, 2010. Last accessed August 1, 2012. ▶ <https://www.eff.org/wp/unintended-consequences-under-dmca/>.

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standards for removing copyright material.¹²⁸ ISPs are expected to remove from users' websites material that violates copyright, otherwise they face liability.¹²⁹

The DMCA has been severely criticized as being over-protective of industry and as jeopardizing fair use, competition and innovation. Critics allege that the DMCA has been used to block aftermarket competition in laser printer toner cartridges, garage door openers and computer maintenance services.¹³⁰

7.4.2.3 Litigation

A third strategy for media companies is to sue violators of their copyrights. Litigation over innovation is nothing new. Johannes Gutenberg was personally engaged in it in the fifteenth century. Abraham Lincoln litigated disputes over his patented creation.¹³¹ Today, the music industry has been suing unauthorized users, or threatening to do so, to deter illegal downloading. The Recording Industry Association of America (RIAA) sent 1.8 million notifications of file-sharing violations to individual users by 2010,¹³² including over 270,000 to students. In 2003, it sued 261 people, including a 12-year old girl living with her single mother in public housing. By 2008, it had filed, settled, or engaged in legal action against 30,000 people.

In addition to filing lawsuits against individual users, the RIAA also brought lawsuits against file-sharing providers and ISPs themselves, both in the USA and abroad. It won important cases against Napster in 2000 and against Grokster in 2005.¹³³ A Japanese court found the file-sharing company MMO guilty of copyright infringement

and ordered it to pay fines of \$350,000. A 2010 legal action against the founders and host server-owners of Sweden's Pirate Bay involved also a criminal complaint. The music companies have also sued telecommunications providers to block access to file-sharing sites in an effort to combat overseas piracy.

The RIAA also sent waves of "pre-lawsuit" letters to universities demanding they forward to them the names of students who used the university's network for piracy. Facing the prospect of thousands of dollars in legal costs and settlement payments to avoid a lawsuit, many universities took some action to prevent the illegal downloading by their students. UCLA imposed a one-semester suspension for repeat piracy offenders, and Ohio University banned access to peer-to-peer networks. Stanford fined students against whom a complaint was brought by charging escalating "reconnection fees." On the other hand, several universities refused to cooperate with the RIAA, such as the Universities of Kansas, Maine and Wisconsin.

Not all in the music industry believe that such litigation—"suing one's customers"—is a good business practice. Rather than for an individual company to expose itself to targeted backlash, it is usually better for the industry to operate jointly through its association. But for joint action a common perspective is needed, and care must be taken not to violate antitrust laws.

7.4.2.4 Counter-Attacks

Another strategy is to make piracy inconvenient and frustrating to users. To that purpose, music companies distributed decoy copies of songs on file-sharing networks with altered or no content. Users may spend time downloading a file to get a movie or songs, but then discover in mid-listening that they got a corrupted file. On the KaZaA platform, for some songs, more than 50% of all files were found to be polluted. (One test revealed 76.8% of copies of the song "My Band" and 68.9% of "Naughty Girl.") Through the sharing of corrupted files, it spreads from one user to the next user, like a virus.¹³⁴

128 Wallis, Rosemary, and Thomas Huthwaite. "ISP liability for copyright infringement: Are dodgy subscribers worth the risk?" *Lexology*. April 12, 2013. Last accessed May 31, 2017. ▶ <http://www.lexology.com/library/detail.aspx?g=e466d7dc-e24e-4f6d-bba3-bb33bba46b53>.

129 Smith, Breana C., Don Ly, and Mary Schmiedel. "Intellectual Property Crimes." *The American Criminal Law Review* 43, no. 2 (Spring 2006): 963–714; UCLA Online Institute for Cyberspace Law and Policy. "Digital Millennium Copyright Act." February 8, 2001. Last accessed July 8, 2010. ▶ <http://www.gseis.ucla.edu/iclp/dmca1.htm>.

130 Electronic Frontier Foundation. "Unintended Consequences: Twelve Years under the DMCA." March 3, 2010. Last accessed August 1, 2012. ▶ <https://www.eff.org/wp/unintended-consequences-under-dmca/>.

131 Scherer, Frederic M. "The political economy of patent policy reform in the United States." *Journal on Telecommunications & High Technology Law* 7, no. 2 (Spring 2009): 167–216.

132 Riley, Jason L. "Copyfight." *The Wall Street Journal*. November 26, 2005, A.10.

133 Mann, Charles C. "The Heavenly Jukebox." *The Atlantic Monthly* 286, no. 3 (September, 2000): 39–59.

134 Liang, Jian et al. "Pollution in P2P File Sharing Systems." Presented at IEEE INFOCOM, Miami, Florida. March 13–17, 2005.

7.4.2.5 Technology Fixes

“Technology fixes” include a large array of technical anti-piracy measures designed to make unauthorized copying of copyrightable material difficult or impossible. Together, these measures are known as digital rights management (DRM). Each of these technologies can be defeated (“hacked”). The question is how much effort a pirate would have to expend, and how great the benefit would be. Safeguards can be strengthened. Yet, making them too formidable could degrade the content and be inconvenient for regular users, and they will be turned off. The key to successful anti-piracy technical programs is to use a diverse mix of measures, and to vary protection measures from product to product and from release to release.

DRM tries to control media access, and the sharing, saving, printing and altering of content. It can be in the system operating software, in the program software, the content, or the hardware itself. DRM also prevents perfectly legal fair use copying, and it can be used by authoritarian governments to block content for political reasons.¹³⁵ The main types of DRM are “marking” which uses watermarks or other tags to instruct the devices that the content is copy-protected, and “containment,” where encryption excludes unauthorized users.¹³⁶

7.4.2.6 Business Responses

The prevalence of these legal and technological strategies against illicit copying and file-sharing may obscure the fact that, often, the best response by media companies is through new business strategies.

There are multiple approaches. Perhaps most obviously, content providers can lower the price. The incentives to piracy drop if the legitimate price of the content is lowered. For example, magazines and paperback books are rarely pirated, because their price is low enough to make the effort of piracy less worthwhile. A common response by

media companies is that “You cannot compete with free,” i.e. that even a low price is too high. But many commercially-marketed goods and services disprove this and successfully offer for-pay versions where free versions also exist: bottled water, pay-TV and commercially purchased music in the presence of free radio. Pay products win when they provide a value added, such as convenience, immediacy, quality, or reliability.

A business response related to a lowering of the price is to use more differentiated pricing models. One example is “pay-per-use.” Fee payment models have emerged. For example, music companies may allow a customer to pay each time they want to hear a song, or just buy only one song instead of the whole album. Pay-per-use payment models exist for music, TV shows, films, books, newspapers, magazines and games. In the pay-per-use models, success depends on the provider’s ability to control post-sale copying.

An alternative approach is to rely on advertising-based content services. This has traditionally been the case for commercial television. Here, there are several pricing models. Some content is premium—paid and on-demand—; other content is based on a channel subscription; yet other content is on the basis of a subscription to a large bundle of channels; and other content is entirely “free” and advertising-based.

Some newspapers and magazines offer a free look at the first part of a story. If the reader wants to continue, they must pay. Others provide a limited number of free stories per month. Beyond that number, the reader must pay. *The Wall Street Journal* and *The Economist* offer free full-text searching of archives but charge a fee to download articles.

Differentiated pricing offers many other approaches. Songs could be offered for a limited number of plays at a low price before re-purchasing. Repeat or long-term customers could receive incentives and pay less than those charged to the general market.

Will consumers pay for content? Surveys indicate that the majority of students, for example, will pay for compelling content of a good technical quality and without annoying limitations. For movies, price has to be comparable or to be lower than a DVD rental (\$3–\$5). TV episodes must be less than 99 cents each and \$5 for a series.

135 *The Economist*. “A fine balance: How much copyright protection does the internet need?” January 23, 2003. Last accessed June 13, 2012. ► <http://www.economist.com/node/1534271>.

136 Electronic Privacy Information Center. “Digital Rights Management and Privacy.” March 29, 2004. Last accessed August 1, 2012. ► <http://epic.org/privacy/drm/>.

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Companies can also quicken the pace at which they release new versions of their products, staying a step ahead of mass piracy. Another strategy is to connect the online content with the physical product and human interaction,¹³⁷ such as manuals and tech support. The goal is to make the product into a service, with users connected to content providers. Companies can create additional incentives by offering periodic access to enhancements. This improves the quality of service, a benefit which rarely exists for illegally pirated goods.¹³⁸

Going one step further, some content could shift from digital back to physical. In music, the move to concert tours rather than sales of recordings is an example. In the past, a band's tour promoted its record. Now, the record may promote the tour. In 2015, 24 artists grossed more than \$40 million each at the concert venue box office while CD sales stagnated or dropped.¹³⁹

Some companies give away their products, rather than seek to limit them, with the goal of widespread usage. This has been the model of “free” radio and TV broadcasting for almost a century. Beyond the aim of getting advertising revenues, the strategy creates a large user community which generates network externalities and switching costs for users. It enables companies to introduce a complementary, non-free product.

7.4.2.7 The Open Source Movement

The open source movement is a loose community of volunteer developers who collaboratively create software known as “freeware.”¹⁴⁰ The movement challenges the notion that people will not invent or create without the profit incentive of patents and copyrights. Users of the software “pay” by contributing improvements. This creates a higher-quality product than programmers could afford to

develop on their own. Also, because open source software is peer reviewed, it is more dependable than closed or proprietary software.¹⁴¹

Prominent open-source projects include the Linux operating system, the Internet protocol Mozilla Firefox and Thunderbird, and various developer tools (e.g. WinSCP). Linux, started by Linus Torvalds at the University of Helsinki in 1991, is a free computer operating system that encouraged the development of compatible software as an alternative to Microsoft's pricy Windows operating systems.

An alternative copyright arrangement is called a “copyleft.” It allows users to redistribute, modify and use the software freely, but also gives its creators some of the legal protections of copyright over their own and derivative works. “Copyleft” says that anyone who redistributes the software, with or without changes, must in turn pass along to others the freedom to further copy and change it.

In 2002, inspired by the “copyleft” license, an organization called Creative Commons (CC) created a set of license templates that make it easy for a creator to release particular rights under clearly specified conditions.¹⁴² It allows the use of digital files as long as proper credit to the originator is given.¹⁴³ The creator retains ownership, allowing others to use the work but not steal it. It also means that no other company can claim ownership rights.¹⁴⁴

137 Shapiro, Carl, and Hal R. Varian. *Information Rules: A Strategic Guide to the Network Economy*. Boston: Harvard Business School Press, 1999.

138 Barlow, John P. “The Economy of Ideas,” *Wired*. March 1, 1994. Last accessed August 1, 2012. ► <http://www.wired.com/wired/archive/2.03/economy.ideas.html>.

139 Surowiecki, James. “Hello, Cleveland.” *The New Yorker*. May 16, 2005. Last accessed May 31, 2017. ► <http://www.newyorker.com/magazine/2005/05/16/hello-cleveland>.

140 *The Economist*. “A fine balance: How much copyright protection does the internet need?” January 23, 2003. Last accessed June 13, 2012. ► <http://www.economist.com/node/1534271>.

141 Open Source Initiative. “Open Source Case for Business.” Last accessed August 1, 2012. ► http://opensource.org/advocacy/case_for_business.php/.

142 Kay, Russell. “Quick Study: Creative Commons.” *Computerworld*. May 22, 2006. Last accessed August 1, 2012. ► http://www.computerworld.com/s/article/111316/Creative_Commons?taxonomyId=70&pageNumber=2.

143 Rohter, Larry. “In Digital Age, Advancing a Flexible Copyright System.” *New York Times*. June 26, 2006. Last accessed May 31, 2017. ► <http://www.nytimes.com/2006/06/26/arts/26crea.html>.

144 *Creative Review*. “Made for Sharing.” June 5, 2006, 36. Each of the six model Creative Commons licenses contains a combination of four license conditions: “attribution” (abbreviated “by”), “Share Alike” (“sa”), “non-commercial” (“nc”), and “no derivative works” (“nd”). “Attribution,” the most common condition among the CC licenses, states that works can only be used if credit is given to their original creator; “noncommercial,” that works can be used freely only for noncommercial purposes; “no derivative works,” that works can only be used in “verbatim” form (i.e. new works based on the CC original are not allowed); and “Share Alike,” that others can only distribute an original work if the subsequent work has an identical license.

7.5 Case Conclusion

7.5.1 Case Discussion

Conclusion: How Much of GE's Value and Profits Are Based on IA?

In 2007, *BusinessWeek* estimated that GE's intellectual assets were valued at \$50 billion. GE was ranked fourth in terms of global brand value and second in terms of global market capitalizations.¹⁴⁵ GE's financial statements are more conservative. Its total property, plant and equipment were valued at \$70 billion in 2012. Intangible assets, including goodwill, were valued at only \$12 billion. Hence, the company booked the total of its intangible assets as constituting about 17% of its assets.

How can one estimate the value of GE's IAs? We estimate the share of IAs in GE's overall value by using the "residual approach" described earlier in the section on valuation.

GE had seven major lines of business, including GE capital, home and business solutions, energy infrastructure, aviation, healthcare, transportation and media.¹⁴⁶ We proceed with a valuation methodology based on the "imputed value" approach discussed earlier. Given the reported respective revenues of various divisions, one can estimate the profits of these divisions. Using an estimate of the tangible assets one can calculate earnings attributable to tangible assets. The residual earnings are then attributable to intangibles and IAs. One can then calculate the value of the IAs and the share of IAs in the overall assets. The results are shown in **Table 7.1**.

The results show, in the right-hand column, that for three of GE's seven main divisions, imputed IAs value was about half that of overall assets, i.e. similar in magnitude to the tangible assets. For media, IAs constituted 44.7%. For financial services, the figure was 46.7% and for aviation, 41.3%. IAs represent a less important part of value in transportation and energy. Overall, the value of IAs for GE can be totaled to be almost \$47 billion, a figure similar to that estimated by *Business Week*. This is about four years' worth of 2012 earnings. Given such a large contribution to earnings and value, and to GE's future, the creation and management of IAs needs to be one of the company's top priorities.

Table 7.1 Intellectual Asset Value in GE's Divisions

Imputed \$ value of intellectual assets (\$)		Imputed intellectual asset value in total assets of division (%)
Energy	5.7	12.3
Aviation	5.9	41.3
Healthcare	8.4	29.1
Home	3.6	24.5
GE Capital	21.1	46.7
Transportation	0.9	9.8
Media	3.4	44.7
Total	46.8	28.8

145 General Electric. "Statement of Financial Position." *GE 2012 Annual Report*. 2012. Last accessed July 16, 2013. <http://www.ge.com/sites/default/files/GE-AR2012-Statement-of-Finacial-Position.pdf>.

146 MSN. "General Electric Co." *GE Company Report, Financial Results, Key Ratios, Income Statement*. Last accessed 6 June 6, 2013. <http://investing.money.msn.com/investments/company-report/?symbol=ge>.

7.6 Outlook

IP was once the domain of lawyers. Now, it has become an essential input into management and output. It is a vital component in strategy, mergers and acquisitions, operations and investment. Protection and exploration of IAs is a critical management task. What is the point of developing and producing creatively and efficiently if the subsequent licensing and protections are ineffective?

For firms in the media and information sector, IAs are the main assets and the core of their value. Protection of these assets from infringement is important, but their exploitation and commercialization is still more valuable. Yet, the markets for IA transactions are still fairly imperfect—there are information problems and arbitrage.

The future of IA management will be defined by several conflicting forces:

- In an information society and economy, IAs are more valuable than ever before and their incentive value is important.
- However, legal restrictions to protect IAs slow everyone down.

7.7 · Review Materials

- More information is produced with a shorter shelf-life, and with more commodity characteristics.

We conclude that the management of IAs is just as important as their legal protection. It is a complex function to run. Yet, it is a key profit activity for successful information and media firms in the digital economy, and its mastery is an essential business tool.

7.7 Review Materials

Issues Covered

We have covered the following issues in this chapter:

- The characteristics of IA;
- How IA developed over the years, and its positive and negative effects on society;
- The options for a media and information firm to create and protect its innovations;
- How a firm optimizes the benefits from its IAs;
- How to organize the management of IAs;
- The reasons for business method patents;
- What trade secrets are and how to protect them;
- The benefits and risks of patents;
- How companies solve patent infringements;
- The requirements to file patents;
- What trademarks are and how to obtain them;
- How copyright is created and protected;
- The roles of international treaties and organizations for IAs;
- How to value IAs;
- Why companies cross-license;
- How IAs are treated in a company's balance sheet;
- The advantages and disadvantages for strategic licensing;
- How patent pools reduce the risk of litigation and intentional blocking;
- How Performing Rights Organizations (PRO) work;
- How compulsory licenses work;
- The kind of protection strategies that can be used against piracy;
- How digital rights management operates;
- How the open source system works.

Tools Covered

We described tools to address some of the above issues:

- Patent filing;
- Patent infringement suits;
- Trademark requirements;
- Copyright and trademark registration;
- Contract-generated IP rights;
- Protecting trade secrets;
- Fair use criteria;
- Identifying patent “parents” and “children;”
- IA audit map;
- Valuation techniques for IAs;
- Residual approach of IA valuation;
- Optimal licensing rates;
- Cross-licensing pools;
- Sport licensing;
- Piracy protection strategies;
- Copyleft and open source.

7.7.1 Questions for Discussion

1. Practically speaking, how can a company check for infringement of its copyrights?
2. How would a media company account in its books for a patent before it has created any tangible item based on it?
3. If a manufacturer has developed a new audio technology that produces better sound at a lower bit rate, contrast the method of keeping this information as a trade secret vs. applying for a patent.
4. Explain how a firm can best protect itself from having its product reverse engineered?
5. After a company independently develops a new product or technology, describe the process a company can take to ensure that no other firm or individual already has a patent on the same process.
6. Describe the differences between a patent, a trademark and a copyright? For which assets would a company want to obtain these protections?
7. How should companies respond to the “intellectual commons” movement?

8. How should a record company respond to challenges to its IP?
9. Discuss how the concept of fair use applies to universities and startups.
10. When should a company join a patent pool? And when is it a bad idea?

7.7.2 Quiz

1. Company XYZ sells music CDs online. For the past two years, music CD sales have slipped dramatically. Instead, music downloads have increased significantly. A bad idea for company XYZ would be to:
- Direct its focus to an area less vulnerable to competition.
 - Undercut competitors by selling its CDs much cheaper.
 - Enforce its IPRs.
 - Further advertise CDs with the hope that CD sales will eventually re-emerge.
2. All of the following are IPR benefits of larger firms except:
- Usually, greater protection from piracy and P2P users.
 - Less costly to protect patent rights.
 - Usually have greater resources when dealing with litigation.
 - Have larger portfolios, therefore cross-licensing can be an alternative to litigation.
3. All of the following are true concerning the NATPE and MIPCOM shows except:
- Allows for bidding between producers and creators of products.
 - Only permits the viewing of shows that are seeking syndication.
 - Proves a valuable channel for marketing and purchasing of television programs.
 - Serves as a promotional venue for producers and, potentially, viewers.
4. Each of the following can be used to determine the value of a company's IAs except:
- The amount of times it is cited or referenced to in other patents/patent filings.
 - Usage of "royalty methodology" such as tax-generated revenue from deals resulting from cross-licensing.
 - Consideration as to the length of the patent description as filed with the Patent Office.
 - Whether it is in existing use vs. liquidation value.
5. Which of the following is an important consideration in developing business practices which will protect a trade secret?
- B, C, and D.
 - The ingredients in your secret hamburger sauce can be determined by chemical analysis.
 - The turnover rate of your employees is high.
 - The process for making your product was published in a 1968 government report.
 - None of the above.
6. Which of the following is important in choosing to apply for a patent over using trade secrets to protect your business?
- The process for making your product was published in a 1968 government report.
 - Your Chief Technical Officer has a drinking problem and leaked confidential information about your product to a friend three weeks ago.
 - Your product is a method for doing business.
 - All of the above.
 - None of the above.
7. Which of the following cannot be patented?
- An idea.
 - An organic compound.

7.7 · Review Materials

- C. A mathematical algorithm.
D. A business process.
E. An improvement on an existing patented process.
8. The proprietor of Bill's Duck Farm wants to launch a new product line of orange-colored duck eggs. Which of the following would give Bill the strongest competitive advantage?
A. Labeling each egg, "patent pending".
B. Getting a servicemark for the slogan, "If it walks like a duck, and talks like a duck; it must be a Wild Duck."
C. Getting trade-dress protection for orange-colored duck eggs.
D. Launch a massive advertising campaign emphasizing his new patent for a process for making sure the eggs are orange.
E. Selling his eggs under the brand name, "Wild Duck Eggs."
F. Labeling each egg, "© Duck Bill, 2000".
9. Which is not a problem with encryption?
A. It hinders criminal investigations.
B. Early reliance on copy protection led to the notion that cracking into a software package somehow "earned" one the right to use it.
C. Once something has been unscrambled by a legitimate licensee, it can be widely reproduced.
D. New subscriptions to various commercial satellite TV services skyrocketed after their deployment of more robust encryption of their feeds.
10. Which element(s) are required in a proper copyright notice?
A. The symbol ©, the word "copyright" or the abbreviation "copr."
B. The year in which the copies of the work were first published.
C. The name of the copyright owner.
D. All of the above are required.
E. Only A and B are required.
F. None are required, only recommended.
11. Which of the following is not an example of open source software?
A. Springboard OS.
B. GNU.
C. Redhat Linux.
D. UNIX.
E. None of the above.
12. Of the following, what cannot be copyrighted?
A. Dance choreography.
B. Computer software.
C. Motion pictures.
D. Business operation process.
13. What does the "fair use" means for copyright holders?
A. Central parts of the total work can be used as long as they have an educational purpose.
B. Educational institutions have to acquire licenses in order to copy copyrighted work.
C. Their copyrighted work can, under certain circumstances, be copied for research, teaching and so on.
D. Profit can be made by implementing the knowledge acquired from copyrighted work.
14. Which of the following anti-piracy strategies is most effective once a copied version of a film is already available on the Internet?
A. Technology fixes.
B. Enlist government.
C. Counter-attacks.
D. Litigation.
15. What is not a suitable strategy for managers to use to counteract piracy?
A. Slower introduction of new versions to reduce the advantages of a pirate offering the "newest version."
B. Slower introduction of new versions to increase the advantages of a pirate offering the "newest version."

- 7
- C. Faster introduction of new versions to reduce the advantages of a pirate offering the “newest version.”
 - D. Competitive pricing in order to adapt more to inexpensive, high-quality illegal copies.
16. Why is the real options approach as a valuation method for patents useful?
- A. Managers do not understand the underlying calculations and thus cannot judge the results.
 - B. Valuation methods, such as decision tree analysis or the Black-Scholes formula, can fully describe the options value.
 - C. It models the uncertainties of the underlying IAs.
 - D. Uncertainty can be easily described by a normal distribution.
17. What are valid reasons for the licensing of a technology?
- A. To shape market structure.
 - B. To deter entrance of competitors.
 - C. To select competitors after patent expires.
 - D. All of the above.
18. Which of the following are considered a type of Intellectual Asset (IAs)?
- A. Trade Secret Protections.
 - B. Contract-Created Intellectual Assets.
 - C. Copyrights.
 - D. All of the above.
 - E. A and C only.
19. Which of the following statements about Intellectual Assets is correct?
- A. By estimations, 90% of commercial value in IA is found in trade secrets.
 - B. Copyrights are less frequent than contract created rights and trade secrets.
 - C. Patents are less frequent than trademarks and trade secrets.
 - D. All of the above.
 - E. None of the above.
20. Typically, how long does it usually take to obtain a patent?
- A. Six months.
 - B. One year.
 - C. Two to four years.
 - D. Five to ten years.

Quiz Answers

- ✓ 1. D
- ✓ 2. B
- ✓ 3. B
- ✓ 4. C
- ✓ 5. D
- ✓ 6. D
- ✓ 7. D
- ✓ 8. E
- ✓ 9. A
- ✓ 10. C
- ✓ 11. A
- ✓ 12. D
- ✓ 13. C
- ✓ 14. C
- ✓ 15. A
- ✓ 16. C
- ✓ 17. D
- ✓ 18. D
- ✓ 19. D
- ✓ 20. C



Managing Law and Regulation

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8.1 Introduction: Non-Market Competition

This chapter deals with the governmental rules under which media and communications companies operate. But, perhaps more importantly, it discusses how media companies manage the legal and regulatory environment for competitive advantage. What are the tools? What are the techniques? And how must these functions be budgeted and run?

These governmental rules differ from country to country. We will cover general models and strategies from around the world. We will also use examples from other countries. But most illustrations will be American.

When firms compete with each other, they do so not only in the marketplace, but also in a “non-market” sphere. Competition in a market encourages companies to lower prices, to create innovative products and to improve quality. In contrast, non-market competition is a rivalry not for customers but, rather, for favorable treatment by governments, courts, standards committees, industry associations, and various stakeholder and advocacy groups. Non-market strategies are actions that

influence regulation, legislation and standards, as part of competing with rivals.¹ Non-market strategies have become increasingly important, even though they usually do not generate revenues directly. The more government affects the opportunity of firms, the more important non-market strategies become.² Thus, for companies and their managers, performance depends on how effectively they deal with governments and the public at large. Yet, managers are typically not trained to navigate the non-market environment.

Dealing with government is not limited to established firms in traditional media industries. Innovator firms in the tech sector do so, too. Originally, Internet pioneers held a libertarian attitude favoring a hands-off role for government. In that spirit, in 1994 several of its early thought leaders issued a ringing “Charter for Internet Liberties” that proclaimed, among other things: “Government, leave us alone, we did not call you, we don’t need you.” But soon this perspective faded as those engaged in the Internet, whether commercial or non-profit, developed a long wish list for the US government (and similarly in other countries) to protect, subsidize and exempt their activities and companies.³

8.1.1 Case Discussion

Non-market Competition—Comcast Versus Google

Overview

Comcast is the world’s largest US cable operator, with almost 35% of US cable users subscribing to its Xfinity branded service. Its cable franchise territories include much of the Mid-Atlantic, Bay area, Seattle, Chicago, and Florida regions, plus big territories between the two coasts. It also owns NBCUniversal, one of the major producers and distributors of TV and film programs (Universal), and an operator of multiple broadcast and cable channels (NBC). Comcast has also moved into the voice telecom

(VoIP) and broadband Internet service (ISP) market where it is the platform over which online providers such as Google (and its YouTube subsidiary) reach their customers and users.

Google is the world’s largest search and advertising placement company. It owns YouTube, which offers video content, with an increasing number of specially produced exclusive programs. Its service uses the infrastructure platforms of Internet service providers, of which Comcast is the largest in the USA. But Google

has also aggressively entered the infrastructure and ISP market itself, by building a local fiber-to-home market, first in Kansas City and then in several other cities. On these networks, it offers broadband at 1 gigabit/sec, as well as video channels and phone service.

Google and Comcast compete in both the market and non-market spheres. Google must get licenses from the Federal Communications Commission (FCC) and local or state franchise permits in order to offer video and telecom service, and conform to their regulations and

1 Holburn, Guy L. F., and Richard G. Vanden Bergh. “Policy and process: A game-theoretic framework for the design of non-market strategy.” In *The New Institutionalism in Strategic Management (Advances in Strategic Management, Volume 19)*. Eds. Paul Ingram, and Brian S. Silverman. Emerald Group Publishing Limited, 2002; 33–66.

2 Baron, David P. “The Nonmarket Strategy System.” *MIT Sloan Management Review* 37, no. 1 (Fall 1995): 73–85.

3 Birnbaum, Jeffrey H. “Washington & the Web.” *Fortune*. October 11, 1999. Last accessed June 17, 2017. ▶ http://archive.fortune.com/magazines/fortune/fortune_archive/1999/10/11/267047/index.htm.

8.1 · Introduction: Non-Market Competition

conditions—for example, in digging up streets. Comcast is trying to prevent, or at least slow down, Google's ability to become a video and ISP platform provider. Google, on the other hand, seeks protection from the FCC and state utility commissions to provide its content services over the Comcast network without being disadvantaged by Comcast discriminating against it through pricing and technical quality. While the two companies are rivals, they also share common goals such as low taxes, the protection of intellectual property and weak antitrust enforcement.

Google's regulatory issues are numerous and worldwide. They include:

- Antitrust and market power issues in Brussels and Washington;
- Merger issues in Washington;

- Copyright issues, especially with book and newspaper publishers;
- Privacy legislation in many countries, in particular Europe;
- Censorship and compliance with national content rules around the world;
- Potential liability for hate speech, violence and explicit materials on YouTube;
- Unrestricted access to ISPs ("net neutrality");
- Tax issues in the USA and Europe.

Comcast's issues are similarly varied and include:

- TV station ownership restrictions;
- Content restrictions on broadcast TV;
- Copyrights and piracy;
- Foreign cultural quotas;

- Price regulation for cable service;
- Access by cable and TV channels and payments to cable platforms;
- Local and state franchising regulation of cable operations;
- Restrictions on the ability to control its ISP network operations ("net neutrality").

Comcast and Google must decide how much to "invest" in their regulatory activities, how to measuring their "productivity", and how to "market" their interests most effectively to governmental bodies and the public. How should Comcast and Google conduct and manage their non-market competition? How much should Comcast and Google "budget" for regulatory policy, the political process and public relations? How should they "produce" positive outcomes?

8.1.2 The Relationship of Government and Media

Government, law and litigation have always played a major role in media. In 1455, Johannes Gutenberg invented movable print and immediately became the subject of several lawsuits. Most of what we know about Gutenberg actually comes from the record of the several court cases in which he was embroiled. Soon, the Catholic Church began to regulate printing and publishing. Other countries, such as England and France, also tried to control print. In 1637, the Star Chamber in England limited the number of printers to two and required approval by the official publications and censor. Newspapers had to be licensed. In France, over 800 authors, printers and book dealers had been imprisoned in the Bastille before the 1789 revolution. Under Napoleon, printers required a license and newspapers were strictly censored.

The nineteenth century witnessed media inventions followed by governmental interventions. After the Morse telegraph emerged in the 1840s, the government postal monopolies in most countries took

control of the new medium. Private operators were banned (in Germany) or nationalized (in Britain). In 1876, Alexander Graham Bell's telephone immediately triggered major lawsuits over patents. Here, too, most governments quickly assumed ownership. In the 1900s, after Guglielmo Marconi invented wireless communications, many countries established state control over this new invention and banned private telegraphy and broadcasting.

There are many roles that governments play in media and information technology:

- Frequency allocation, including for broadcasting and mobile devices;
- Price regulation of phone and cable companies;
- Granting and protecting of patents and copyrights;
- Anti-monopoly and ownership controls;
- Funding and supporting technical innovations;
- Creating and enforcing obscenity and privacy laws;
- Establishing network interconnection and connectivity rules;
- Censorship of certain content such as hate speech;

- Creation of advertising rules;
- Setting an enforcing a system of unionization and collective bargaining;
- Financing of public service television;
- Setting of technology standards;
- Allocating orbital slots for satellites;
- Providing tax incentives for various types of investments;
- Setting and negotiating tariffs and other rules affecting trade;
- Regulating financial securities, stock markets and brokers;
- Adjudicating disputes in the courts;
- Setting immigration rules;
- Procuring technology equipment and services as an early and major customer;
- Regulating mergers, market structure and companies' competitive behavior;
- Supporting and protecting diversity in media content and ownership;
- Supporting the arts, creation and national culture;
- Supporting or owning telecom networks and services for low-income and rural areas;
- Supporting or running public service television;
- Taxing cable TV and telecom networks, and, in some countries, TV viewing.

Government also played an important role in the creation of many technology innovations. They include:

- Computers;
- Semiconductors;
- Communications satellites;
- The Internet;
- Mobile technology;
- Packet switching data transmission;
- Spread spectrum;
- Microwave transmission.

Why, generally, is government involved in an industry? There are three major reasons: the protection of the public interest, the protection of powerful private interests, and bureaucratic and political self-interest. Regulation usually exists as a mix of all three.

What are the reasons for government intervention in the media and media technology sphere, which go further than they do in almost any other sector?

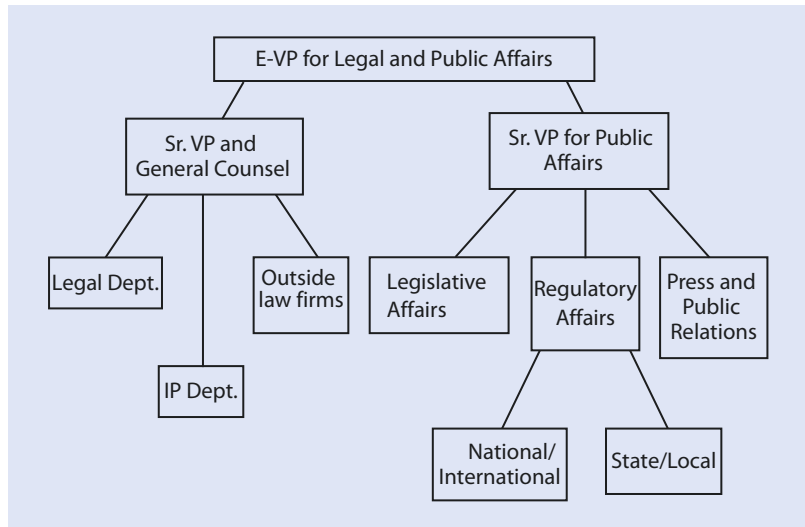
Media are important, essential, influential and, often, controversial. They affect culture, politics, commerce and technology. They also exhibit certain fundamental economic characteristics that may result in a media system with societal shortcomings in terms of ownership concentration and viewpoint diversity. At the same time, free speech guarantees enshrined in a nation's constitution give content media substantial protections from governmental regulation in a way that no other industry or activity enjoys. However, that special status applies only to the content of media and its creation, not to regular media business activities such as mergers, pricing, technical infrastructure, consumer protection, health effects, employment conditions and so on.

As noted, the nature of media is such that there is a high fixed cost for the initial creation of content and of distribution networks, but a low marginal cost to duplicate content or add network users. This leads to economies of scale, which, together with the positive "network effects" that users have on each other, favor the emergence of large firms with market power. It also creates an economic incentive to price discriminate in order to offset a high fixed cost. The low marginal cost also incentivizes piracy, leads to price wars and creates market instability. The government's role as an economic regulator is to reduce some of these tendencies.

There has been a general trend toward deregulation, and advances in technology have made many markets more competitive. And yet, the role of government in the digital economy has been rising. There have been a number of factors and constituencies:

- Demand by the Internet community itself for regulatory actions, such as net neutrality protections;
- The emergence of digital activism, for issues such as privacy;
- Protection of the losers in the digital economy: traditional firms under pressure, employment that is out-migrating to offshore locations, and a rising volatility of the economy;
- Fundamental economics of digital activities, such as economies of scale and network effects, which favor large firm size and market power;
- Demands for support of R&D, innovation and investment;

■ **Fig. 8.1** Organizational Chart of a Corporate Legal and Public Affairs Function



- Societal values such as child protection;
- Consumer protection in activities on the new platforms.

All this suggests that government will continue to play a major role in the new media environment, as it has done in the “old media” environment.

8.2 The Legal and Public Affairs Functions in Media Firms

Corresponding with the multi-faceted role of government, the legal and public affairs functions in media firms have become increasingly important and complex, and they require significant management responsibility. Startups are rarely able to afford the legal talent internally, even though they may have the greatest need for it in the early stages of their business life. For a large company, a typical organizational chart for this function may resemble that of ■ Fig. 8.1.

Public affairs departments manage regulatory affairs, legislative affairs, press relations and public relations (PR). The legal activities of a company deal with contracts, transactions, intellectual property, employment, compliance issues, tort liability, advertising, competitor behavior and real estate. Legal departments also create corporate entities, distribution agreements, license acquisitions and labor agreements. They screen content for libel and rights infringement, protect trademarks, initiate legal actions, and defend against such actions by others.

8.2.1 General Counsel: Head of Legal Department

The general counsel (GC), or in-house counsel, is the head of an organization’s internal legal department and monitors the external lawyers. In the past, it was not essential for the general counsel to have management skills as it was assumed that legal ability was more important. More recently, the internal law department may employ several hundred attorneys and staff, and general counsels must also act as managers. They must control the cost and quality of internal and external legal services, oversee lawyers serving in various business units, and supervise the training of other lawyers and employees about compliance with legal and regulatory requirements.

8.2.2 Outside Counsel

The general counsel is also responsible for hiring independently practicing lawyers. Firms hire such “outside counsel” to benefit from specialization, personal contacts and economies of scale. Outsourcing to outside counsel is used not only for specialized and complex matters such as anti-trust battles or proxy fights, but also for routine matters such as bill collection or lease agreements. Some external law firms are hired to deal with governments and legal systems of other countries.

It takes time and money to manage external professionals. The external counsel may have less

incentive to keep costs low and may strive for an expensive perfectionism. In addition, outsiders may be less knowledgeable about the business and the deal itself than are the company's in-house attorneys.⁴ There are also cost disadvantages for going outside. External lawyers are often more expensive on an hourly basis.


Entertainment law firms are usually based in major media centers and capital cities. There are two kinds of entertainment law firms: those that represent the entertainment companies, which are generally national law firms, and those that represent the talent, which are generally boutique or "plaintiff" law firms. It is typical for a company, media or otherwise, to use several different firms for its legal needs.

Outside counsel use several billing arrangements. They may use an hourly charge, or a contingency fee, a flat fee (which is becoming more popular), or they settle on an alternative fee arrangement such as being paid with equity stock in the client company. Large law firms that represent media companies are less flexible with fees than small firms representing the artists. They typically use hourly rates. When lawyers manage several aspects of the client's career, they may take their fee as a percentage of a client's income subject to their management, typically 5%.

8.2.3 Litigation Management

How should a company determine how much to spend on legal expenses? First, we will address litigation. Statistically, the typical US company making \$1 billion plus in annual revenues faces 556 lawsuits per year, ranging from employment disputes to consumer injuries, copyright violations and contract performances. It spends more than \$12 million per year on litigation alone and a further \$19.8 million on settlement payments and adverse judgments.⁵ It also spends millions on insurance against tort liability and incurs major internal transaction costs in avoiding situations that lead to litigation, including taking less risk in designing products, or in developing and releasing them.

Litigation management means that a company needs to decide actively how to set budgets for individual cases and whether to initiate, settle, or fight. It must require law firms (whether internal or external) to plan for the various stages of a case, with an itemized budget of expected cost. Outside law firms tend to resist setting a litigation budget as it may constrain them, and cases are often unpredictable. But the client company must consider how it can win a case at a reasonable cost, what the potential benefits are and how risky the case is. Since 90% of cases settle and never make it to trial,⁶ it is important for managers to define a settlement range at all stages of litigation. Settlements help to achieve litigation goals within a reasonable budget. Settlement strategies are an important part of risk-management.

In order to determine its strategy, a company may arrange the various options and probabilities in a "decision tree,"⁷ as depicted in  Fig. 8.2. After identifying uncertainties, lawyers should provide numerical risk assessments for each possible outcome. All final outcomes, on the right side, have financial consequences, such as penalties and legal expenses. Multiplying the probabilities with the monetary values of each outcome generates the expected value. The sum of all the expected values is the value of the entire case. Decision trees are useful, but become cumbersome if too many variables and stages are involved.

How does one know the probabilities and magnitudes of outcomes for this methodology and, similarly, for others? It is here that a company's lawyers need to provide reasonable estimates based on their experience, the outcome of similar cases and other factors. These estimates must be realistic, neither painting a rosy picture in order to entice a potential client, nor so gloomy as to make the lawyer's subsequent achievement look good.

It should be noted that legal experts tend to be reluctant to estimate probabilities. "It all depends," will often be said, and it is the manager's responsibility and challenge to coax out these estimates. The willingness and the track record of lawyers in providing realistic estimates should be factors in retaining them. Their ability to judge costs and likelihoods is just as important to a company as their skill in writing legal briefs.

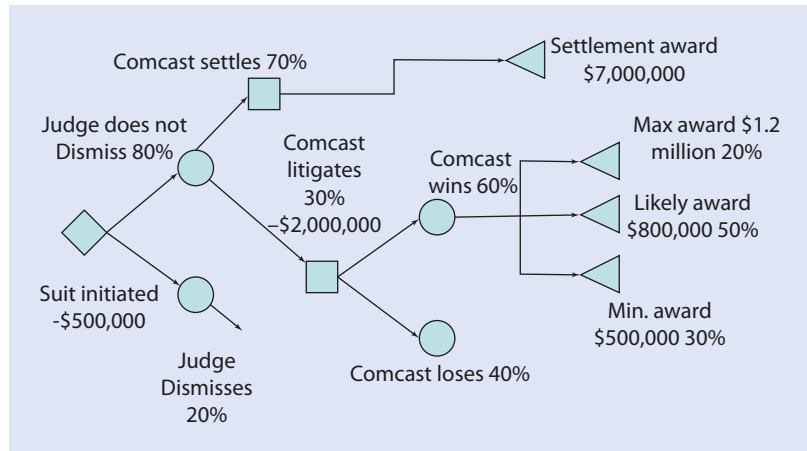
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5 Reason, Tim. "U.S. Companies Spending a Fortune in Court." *CFO*. October 12, 2006. Last accessed June 17, 2017. ► <http://ww2.cfo.com/risk-compliance/2006/10/u-s-companies-spending-a-fortune-in-court/>

6 Forrest, Kirk G. "In Litigation, Consider Outcome and Cost." *Business Insurance* 30, no. 37 (September 1996): 20.

7 Poltorak, Alexander and Paul J. Lerner. "Introducing litigation risk analysis." *Managing Intellectual Property* no. 109 (May 2001): 47.

■ Fig. 8.2 Decision Tree for Decision to Litigate



8.2.3.1 Case Discussion

Should Comcast Sue Google?

Suppose Comcast considers suing Google, accusing it of antitrust behavior in the advertising service market. How can Comcast estimate the expected value of the case? Comcast could create a decision tree outlining the costs and expected benefits from the suit and probabilities of outcome (■ Fig. 8.2).

Assume the following hypothetical numbers: if Comcast brings the lawsuit, its upfront costs will be \$500,000. The judge, with an 80% probability, will not dismiss the case. It is then up to Comcast

whether it settles (a 70% likelihood) or fights back (30%). If the latter is the case, it will cost Comcast \$2 million, with four possible outcomes: a total loss (40% probability), or a win (60%), where there are three

$(-500,000) + (0.2)(0) + (0.8)[(0.7)(7,000,000) + (0.3)[-2,000,000 + 0.4(0)$

$+ (0.6)[(0.2)(12,000,000) + (0.5)(8,000,000) + (0.3)(5,000,000)]] = \$4,240,200$

Comcast should bring the case, as its expected value, after subtracting the cost of bringing the case, is \$4.24 million. However, if the probability of winning drops from

possible outcomes with equal probability: a high win, a more realistic win, or a minimal win.

Q: Should Comcast sue?

The expected value of the case for Comcast is:

60% to 30%, and if the expense rises from \$2 million to \$4 million, then the expected value is negative $-\$0.13$. The case then should not be brought by Comcast.

8.2.3.2 How to Analyze Dynamic Spending?

The decision tree approach is a “static” analysis, with static probabilities and set costs and rewards. However, the real question is often an incremental one of how much to invest in a case to improve the odds, and how to respond to one’s rival’s corresponding efforts.

8.2.3.3 Case Discussion

Marginal Analysis—Comcast Versus Google

Google will have to consider the impact of its spending. Assume that the value to Google of success of a particular case is \$1,000,000, and also

assume that its competitor Comcast spends \$100,000 on that case. For each investment by Google in the case there is a result in terms

of probability of outcome, and its expected value (■ Table 8.1).

How much should Google spend? The answer is between

The optimization solution of any non-market spending by Firm A is to invest until marginal cost equals marginal benefits. This requires an estimation of the probability of success with several levels of investment by the firm, given an estimated level of spending by the opposing firm.

\$300,000 and \$400,000. In that range, the incremental spending (\$100,000) achieves a result worth between \$30,000 and \$150,000 (the right-most column). If Google spent more, it would not achieve enough of a difference to justify the added cost. And, if it spent less, it could have bought extra expected value for less than its cost.

However, this presumes that Comcast's own legal spending is

static at \$100,000. Yet, it is more likely that Comcast would respond to Google's spending by upping the ante itself. If, for example, it were to raise its own investment in the case to \$200,000, there would be a different optimal spending number for Google, in turn.

Thus, for every investment level by Comcast there is an optimal spending level by Google—a "reaction function"—by Google. In Fig. 8.3,

this is shown by the line denoted "Google optimal spending as a function of Comcast's." The more Comcast spends, the higher Google's optimal spending point must become.

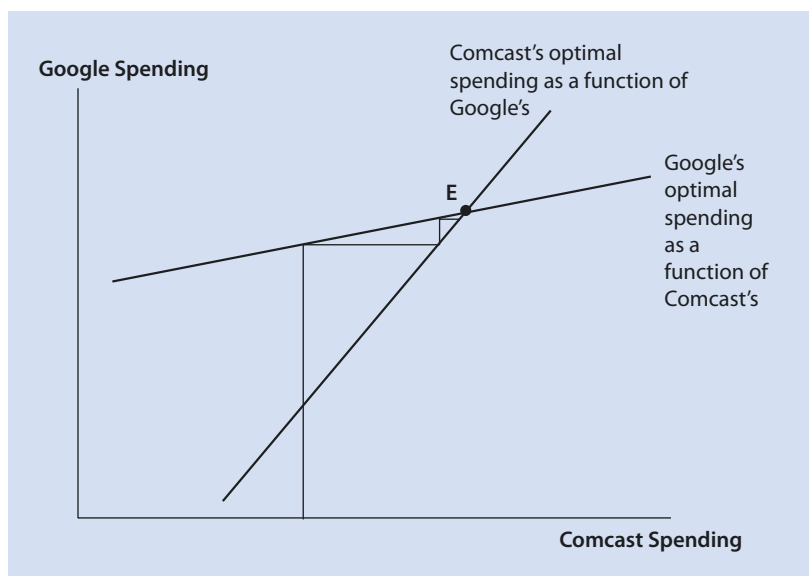
Comcast, too, will do the same calculation for Google's spending level, and thereby set its own "reaction function" of optimal spending.

Comcast and Google will raise each other's spending until some

Table 8.1 Cost-Benefit of Investment in Litigation

Investment by Google in \$	Δ Investment	Probability of success for Google (est.)	Expected value E(V) of outcome	$\Delta E(V)$
0	0	0.20	200,000	
100,000	100,000	0.50	500,000	300,000
200,000	100,000	0.65	650,000	150,000
300,000	100,000	0.80	800,000	150,000
400,000	100,000	0.83	830,000	30,000
500,000	100,000	0.86	860,000	30,000
1,000,000	100,000	0.88	880,000	20,000

Fig. 8.3 Company Reaction Curve for Optimal Investment in Litigation



equilibrium point E is reached. In other response configurations, there may be no such equilibrium point E, and Comcast and Google may try to outspend each other

in an “arms race” to the top, continuously increasing their spending. That is possible when the expectations of probabilities and rewards differ widely. But, more

likely, both sides will then conduct a cost-benefit analysis for the spending and consider settlement parameters based on the decision calculus discussed above.

In conclusion: managers need to manage their legal activities as a business function and to use litigation as a strategic tool, both defensively and offensively. As business tools, these activities are subject to the regular analyses of net present value (NPV), return-on-investment (ROI), cost-benefit, option value, brand management and so on, and the general managers should not cede overall decision making to the lawyers-specialists.

8.3 Influencing Government and the Public

We now move from private litigation law to public regulatory law and policy. A firm can deal with public policy in several ways. It can take it as given, or it can try to shape it. Robert Galvin, the head of the wireless technology firm Motorola for more than three decades, described his company’s strategy as “writing the rules of the game” to shape Motorola’s market environment.⁸ Here, “lobbying” is the major tool. Basic lobbying techniques include⁹:

- Direct lobbying of policy makers;
- Coalition-building;
- Generating grassroots lobbying;
- Political finance;
- Public communications and advocacy efforts;
- Impacting key government personnel appointments.

8.3.1 Lobbying

Trade associations and small firms often coordinate collective action, while larger or stronger

firms generally prefer individual action. Small firms prefer collective action because they have neither the resources nor the connections that larger firms have.

Lobbying targets are usually legislators and their staff, officials and staff of regulatory agencies, and government decision makers at the local, state, national and international levels. Effective lobbyists are politically sophisticated, experienced and persuasive. They must be able to network and to create coalitions and connections. They must be capable to function as advisors, advocates, intelligence collectors, policy analysts, political campaigners, alliance builders, negotiators, collection agents, publicists, courtiers, party-hosts, unpaid assistants and fundraisers.¹⁰

One question is whether a lobbyist should be the company’s employee or a hired independent professional. For a long-term, repetitive, or continuing issue, it is better to use an in-house lobbyist. However, for short-term or unique issues, retaining a lobbying firm is more cost effective. They typically charge by the hour or day, with an upfront retainer payment for a basic service level.

Companies must consider how much to spend. For example, in 2014 the television, music and movie industries in the USA reported spending a total of \$115 million on lobbying.¹¹ How do we know the figures? In the USA, companies and trade associations must report them, and all lobbyists must register, and report their clients. Many other countries have weaker disclosure requirements.

8 Baron, David P. “The Nonmarket Strategy System.” *Sloan Management Review* 37, no. 1 (Fall 1995): 73–85.

9 Mack, Charles S. *Business, Politics, and the Practice of Government Relations*. Westport: Quorum Books, 1997.

10 Watkins, Michael, Mickey Edwards, and Usha Thakrar. *Winning The Influence Game: What Every Business Leader Should Know About Government*. New York: John Wiley & Sons, Inc., 2001.

11 OpenSecrets. “TV/Movies/Music: Lobbying, 2016.” Last accessed June 17, 2017. ► <https://www.opensecrets.org/industries/lobbying.php?cycle=2016&ind=B02>.

8.3.1.1 Case Discussion

Lobbying

Comcast maintains 128 federal lobbyists on its payroll, 105 of whom are former governmental officials, including six former members of Congress.¹² In 2013, Comcast had the seventh largest lobbying expenditure of a US company or organization, spending \$18.8 million.¹³ It was one of the largest financial supporters of Barack Obama's presidential runs. One of Comcast's vice presidents raised over \$2.2 million from 2007 to 2012 for Obama's campaign and for the Democratic National Committee.¹⁴ The company greatly expanded through a series of mergers steered through government approval. In 2015, it increased its lobbying budget by 50% to \$18.5 million. In that same year, Google spent \$22 million on lobbying.

In addition to direct lobbying, Comcast controls the NBCUniversal Political Action Committee, which is among the largest political action committees (PACs) in the United States. It raised over \$3.7 million in 2011/12 for various candidates.¹⁵ Comcast is also a major backer of the National Cable & Telecommunications Association (NCTA) Political Action Committee, which raised \$2.6 million. The NCTA represents

Comcast and other cable companies, and in 2013 was the fifth largest lobbying organization in the United States, spending nearly \$20 million.¹⁶

While the majority of their lobbying is at the federal level, Comcast also backs lobbying on a local level. Regional organizations, such as the Tennessee Cable Telecommunications Association and the Broadband Communications Association of Washington PAC, receive funding from Comcast to represent their interests in local and state government.¹⁷ In the past decade, cable companies, including Comcast, have lobbied state governments, with varying degrees of success, to restrict or ban cities from offering municipal broadband service.¹⁸ By 2014, such restrictions on municipal broadband were passed in 20 states.¹⁹ At that point, the FCC intervened and pre-empted the states by permitting municipal broadband. That issue went to the courts, which overturned the FCC.

Comcast's external hired lobbyists and consultants included at least 12 firms in the US. Examples:²⁰

- Tony Podesta, former counsel to Senator Ted

Kennedy, and the brother and business partner of President Clinton's chief-of-staff and Hillary Clinton's campaign manager John Podesta (Democrat);

- Ed Gillespie, former Republican Party chairman;
- Alfonse M. D'Amato, former New York Senator (Republican);
- Rudolph W. Giuliani, former New York Mayor (Republican);
- Jack Quinn, former White House Counsel under President Clinton (Democrat).

It should be noted that none of these activities is unlawful or unusual for a large corporation in the USA.

In the net neutrality debate, the greatest lobbying effort, in opposition to Comcast, came from Google, which spent \$16.8 million on lobbying in 2014 alone. It was the ninth largest spender on federal lobbying of any organization, but still behind Comcast and the NCTA. In 2014, it employed 98 lobbyists, including 79 former government officials and two former members of Congress.²¹

12 Celniker, Jared, and Russ Choma. "Net Neutrality." OpenSecrets. April 2015. Last accessed June 17, 2017. ► https://www.opensecrets.org/news/issues/net_neutrality/.

13 OpenSecrets. "Lobbying Top Spenders: 2013." Last accessed June 17, 2017. ► <https://www.opensecrets.org/lobby/top.php?showYear=2013&indexType=s>.

14 *New York Times*. "Obama's Top Fund-Raisers." September 13, 2012. Last accessed June 17, 2017. ► <http://www.nytimes.com/interactive/2012/09/13/us/politics/obamas-top-fund-raisers.html>; Sink, Justin. "Comcast, Time Warner Execs Have Been Big Obama Supporters." *The Hill*. February 13, 2014. Last accessed June 17, 2017. ► <http://thehill.com/policy/technology/198350-comcast-time-warner-exec-have-been-big-obama-supporters>.

15 Federal Election Commission. "Top 50 Corporate PACs by Receipts January 1, 2011–December 31, 2012." Last accessed June 17, 2017. ► http://classic.fec.gov/press/summaries/2012/tables/pac/PAC5a_2011_12m.pdf.

16 Proportionally, Comcast's share would have been about \$6 million. NCTA data from OpenSecrets. "Lobbying Top Spenders: 2013." Last accessed June 17, 2017. ► <https://www.opensecrets.org/lobby/top.php?showYear=2013&indexType=s>.

17 Sher, Andy. "Lobbyists had busy year in Nashville." *Times Free Press*. May 30, 2011. Last accessed June 17, 2017. ► <http://www.timesfreepress.com/news/news/story/2011/may/30/lobbyists-had-busy-year-nashville/50827/>; Peterson, Andrea. "Comcast is donating heavily to defeat the mayor who is bringing gigabit fiber to Seattle." *Washington Post*. October 31, 2013. Last accessed June 17, 2017. ► <https://www.washingtonpost.com/news/the-switch/wp/2013/10/31/comcast-is-donating-heavily-to-defeat-the-mayor-who-is-bringing-gigabit-fiber-to-seattle/>.

18 Badger, Emily. "How the Telecom Lobby is Killing Municipal Broadband." *Citylab*. November 4, 2011. Last accessed June 17, 2017. ► <http://www.citylab.com/tech/2011/11/telecom-lobby-killing-municipal-broadband/420/>.

19 Brodtkin, Jon. "ISP lobby has already won limits on public broadband in 20 states." *Ars Technica*. February 12, 2014. Last accessed June 17, 2017. ► <http://arstechnica.com/tech-policy/2014/02/isp-lobby-has-already-won-limits-on-public-broadband-in-20-states/>.

20 Collaborative Research on Corporations. "Company Profile." November 2009. Last accessed June 21, 2010. ► http://www.crocodyl.org/wiki/news_corp.

21 Celniker, Jared and Russ Choma. "Net Neutrality." OpenSecrets. April 2015. Last accessed June 17, 2017. ► <https://www.opensecrets.org/>

8.3.1.2 Case Discussion

Comcast Local Lobbying—A Hypothetical Case

How to set an optimal lobbying budget? Suppose that a municipality considers providing a free municipal WiFi service for people to connect to the Internet and that Comcast wants to influence the city councilors to forgo their plan. How much should it invest in these efforts?

Based on market surveys and the experience in other localities, Comcast estimates that one-third of its broadband customers would drop its service in favor of the free WiFi service. There are 100,000 home broadband customers and

their customer value to Comcast is \$40 a month in revenues. Assuming (hypothetically and for simplicity) the profit margin is one half of the revenue, the loss to Comcast would be total revenue times the profit margin, divided by the number of lost customers: \$40 million/2/3 = \$8 million. The NPV of this loss at a 12% discount rate is about \$64 million over 30 years. How would Comcast counter this potential loss?

Comcast's government relations experts estimate that

each \$10 million of lobbying would reduce the probability of the municipal WiFi proposal being adopted by another 20%. Therefore, Comcast may invest in lobbying efforts and spend money according to Table 8.2.

That table shows that Comcast should spend about \$20 million on lobbying. Beyond that, the additional cost of lobbying by \$10 million exceeds the NPV of improvement (\$8.2 million).

Table 8.2 Illustration for Cost and Value of Lobbying

Total cost of lobbying (in millions)	Δ Cost of lobbying (in millions)	Probability of adoption (%)	Δ Probability of adoption (%)	Value of Δ probability (in millions)
\$0	\$0	100.00		
\$10	\$10	80.00	−20.00	\$12.80
\$20	\$10	64.00	−16.00	\$10.24
\$30	\$10	51.20	−12.80	\$8.20
\$40	\$10	40.96	−10.20	\$6.50
\$50	\$10	32.77	−8.20	\$5.20
\$60	\$10	26.22	−6.60	\$4.10
\$70	\$10	20.98	−5.20	\$3.30

8.3.1.3 Lobbying Strategies

There are two different types of lobbying strategies: inside and outside strategies. Inside strategies contribute to a candidate's campaign directly or through intermediaries such as political action committees.²² The influence of PACs is somewhat constrained because the maximum gift a PAC can give to a single candidate during an election cycle is \$10,000.

Outside strategies generate public pressure on policy makers to support a group's agenda. It is not

necessary to access specific policy makers directly to make an impact. Public pressure is a good tactic to use with politicians who are on the fence of an issue. Groups with large and ideologically cohesive memberships are best able to use such "grassroots" tactics. They are able to leverage a large size membership to provide resources, infrastructure, and volunteers.

"Astroturf" campaigns try to create the appearance of a grassroots movement. They pay contractors to generate phone calls, letters and emails to politicians to make it appear that this represents public opinion. The internet has created many new ways to generate such activities.

news/issues/net_neutrality/.

22 Hemson, Paul. *The Interest Group Connection: Electioneering, Lobbying, and Policymaking in Washington*. Washington, D.C: CQ Press, 1998.

The campaign by the music industry against file-sharing by users is an example of deftly spinning an industry interest into a public interest.²³ The Recording Industry Association of America organized a coalition of about 60 artists to persuade key senators to hold hearings to publicize the perspective of artists and sponsored ads featuring these performers. The goal was to change the debate from one of big media companies' profits being challenged by college students to one of being fair to artists who are held in high regard.

8.3.1.4 Regulations on Lobbying

There are several types of restrictions on lobbying. In the USA, individuals who devote at least 20% of their working time to lobbying activities must register as lobbyists.²⁴ Lobbying firms and in-house lobbyists must file quarterly reports of their activities. Companies that pay more than \$5000 for a trade association's lobbying activities and participate in that association's lobbying activities must be listed. Lobbyists and companies must report financial contributions to, or on behalf of, a public official, including contributions to third parties who make a public official an honoree.

Lobbyists are prohibited from intervening during the period in which an agency is engaged in a decision. For example, rules ban contact between lobbyists and the FCC during "blackout periods" when a case is being decided.

There are also limits on the "revolving door"; that is, the way in which government employees move to jobs in an industry which they previously regulated. A former government employee is forever banned from representing another person or organization before a federal agency on matters in which she participated personally and substantially while working for the government. For two years, a former employee may not lobby on matters which were pending under the employee's supervision in government service.²⁵ There is concern that a former government

employee may influence their old colleagues. But such restrictions may be bypassed by the former official by merely advising the company or law firm without directly representing them before the agency. On the other hand, overly strict prohibitions have problems, too. It may not be fair to limit the job prospects of qualified people after they leave government service. It would deter talented people from working for the government in the first place, or to leave it to make room for new blood. Should a top tax accountant who once worked for the tax authority be restricted from undertaking tax work in the future after leaving government service?

8.3.2 Public Relations Management

Public relations are a set of communications activities to create a positive image for an organization and its goals. Unlike advertising, no money is spent on the outright purchase of time and space to relay the company's message.²⁶ *Publicity*, a subset of PR activity, is the effort to create positive news about a person, product, or organization. Publicity is typically a short-term strategy, while PR is a long-term organized program.²⁷

In the nineteenth century, generating publicity was limited to press agents getting newspapers to mention products or events. A few masters of the art, such as P. T. Barnum, would stage pseudo-events to attract reporters. The goal was to gain visibility. But, in time, "public relations" emerged with a more ambitious aim: to shape public opinion.²⁸ The elements of PR include press relations, product publicity, corporate communications, lobbying and counseling.²⁹ Relevant target audiences are employees of the firm, stockholders and investors, the media, civic and business organizations, governments and financial groups.

23 Watkins, Michael, Mickey Edwards, and Usha Thakrar. *Winning The Influence Game: What Every Business Leader Should Know About Government*. New York: John Wiley & Sons, Inc., 2001.

24 United States Senate, Secretary of the Senate and Clerk of the House. "Lobbying Disclosure Act Guidance." January 1, 2008. Last updated December 15, 2011. Last accessed July 31, 2012. ► <http://www.senate.gov/legislative/resources/pdf/S1guidance.pdf>.

25 Dunbar, John. "The FCC's Rapidly Revolving Door." *Center for Public Integrity*. February 19, 2003. Last accessed June 17, 2017. ► <https://www.publicintegrity.org/2003/02/19/6581/fccs-rapidly-revolving-door>.

26 Henry, Kenneth. "Perspective on Public Relations." *Harvard Business Journal* 45 (July/August 1967): 14.

27 Belch, George, and Michael Belch. *Advertising and Promotion: An Integrated Marketing Communications Perspective*, 4th ed. New York: Irwin/McGraw-Hill, 1998.

28 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

29 Lamb, Charles W., Joe F. Hair, and Carl McDaniel. *Marketing*. Mason, OH: South-Western, 2013.

8.3 · Influencing Government and the Public

One of the tools of effective PR is to understand public perceptions about companies, issues and trends. There are various techniques and tools with which to do so. They include longitudinal analysis of public opinion polls, interviews and surveys.³⁰ More recently, online communications enables new tools and software services that help in analyzing and identifying topics and trends.³¹ There are various indicators—such as the number of re-tweets, mentions, or likes.³²

In measurements to quantify the effectiveness of PR, one distinguishes between “reach” and “impressions.” Impressions are the number of “media mentions” times their circulation. In contrast, “reach” does not count multiple impressions on the same individuals. It is thus a smaller number.

Metrics for measure PR effectiveness are:

- Total number of impressions over time;
- Total number of impressions on the target audience;
- Total number of impressions on specific audiences.

To develop these measures, one can use “content analysis” and track what has been written, or broadcast³³ and so on. The search can follow several dimensions:

- “Positive” and “negative” key words;
- Percentage of positive articles over time;
- Ratio of positive to negative articles;

- Percentage of positive/negative articles by publication or reporter;
- Percentage of positive/negative articles by subject;
- Percentage of positive/negative articles by target audience;
- Coverage compared with rivals;
- Covered issues and messages.

8.3.2.1 How Much PR Spending?

How would a company measure the effectiveness of its PR activities? They may count news clips, conduct surveys or monitor the Internet.³⁴ Media impressions are audited by adding up the circulation, TV audience ratings and online links. One can also measure the total number of media impressions on specific audiences.³⁵ Or one can do a content analysis on what has been written and broadcast about the company. This consists of looking at the percentage of positive/negative articles by publication, reporter, subject, or target audience.³⁶ One can also measure a company’s exposure compared with rivals.

The oil company Shell developed a Content Engagement Index to quantify the effectiveness of its own individual posts on social networks such as Facebook, Twitter and so on. Moreover, it allows the improvement of messages to be tracked over time. Shell calculates the index as can be seen in the following formula:

$$\frac{\text{Number of Visits} + (\text{Number of Likes} \times 20) + (\text{Number of Comments} \times 50)}{\text{Intended Audience}} \times 100$$

30 Taylor, Andrea L., Suraje Dessai, and Wändi Bruine de Bruin. “Public Perception of Climate Risk and Adaptation in the UK: A Review of the Literature.” *Climate Risk Management* 4–5 (2014): 1–16.

31 Examples are such as Trendsmap, Hashtags.org or Neo Reach, a Stanford startup that helps managing campaigns with influencers in social media. Chapdelaine, Rachel. “7 Marvelous Resources for Researching Trending Twitter Topics.” *Inbound Marketing Blog*. January 29, 2014. Last accessed August 19, 2015. ► <http://www.inboundmarketingagents.com/inbound-marketing-agents-blog/bid/333604/7-Marvelous-Resources-for-Researching-Trending-Twitter-Topics>.

32 Cha, Meeyoung et al. “Measuring User Influence in Twitter: The Million Follower Fallacy.” *Proceedings of the Fourth International AAAI Conference on Weblogs and Social Media* (May 23–26, 2010): 10–17.

33 Lindenmann, Walter K. “Guidelines and Standards for Measuring the Effectiveness of PR Programs and Activities.” *The Institute for Public Relations*. 2003. Last accessed June 17, 2017. ► http://www.instituteforpr.org/wp-content/uploads/2002_MeasuringPrograms.pdf.

34 Paine, Katie D. “How to measure your results in a crisis.” *The Institute for Public Relations*. 2002. Last accessed June 17, 2017. ► http://www.instituteforpr.org/wp-content/uploads/Crisis_2002.pdf.

35 Belch, George, and Michael Belch. *Advertising and Promotion: An Integrated Marketing Communications Perspective*, 4th ed. New York: Irwin/McGraw-Hill, 1998.

36 Lindenmann, Walter K. “Guidelines and Standards for Measuring the Effectiveness of PR Programs and Activities.” *The Institute for Public Relations*. 2003. Last accessed June 17, 2017. ► http://www.instituteforpr.org/wp-content/uploads/2002_MeasuringPrograms.pdf.

Measuring exposure is one step in determining success. The next point to consider is how much these efforts cost and how much the firm should spend. How would one answer that question, given the vagueness of inputs and outputs? There are several ways to proceed.³⁷

1. *Past Budgets*: Matching the budget of the past year, or for a similar, recent project. But this assumes projects that are, indeed, similar and that the earlier project or year deserves to be imitated.
2. *Competitive parity*: Spending attempts to match those of a rival. This involves educated guesswork. Also, companies may have different backgrounds, visibility, image, problems and goals, thus making comparisons difficult or irrelevant.
3. *Affordability*: This approach—spend as much as the company can comfortably afford—may be realistic during hard times, but that may be exactly the time when the company’s public image most needs help.
4. *Downside calculation*: How costly to the firm will inaction be? Such an estimate is difficult to do.
5. *Stage of lifecycle*: Startup projects, for example, require more public communications than mature projects.
6. *Rate of return analysis*: The cost relative to the estimated value of expected results.
7. *Marginal net analysis*: Incremental PR benefit should equal incremental PR cost. This is conceptually a good procedure but, in practice, hard to calculate. One would have to assign the value per message of the audience reached. This could be a value similar to the price of a paid advertising message to the same audience. After that step, one must estimate the impact of PR spending on such audience reach. This could be estimated by the number of favorable press mentions following PR efforts.

8.3.2.2 Managing Unfavorable Publicity

The Internet provides great PR opportunities for spreading a company’s perspective and news, but it offers the same opportunities to rivals and critics.

It also allows for untrue statements³⁸ that criticize a company’s products, actions and leadership.³⁹

Companies often monitor the Internet for comments about them, using employees or specialized Internet monitoring firms.⁴⁰ In some cases, such people aim to provide positive comments without identifying them as paid for by the company. This can seriously backfire.

Also, if employees misrepresent information about the company’s performance, they could violate the anti-fraud rules of the securities laws, which may expose the company to civil and criminal liability. In some cases, negative comments about a company might be made by short-sellers in order to drive its share price down. Even in such situations, the rules of stock exchanges often require that a firm respond to rumors, even those made anonymously on the Internet. A terse “no comment” will often not suffice.

Companies that are the subject of online criticism—whether true or false—may bring lawsuits against the websites that publish it. Their main objective is not primarily to fight the website but, rather, to force it, by means of a legal subpoena, to reveal the identity of the person who posted the comment. Many websites that receive such a subpoena give the user who posted the comment two weeks’ notice before they comply. This enables the user time to go to the court to cancel the subpoena.

Companies can use several methods to “crisis manage” unfavorable publicity. The key goal is not to allow rivals or critics to define the issue.⁴¹ A wise course is to confess, apologize, and present a plan on how to fix the problem.⁴² The company should offer refunds, write to critics privately and try to get the discussion out of the public space.

38 Casarez, Nicole B. “Dealing with cybersmear: How to protect your organization from online defamation.” *Public Relations Quarterly* 47, no. 2 (July 2002): 40–45.

39 van der Merwe, Rian et al. “Stakeholder Strength: PR Survival Strategies in the Internet Age.” *Public Relations Quarterly* 50, no. 1 (Spring 2005): 39–49.

40 Ernst, Marcia M. and John C. Ethridge Jr. “Corporate Strategies for Combating Cybersmear.” *Trust the Leaders* no. 4 (Summer 2003). Last accessed June 17, 2017. ► <http://www.sgrlaw.com/ttl-articles/920/>.

41 Thompson, Nicholas and Fred Vogelstein. “The Plot to Kill Google.” *Wired*. January 19, 2009. Last accessed June 17, 2017. ► <https://www.wired.com/2009/01/ff-killgoogle/>.

42 Berman, Craig. “How Should Firms Respond to Negative Publicity?” *Chron*. Last accessed June 17, 2017. ► <http://smallbusiness.chron.com/should-firms-respond-negative-publicity-69199.html>.

37 Smith, Ronald D. *Strategic Planning for Public Relations*, 2nd ed. Mahwah, NJ: Lawrence Erlbaum Associates, 2005.

8.4 The Regulatory Process

We have so far discussed three major tools of non-market competition: litigation, lobbying and PR. We now discuss a fourth one: dealing with regulation. Such regulation comes in two main flavors: governmental regulation (by local, state, national and international agencies) and industry self-regulation.

8.4.1 Self-Regulation

Self-regulation can be beneficial to companies because it is usually more expert-driven, speedy and flexible than government regulation. The rules set better matches for the problems. Also, it is less expensive for government because the industry is responsible for developing and enforcing its rules and punishments.⁴³

Self-regulation can be done within a single company, or by agreement among a group of companies. Major TV and cable networks have their own Standards & Practices departments which screen programs and advertising to ensure that the material is in compliance with regulations, that the material is not offensive to audiences or other advertisers, and that “viewer discretion” warnings are provided where necessary.⁴⁴ The standards and practices department at the ABC TV network alone used to have 35 members of staff.⁴⁵ In addition to the review by the major TV networks, local TV stations that retail that content may also screen it because of content concerns in their community.⁴⁶ Furthermore, advertisers may have their own standards to meet for advertising to be acceptable.⁴⁷

The newspaper industry also self-regulates. Most newspapers have internal codes setting standards on the behavior of journalists, including standards on privacy, or breach of trust. Some newspapers have internal ombudsmen to provide aggrieved subjects of stories an avenue for complaint.

Industry-wide self-regulation may have drawbacks, both for the public at large and for companies involved in the process:

- Codes of conduct set by competitors among themselves often lead to price collaboration and cartel behavior, such as the prevention of aggressive moves by new rivals. This has often been the case with “codes of professional ethics” that prohibited advertising by lawyers or doctors, and made it harder for newcomers to enter and compete.
- Self-regulation affords only limited due process to aggrieved parties.
- The setting of the self-regulation usually does not include parties outside the companies’ own interest.
- Self-regulation may be pushed on an industry by government when it has no legal rights to do so directly; for example, because of constitutional protections of free speech from direct governmental intervention.
- The self-regulation mechanism has no powers to enforce sanctions against violators.⁴⁸

8.4.2 Direct Government Regulation

8.4.2.1 Role of Government Regulation

In the USA, vital infrastructure industries and media organizations have been privately owned but regulated. In contrast, most other countries followed an alternative model and industries such as telecommunications or TV were under state ownership for a long time. The goals of state ownership over these industries were:

- Public control over vital services;
- State influence over avenues of politics and culture;
- Redistribution to economically weaker regions and individuals;
- Technological development.

43 Campbell, Angela J. “Self Regulation and the Media.” *Federal Communications Law Journal* 51, no. 3 (May 1999): 711–771.

44 Dessart, George. “Standards and Practices.” *The Encyclopedia of Television*. Last accessed July 23, 2012. ▶ <http://www.museum.tv/eotv/standardsand.htm>.

45 The Museum of Broadcast Communications. “The Encyclopedia of Television.” Last accessed May 31, 2007. ▶ <http://www.museum.tv/archives/etv/>.

U.S. House of Representatives (108th). Hearings on H.R. 3717, the “Broadcast Decency Enforcement Act of 2004.” February 26, 2004. Last accessed June 1, 2007. ▶ <http://republicans.energycommerce.house.gov/108/Hearings/02262004hearing1216/hearing.htm>.

46 U.S. House of Representatives (108th). Hearings on H.R. 3717, the “Broadcast Decency Enforcement Act of 2004.” February 26, 2004. Last accessed June 1, 2007. ▶ <http://republicans.energycommerce.house.gov/108/Hearings/02262004hearing1216/hearing.htm>.

47 Berger, Robin. “The Importance of Being Decent.” *TVTechnology*. June 8, 2005. Last accessed July 23, 2012. ▶ <http://www.tvtechnology.com/news/0110/the-importance-of-being-decent-/184683>.

48 Ewart, Brian J. “The Law and Economics of the FCC’s Decency Standard.” *Selected Works*. May 26, 2009. Last accessed July 5, 2012. ▶ http://works.bepress.com/brian_ewart/1/.

The alternative to direct governmental ownership is governmental regulation. Typically, a legislature passes broad laws, and then delegates the working out of the details, their implementation and their enforcement to a specialized regulatory agency. In the USA, the Federal Communications Commission (FCC) operates as an independent regulatory commission, i.e. it is not subject to direct control by the White House or Congress. However, the appointment and budget processes, Japan's together with other methods, provide tools for pressuring the agency.

Other regulatory agencies deal with other issues central to media companies such as competition and advertising (Federal Trade Commission), and company stock transaction and financial reporting (Securities and Exchange Commission). These independent commissions have broad powers that set general rules (quasi-legislative powers), decide specific cases (quasi-judicial powers), implement law such as select TV licenses (executive powers) and enforce compliance (executive powers).

There are also executive agencies subject to direct government authority, such as the Antitrust Division of the Department of Justice (DOJ), the US Patent and Trademark Office and the Registrar of Copyrights. Additionally, various courts and local and state agencies exert some rules over media issues under their jurisdiction.

Similar regulatory structures have evolved in recent decades in many other countries. A common trend is a move toward “converged” agencies that deal with mass media live TV as well as telecom, and more recently online media.⁴⁹

The regulatory agencies of many countries control the use of the wireless spectrum. They license broadcasters and mobile telecom operators. They set the price for some telecommunication services, specify interconnection prices, and control ownership limits and nationality restrictions. They may set rules on content (e.g. protection for children) and on required domestic content.

Some countries have given their media and communications regulatory agency particular independence from direct governmental political control in order to keep some distance between politics and media regulation. Often, the intention to create independence from the government

in power is not matched by reality. Other countries maintain the agencies as part of directly accountable ministries. An example is Japan's Ministry of Internal Affairs and Communications. Similarly, in India, the media regulator is the Ministry of Information and Broadcasting,⁵⁰ and, in China, the Television Regulatory Agency, which is part of the State Administration of Radio, Film and Television (SARFT), which also owns the major TV networks (China Central Television, CCTV).

The Regulatory Process

The regulation by agencies proceeds through a codified set of rules—in the USA, this is the Administrative Procedure Act (APA). Other countries have similar codes that deal with the manner in which an administrative agency must proceed. The APA is based on the goal of creating an open and transparent system. An agency must solicit comments, engage in open decision making and establish a factual record.

Agency actions consist of two main approaches:

- **Rule making:** Creating general rules. Example: setting a ceiling on ownership of TV stations;
- **Adjudication:** Deciding company-specific cases. Example: whether a merger of two companies exceeded the ownership ceiling.

The *rulemaking* procedures include some of the following steps.

Often, an agency or commission publishes a Notice of Inquiry (NOI), inviting outside parties to comment on an issue before the agency. All comments are public and public hearings are possible. Parties may also respond to the comments of each other.

The next step is often a Notice of Proposed Rulemaking (NoPR), with further opportunity for public comments. The agency can seek information beyond that provided by interested parties in order to form a final decision. The agency heads or commissioners may also modify the draft. When they meet to discuss this, it must be in a public and open meeting, with notice given to the public. No “backroom meetings” are allowed—though, in practice, their staffs are free to do so. The vote on rules must be public, and final rules

49 Federal Communications Commission. “FCC Organizational Chart.” January 23, 2017. Last accessed May 17, 2017. ► <https://www.fcc.gov/sites/default/files/fccorg-01232017.pdf>.

50 Indian Television.com. “The Cable Television Networks Rules, 1994.” September 29, 1994. Last accessed August 1, 2012. ► <http://www.indiantelevision.com/indianbroadcast/legalreso/catvnetworkrules.htm>.

8.4 · The Regulatory Process

are then published. This is not the end of the story, however. Often, various interested parties sue in court to overturn the rules or at least to delay them.

In the second major form of administrative action, “*adjudication*,” the agency reaches a decision on a specific case, not on a broader rule. (In practice, however, such adjudication of a specific case will create a precedent and affect other cases as well as parties’ behavior and expectations.) A case is often started by the filing of a complaint by the agency or another governmental body, or by a private citizen, a harmed party, or by a petition by the company itself. The company must produce a response to a complaint from the outside.

A complaint is often heard by an Administrative Law Judge (ALJ) in a public hearing which has many of the trappings of a trial. Testimony and cross-examination are allowed, which provides another way for the agency to obtain information. The ALJ then issues a decision. A party can object to the ALJ decision, and the agency or commission may then review the decision. If objections remain, the party must go to the outside courts system—in the USA, that would be a federal Court of Appeals—for judicial review.⁵¹

The agency decision can be reversed only on relatively narrow procedural grounds, not because they are unwise in terms of policy.

Grounds for legal appeals are limited:

- Exceeding authority or jurisdiction;
- Did not follow procedure;
- No due process, or no substantial supportive evidence;
- Violation of the Constitution.

In contrast, “bad policy” is no ground for appeal.

8.4.2.2 The Strategic Use of the Regulatory Process

Companies use the regulatory process strategically to achieve their objectives. An example is the merger of AT&T and BellSouth in telecom. This proposed merger was opposed by a group of new and smaller telecom providers. They were worried about the potential market power of the new combined firm and their loss of bargaining power. The competitors tried to block, or at least delay, the

merger’s approval. They succeeded for a while. Finally, AT&T made several concessions to its rivals in order to hasten the FCC’s approval of the merger.

A major strategy of companies is to use (or abuse) the regulatory process to delay decisions that are unfavorable. One way to do so is to go to court challenging the way an agency has made its decision, i.e. the process. Another way is to delay the decision’s implementation while they appeal the agency’s decision. For example, in 2014, the major media companies Disney, Time Warner and CBS faced an FCC order that would have forced them to make their contracts with pay-TV providers public. They successfully sought to postpone (“stay”) their compliance while they appealed the decision. In such a case, it is not even necessary that the court decide in favor of the plaintiffs because the court review of the case already causes a delay that benefitted them.

Other ways to slow down a decision or its implementation is to file procedural motions; to request extensions; to seek a remand of the case to the agency or administrative law judge; to reopen the proceeding due to new evidence; to challenge the jurisdiction of the agency; to object to its procedure; to file cases, when possible, in multiple jurisdictions, sometimes through allies. When these decisions come out differently in different appellate courts, they must then be resolved by the US Supreme Court, which assures yet another bite at the apple, or at least a substantial delay. If the agency denies the motion for a stay, that can be appealed, too—and even that court’s decision can be further appealed to the Supreme Court. Granting a stay is within the discretion of a court, based on a variety of factors, including the likelihood of prevailing on the merits, the public interest, and the harm to the plaintiff or others by proceeding immediately.

It is much harder to accelerate decisions. The main way is to cooperate fully with an agency because anything else could result in a delayed decision. In cases of company-specific adjudication, the company may agree to conditions in a “settlement” (compromise deal) that also enables the agency publicly to claim a victory of sorts. The problem is that opponents have the opposite incentive and will play for delay, and often can do so as long as they have “standing.” Persons or companies have standing if they can show that they suffer a “legal wrong because of agency

⁵¹ A further appeal is possible, but the US Supreme Court rarely takes administrative appeals, and mostly only if two lower appellate courts have issued conflicting decisions, or where a major constitutional issue is at stake.

action” or are “adversely affected.” They can appeal the agency’s decision in court.

8.5 Substantive Media Law

Every country has its own legal arrangements. It would be impossible to cover them all. Hence, we will follow mostly the American system, while providing also other examples and models from around the world.

8.5.1 Content Restrictions

Most democratic countries have constitutional protections to protect the freedom of speech—in particular, by media. The First Amendment of the US Constitution is a particularly strong bulwark against governmental constraints of the press. But, even with such basic laws, there are some restrictions as to what the media can publish or show.

8.5.1.1 Defamation—Libel and Slander

Defamation includes any publication or broadcast of *false* information that exposes an individual to social or occupational harm.⁵² The 1964 case *NY Times v. Sullivan* set this rule for the USA. In covering a *private* figure, a publication is liable for damages if it can be shown that it has acted with negligence in publishing a false statement. But for *public* figures, the statement must not only be false, it must also be shown that it was published with malicious intent, or with reckless disregard for accuracy. This standard is difficult to meet and the burden of proof is on the complaining target of the story, the plaintiff. It gives the media considerable protection. In many other countries, in contrast, the defending media company must prove that its statement was (a) correct, and (b) was made responsibly. Often, the loser is also liable for court costs, on top of damage payments.

Generally, truth is a defense, and the target of an unfavorable story or comment cannot claim that he was harmed by a truthful but unflattering story. This principle is limited somewhat in some

countries by laws on privacy protection that can hold a comment or story, even if true, to be a violation of privacy, or of the “right to be forgotten.”

In Singapore, restrictive libel laws have been used against critics of the government. Journalists and publishers have been bankrupted by court decisions which found that criticisms against public officials, or of the agency they directed, included some inaccuracies and were therefore libelous.

In all cases, since it is crucial for a publication not to have been careless or lacking in verifying details, media managers must ensure that internal controls and safeguards are in place. Companies can also get insurance to cover claims for libel, slander, breach of privacy, or publicity. The insurance companies will expect certain internal safeguards to be in place at the media company, in order to reduce their financial exposure.

Internet Libel

A related question is who is responsible for a libelous statement. Is it the writer/speaker, or the medium in which the statement appears? This question becomes particularly important when applied to the Internet, where online users often post reckless and false statements. Should the ISP, website, or portal be held liable for “publishing” what its users are writing? The US Congress passed a “Good Samaritan” provision in 1996 that limited the liability of Internet service providers for defamation.⁵³ There is no legal liability by websites that host information provided unless it can be proven that they had actual knowledge about it being defamatory or otherwise illegal. But this creates other problems. Content could be taken down on the mere say-so of any individual or organization claiming defamation. Another category of restriction is content that is offensive along racial, ethnic, or gender lines. In many countries, there are rules against “hate speech” which, at times, have expanded in scope.⁵⁴ But even when it is legal to include such content, no respectable media company likes to be labeled insensitive or racist, and thus content that may be legally acceptable but is

52 Blumenthal, Howard J., and Goodenough, Oliver R. *This Business of Television*. New York: Billboard Books, 1998.

53 Digital Media Law Project. “*Stratton Oakmont v. Prodigy*.” May 24, 1995. Last accessed June 17, 2017. ► <http://www.citmedialaw.org/threats/stratton-oakmont-v-prodigy>.

54 Strossen, Nadine. *Hate: Why we should resist it with Free Speech*, Not Censorship. Oxford, 2018.

controversial to some users is being taken down. The privately owned websites, in doing so, exercise their own right to free speech. They are, after all, not public utilities or common carriers that must be content-neutral. In Germany, since 2018, large websites such as Google, Facebook, or Twitter must delete hateful user posts, including “insults” and “blasphemy” within 24 hours of a complaint, or be subject to severe penalties (up to \$60 million) and personal liability (up to \$6 million.) Other EU countries have considered following suit, as had Russia done immediately while extending the rules to other types of political expression.

Measures for media platforms to control user-generated content include:

- Users being given a feature/button next to every piece of content by which they can easily report inappropriate content.
- Major platforms such as YouTube having a team for content control (called flaggers) who check that submitted videos, pictures, keywords, or comment are appropriate and following the site’s guidelines. If they flag content, an administrator controls the content and deletes it if deemed by the company to be necessary. These flaggers (and administrators) can be full-time employees of the company but, in some cases, are also active users of the community.
- Major platforms have algorithms which analyze texts for listed words or visual content for patterns that suggest nudity or violence. These programs then send a report to a human administrator who checks the content.

8.5.1.2 Morality and Child Protection

Many people, ranging from conservative morality watchdogs to liberal feminists, oppose overt sexual imagery in media and seek to have it banned. But what, exactly is pornography? Does it include Michelangelo’s “David” or Goya’s “Naked Maja”? When the courts were stuck trying to define obscenity, Supreme Court Justice Potter Stewart famously stated, “I know it when I see it.” The US Supreme Court created a hugely complex test to determine whether content is pornographic.⁵⁵ Because it is difficult to meet this rigorous test, convictions for obscenity have become rare in the USA. A lower standard of obscenity exists for broadcasting. In the USA, and typically around

the world, anything that is “patently offensive” is prohibited or restricted on broadcast TV, which is a lower threshold than the test for indecency for print or film. Because there were a limited number of broadcasting licenses, government can apply conditions on what they do, to protect the public interest as it sees it.

In Europe, countries enforce their individual rules through agencies such as the UK Office of Communications (Ofcom). But the European Commission (EC) has final say when content is broadcast across borders. Article 22 of the EC’s policy requires member states to protect minors from damaging, indecent content through either audio or visual warnings. Even though there is no central enforcement agency, member states must notify the EC of penalties imposed by them.

Around the world, there have been persistent attempts to “clean up” the Internet, partly for adults but primarily for children. Laws protecting children from Internet content have been enacted in the USA and many other countries, and the standards are tougher than they are for print books. In the USA, such laws are periodically passed by Congress and usually struck down by the US Supreme Court as violating the First Amendment.

8.5.1.3 Government Restrictions of Publication

In the USA, there can be no “prior restraint,”⁵⁶ on publication, meaning the government cannot prevent the materials from being published, even where it is claimed to endanger national security. The exception is “intentional incitement to imminent violence or other great harm, with the likelihood that it will occur, and which cannot be prevented except by suppression.” A court order preventing publication is extremely difficult to obtain, and must be based on clear evidence that real and specific violence would directly follow the incitement.

In the UK, the Official Secrets Act of 1989 prohibits the disclosure of confidential material from government sources by employees and journalists. There is no defense based on the “public interest” to publish the information. Even disclosure of information that is already in the public domain, such as published in another country, can be considered a crime.

55 *Miller v. California*, 413 U.S. 15 (1973).

56 Blumenthal, Howard J., and Oliver R. Goodenough. *This Business of Television*. New York: Billboard Books, 1998.

8.5.1.4 The Regulation of Advertising

Generally, advertising claims must be substantiated. Advertisers must have a reasonable basis for the claims of the adverts. In many countries, consumer protection agencies may stop advertisements that do not meet that standard and may levy fines on violators. Consumer protection agencies may require advertisers to affirmatively disclose certain types of information in their advertisements so that consumers are aware of all the consequences of the use of a product or service. This may include fuel mileage information in car adverts, or warnings about cigarettes.

Beyond laws and regulations, competitors are often able to bring civil suits against

a company for deception and false advertising. Messages do not need to be literally false; they can simply create a false impression. A complaining party may be awarded monetary damage payments for the false advertising of a competitor, plus legal fees (and, in the USA, triple damages). Even more expensive are class-action lawsuits, in which large groups of consumers, represented by a lawyer who often organizes the complaint, seek damages from a company for false advertising.

To avoid lawsuits, many media outlets, advertisers and advertising agencies check and review adverts before distributing them to ensure that they are not deceptive, offensive, or illegal.

8.5.1.5 Case Discussion

Comcast Advertising

Comcast is engaged in an advertising campaign to promote its high-speed Internet offerings. It must distinguish its service from Google's fiber network without violating the laws against false advertising. Suppose that Comcast releases the following advert: "Comcast's high-speed Internet service is twice as fast as Google's at only half of the price." Since nothing in the advertisement appears wholly implausible, a reasonable buyer may have a legitimate expectation that the advert's claims are true. Possible concerns are:

- Is Comcast using the same metric for measuring its rival Google's services? Suppose that it offers "shared" service that slows down if other users are online, while Google's service is unshared and hence more dependable with regard to maintaining speed?
- Do Google and Comcast offer truly comparable packages? Suppose that, to get the low broadband price, a consumer must also subscribe to a more expensive video service?

These are all areas in which Comcast should not make itself vulnerable to a legal complaint of false advertising brought by Google, or by the government.

Suppose that Comcast instead advertises "Our high-speed Internet is so much cheaper than Google's that with the money you'll save, you'll feel like a billionaire." Since the second advertising message is an obvious exaggeration and no reasonable buyer would rely on the claim, it is unlikely that Comcast would face a lawsuit for false advertising.

8.5.2 Antitrust and Anti-monopoly Law

Economists tend to believe that the market structure of an industry strongly affects a firm's behavior and performance. Therefore, if there are problems with market power in an industry, it is better for government to deal with its market structure and make it more competitive, rather than try to micromanage companies' behaviors through regulation. The main culprits are monopoly and its cousin, oligopoly. The basic US law on antitrust is the Sherman Act of 1890, which is a very general statement around which

courts have created a body of case law that states rules and principles. Monopolies are not illegal per se and there can be "innocent monopolies," as long as they behave in a reasonable manner. But monopolies obtained through acquisitions of competitors, predatory pricing, or other active attempts to obtain dominance can be challenged, with the government blocking a merger, or breaking up the company (divestiture), or other restrictions.

Antitrust lawsuits can also be brought by private parties such as competitors, suppliers and customers. If successful, that company's practices could be prohibited. A winning plaintiff in the

USA can get three times the actual damages, plus attorney’s fees. This creates a strong incentive for plaintiffs and their lawyers to challenge monopolies, and private antitrust cases are brought much more often as governmental ones. Other remedies to stop anti-competitive practices include ordering a firm to discontinue specific actions through a “cease-and-desist order.”

Antitrust actions may force a firm to split up. This happened to the Hollywood major studio companies when they were forced to sell off their movie theaters. Similarly NBC, when dominant in radio, was forced to sell one of its two networks, which became ABC. The giant phone company AT&T was broken up into eight pieces as a result of a governmental antitrust case. The software giant Microsoft was nearly split up but managed to escape.

European Union competition laws are derived from the Treaty of Rome, which prohibits activities restricting, preventing, or distorting competition among member states. Additionally, the Treaty of Rome also prohibits companies with dominant market positions from abusing their power.

In the USA, the antitrust laws (the Clayton Act of 1914) prohibit horizontal agreements among competitors, where they restrict competition. It is illegal to engage in price fixing, restriction of output, group boycotts and the division of markets by territory or customer categories. Price fixing is an agreement between competitors to raise, lower, or stabilize prices. However, sometimes true competitors behave in exactly the same way without any agreement, simply because it makes sense independently to match market prices, rather than otherwise lose business. US courts have therefore held that parallel behavior alone is insufficient to prove a price conspiracy among competitors, as long as they are based on an independent business justification.⁵⁷

8.5.2.1 Profit and Investment Regulation

For some products or services, there may be what is called a “natural monopoly:” the economies of scale are so high that there is really no room for a second competitor. Examples could be electric distribution, a highway, or sewer systems. Or, it

could be simply a gas station in a small town, where demand is too small to enable a second station to survive. In some cases, natural monopolies can be overcome through rival technologies but, in other cases, they can be quite persistent. Where the service or product is of an essential nature—such as in the case of electricity, water, or rail transportation—there may be a governmental intervention. This can take the form of governmental ownership, or of making private gains subject to regulation. The fundamental regulatory goal is, in the presence of a natural monopoly, to ensure service at a competitive price. This was an issue for the telecom service, but also for some cable TV services. There are two main approaches: the direct regulation of prices, or indirect regulation through the regulation of profits. Profit regulation involves a “rate of return” regulation, which assures that the profit on invested capital be “reasonable” in comparison with similar risky investments and not as high as it would be for an unrestricted monopoly.

8.5.2.2 Support for National Industry

Most countries encourage development of high-tech and media industries. In the USA, there are hundreds of federal and local programs. They have led, among others, to the creation of the Internet. Other countries have a still more active government support system. An example is France. Although the word “entrepreneur” is French, the post-World War II French economy has its roots in large state-run companies—so-called “national champions” —which received high levels of government financial and research support,⁵⁸ whether in electronics or media.⁵⁹ There have been success stories in media and IT, such as the telecom operator France Telecom (Orange), the pay-TV company Canal+ and the videogame company Ubisoft. On the other hand, Bull SA, a computer manufacturer and IT company, was picked as the key element for French government policy in the 1960s to establish a national computer industry. Despite major infusions of government money and other benefits, the company was a disaster.

57 Nagle, Thomas T., and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 2nd ed. New York: Taylor & Francis, 1995.

58 Trumbull, Gunnar. *Silicon and the State: French Innovation Policy in the Internet Age*. Washington, DC: The Brookings Institution, 2004.

59 Major examples: Communications satellites, the Minitel consumer computer network system, the SECAM color TV standard, France Telecom network infrastructure, Alcatel telecom equipment, Computer development projects.

8.5.2.3 Support for Domestic Cultural Production

Many countries have legislated programming quotas with regard to broadcasting. In the European Union, 50% of all airtime must be of European origin. In Italy, 6% of this 50% must be aimed specifically at children, and 20% of this 50% must be suitable for children.⁶⁰ In Australia, a minimum of 260 hours of children's C programs and 130 hours of Australian pre-school P programs are required annually.⁶¹ In Malaysia, 80% of programs must be in the national language⁶² Malay rather than in Chinese, and in Canada 60% of programs must be "Canadian programs,"⁶³ which are defined as shows that have Canadian producers, funders, or creatives.

Content support policies are deeply entrenched. Though they have traditionally focused on film and TV, their rationale of supporting national culture and a domestic production sector carry over into newer forms of media, as the French governmental support for the videogames industry illustrates. Thus, media companies have to navigate this policy area both as an opportunity and as a barrier.

8.5.2.4 Access Regulation

Recent years have witnessed major battles over the terms of access by providers of online content and other services to the segment of the Internet platform that is run by the ISPs. The content providers want to be free from any gatekeeper powers by the ISPs, whether over the type of content, the provider, or the price. The ISPs, in turn, argue that they make major investments in distribution networks and that they should be able to control them. Both sides have considerable market power—the ISPs over the pipes, and several of the Internet compa-

nies over major instrumentalities such as search engines or social networks.

Internet firms and content providers fear restrictiveness by the pipes in favor of their own offerings as well as the exercise of monopoly pricing. ISPs fear being returned to the strictly regulated common carrier status of the past, with a supervision over prices and quality. They argue that the result of imposing onerous conditions on them will only result in the most open network that was never built.

In 2015, this dispute led the FCC to the imposition of common carrier status on broadband services provided by ISPs. In 2017, with a Republican majority, this regulation was abolished again.

8.5.2.5 Privacy Regulation

Privacy often has two meanings: the right to be left alone (protected against intrusion), and the ability to control information about oneself.⁶⁴ There is often a tradeoff between privacy and other values, such as:

- Law enforcement;
- Freedom of the press;
- The public's "right to know;"
- Free flow of information;
- Economic efficiency;
- Managerial decision making.

In Europe, privacy rules are set by specialized data protection agencies that set regulations across the entire economy ("omnibus" laws) in advance of violations. Individuals, known as "data subjects," are granted rights, in particular the following:

1. Right to information: To know where information about them came from and what it is used for;
2. Right of access: to see the data;
3. Right of rectification;
4. Right to opt out and delete the data if it is objectionable.

The data subjects can thus obtain information what data related to them is being processed, the purpose of the processing, the categories of data and the recipients to whom data is disclosed.

The US has a more ad hoc type of data privacy regulation, including financial information,

60 Blumenau, Jack. "Children's Media Regulations: A report into state provisions for the protection and promotion of home-grown children's media." *Save Kids' TV*. Last accessed July 11, 2013. ▶ <http://www.savekids.tv.org.uk/wp-content/uploads/2011/05/SKTV-competitor-territory-research-post-final-updated-24.4.11.pdf>.

61 Australian Government Convergence Review. "Discussion Paper: Australian and Local Content." *Department of Broadband, Communications, and the Digital Economy, 2011*. Last accessed July 11, 2013. ▶ http://www.dbcde.gov.au/_data/assets/pdf_file/0007/139255/P4_11352_Convergence_Review_Discussion_Papers_Aus_Content_v4_FA_web.pdf.

62 Bhattacharjee, Ken, and Toby Mendel. "Local Content Rules in Broadcasting" *Article19*. March 2001. Last accessed July 11, 2013. ▶ <http://www.article19.org/data/files/pdfs/publications/local-content-rules.pdf>.

63 The Economic Freedom Network. "Canadian Content Regulations." October 20, 1999. Last accessed July 11, 2013. ▶ <http://oldfraser.lexi.net/publications/forum/1998/august/canadian.html>.

64 Noam, Eli. "Privacy in Telecommunications: Markets, Rights, and Regulations." Cleveland, OH United Church of Christ, 1994.

medical records, video rentals and use, telemarketing, and cable TV usage.

In Europe, Article 25 of the EU Privacy Directive states that transfers of personal data to

another country are permitted only if the third country ensures an “adequate” level of protection. This has created ongoing trans-Atlantic disputes over privacy rules and practices.

8.6 Outlook

8.6.1 Case Discussion

Comcast's Non-market Competition Expenses Conclusion

A “back of the envelope” estimate of the annual cost for Comcast of regulatory and policy-oriented activities:

- Outside lawyers: \$15 million;⁶⁵
- Internal lawyers: \$12 million;
- Staff: \$9 million;⁶⁶
- General counsel \$3 million;⁶⁷
- External lobbyists: \$11.5 million⁶⁸
- Internal lobbyists: \$10 million;
- External PR: \$25 million;
- Inside communications: \$10 million;

- Political contributions through trade associations etc. \$6.25 million;⁶⁹
- Political contributions by managers: \$20 million;
- Strategic philanthropy \$20 million.⁷⁰

Comcast's annual revenues are about \$70 billion. As the numbers above show, the company spends, annually, an estimated \$110 million

on non-market competitive activities. Is this money well-spent? This figure is 0.16 of 1% of its revenues. If a doubling of such non-market activities budget would raise revenues by a mere 1%, or prevent it from dropping by that amount, the ROI on that spending would be a huge 636%. Given such high return competition, an expansion of the non-market budget is likely over time. But the same is also true for its rivals.

8.6.2 Looking Ahead

The future role of government in the media, IT and communication sector is shaped by two contradictory trends. The first is technological; the second, socio-political. The rapid advance in technology creates problems for government regulation to keep up. As mentioned earlier, Gordon

Moore, the computer electronics pioneer, observed that the power of semiconductors doubled every one to two years. This rate of progress—about 40% per year—became known as “Moore's Law,” which has shown remarkable resiliency.⁷¹ However, no business or government institution can change at 40% per year. The question is whether the regulatory and legal system

65 Hourly fee in large cities estimated at \$600/hour (compare Lemoine, Gano. “How Much Does an Entertainment Lawyer Cost?” *Lemoine Law Firm*. March 9, 2010. Last accessed June 17, 2017. ► <http://lemoinefirm.com/how-much-does-an-entertainment-lawyer-cost/>); est. 100 outside counsel cases in 2015 (Law360. “Comcast Corporation.” Last accessed June 17, 2017. ► http://www.law360.com/companies/comcast-corporation/outside_counsel), est. 1 man month (= 250 hours) per case.

66 Est. average salary of \$180,000/year (Glassdoor. “Senior Counsel Salaries.” Last updated May 8, 2017. ► https://www.glassdoor.com/Salaries/senior-counsel-salary-SRCH_KOO_14.htm); Robert Half Legal. “2016 Salary Guide for the Legal Field.” Last accessed June 17, 2017. ► https://www.roberthalf.com/sites/default/files/Media_Root/images/rhl-pdfs/robert_half_legal_2016_salary_guide.pdf), headcount: 25 (LinkedIn estimate) + 100% additional salary for support staff (paralegals, secretaries).

67 Comcast and NBCU combined, estimated from Corporate Counsel. “The 2016 GC Compensation Survey: Top Industry Earners.” July 20, 2016. Last accessed June 17, 2017. ► <http://www.corpcounsel.com/home/id=1202763139481>; and Corporate Counsel. “The GC Compensation Survey: First 100.” July 19, 2016. Last accessed June 17, 2017. ► <http://www.corpcounsel.com/home/id=1202763026404>.

68 OpenSecrets. “Comcast Corp.: Annual Lobbying by Comcast Corp.” Last accessed June 17, 2017. ► <https://www.opensecrets.org/lobby/clientsum.php?id=D000000461&year=2015> (Comcast) + 25% (estimated) of NCTA lobbying (OpenSecrets. “National Cable & Telecommunications Assn.: Lobbying Totals, 1998–2016.” Last accessed June 17, 2017. ► <https://www.opensecrets.org/orgs/lobby.php?id=D000022131>).

69 OpenSecrets. “Comcast Corp.: Profile for 2016 Election Cycle.” Last accessed June 17, 2017. ► <https://www.opensecrets.org/orgs/summary.php?id=D000000461+25%> (estimated) of NCTA contributions (OpenSecrets. “National Cable & Telecommunications Assn.: Total Contributions.” Last accessed June 17, 2017. ► <https://www.opensecrets.org/orgs/totals.php?id=D000022131&cycle=2014>).

70 The Comcast Foundation. 2014 Form 990-PF. Last accessed June 17, 2017. ► <http://corporate.comcast.com/images/2014-IRS-Form-990-PF.pdf>; NBCUniversal Foundation. 2014 Form 990-PF. Last accessed June 17, 2017. ► http://pdfs.citizensaudit.org/2015_08_PF/13-6096061_990PF_201412.pdf.

71 Noam, Eli. “Moore's Law at risk from industry of delay.” *Financial Times*. January 19, 2006. Last accessed December 4, 2012. ► <http://www.ft.com/intl/cms/s/2/c227fa4-891b-11da-94a6-0000779e2340.html>.

can keep up with rate of technological and business change? This leads to pressures for government to withdraw from fast moving and dynamic sectors, a trend that is often described as “deregulation.” It was expected that the advances in technology would lead to openness and competition, and cause the “Legacy Regulation” to shrink and eventually disappear. However, this is not the case, and government regulation has remained prominent, and in some cases even increased.

The counter-force is the push-back by segments of society based on direct negative impacts. Prior to the era of industry competition, digital infrastructure and the transition to IP, traditional network and media industries were highly regulated.

Wherever we look today around the information society and economy, protests and protesters are emerging. Elements of this emerging activism are:

- The “open source” movement to limit copyrights;
- Privacy champions;
- Proponents of unlicensed spectrum;
- Net neutrality advocates;
- Municipal and free Wi-Fi promoters;
- Media reformers opposing media concentration;
- Supporters of network upgrades and of affordable services.

Why such discontent? Isn’t everything in this field becoming cheaper, faster and more widely available? Many people are familiar with various flash points but have not connected the dots; they do not recognize that they are facing an incipient social movement on the model of environmentalism. Of course, it would be surprising if a technological revolution or an economic transformation would *not* lead to unrest.

During the industrial revolution—when technology advanced at a very rapid pace, while social institutions were relatively stagnant—the results were upheavals and revolutions. Now, there is another economic upheaval upon us: the information revolution. As with any change, there will always be winners and losers:

- Losing industries and companies, such as the music sector, or travel agencies;
- Losing workers, whose jobs are being outsourced or off-shored.

It is therefore almost inevitable that the media and communications sector will become a battlefield. Companies must be prepared for these conflicts.

Beyond regulation is also an increasing role of governments in the upgrade of infrastructure. It is generally recognized that advanced networks and network applications benefit society and economy. Therefore many countries proceed with activist and interventionist approaches for platforms.⁷²

For a time, many people thought that the pervasiveness of law and regulation in the media and communications sector was transitory, induced by temporary bottlenecks or by government itself. Technology, entrepreneurship and competition would make governmental interventions obsolete. But now, there is a greater recognition that, in this sector, a role of government has much resiliency, especially where there is only partial competition. Market power is increasing due to the fundamental economics of electronic media. New problems have emerged, such as privacy. More generally, we have experienced in recent years that, as an economy become more information-sector based, it also becomes more volatile, with a boom-bust cycle, higher risk and greater inequality. In consequence, the role of government in public interventions remains large and is likely to grow. In the process, various stakeholder groups are steering regulatory intervention in directions that favor themselves.

As we have seen with the example of Comcast in the case discussion, the return on investment in non-market competition is high. If so, will companies spend still more money on this function? The answer is yes. What, then, are the implications for the policy process, in the long run? Spending by companies on strategic litigation, the policy process, politics and PR will inevitably rise. Budgets and efforts will spiral upward to greater activities by all, including by non-profit organizations.

This growing injection of money into the governmental process will have a negative effect on politics and on society. (As it happens, however, many media companies will also be beneficiaries

⁷² The notion that “you can’t regulate the Internet” is incorrect. On the contrary, one can regulate packetized information and its conveyance much more effectively than undifferentiated waves and bits. Moreover, on the Internet, information is identifiable by the sender and recipient; therefore, it is targetable and able to be regulated.

8.7 · Review Materials

in a narrow sense. The need and efforts of every constituency and product marketer to generate attention and influence means that they will have to spend more money on advertising to reach consumers, the public and policy makers. And such spending will benefit media companies as the platforms for marketing efforts.)

Therefore, it is most likely that the legal and regulatory function of media firms will keep growing, and managing non-market competition will become an ever more important part of the managerial toolkit.

8.7 Review Materials

Issues Covered

We have covered the following issues in this chapter:

- Why the government and law play a major role in media;
- The function of the general counsel;
- How to use litigation as a business strategy;
- How to organize lobbying, legal and PR functions;
- How to use lobbying strategies as a tool;
- How to use PR management to create a positive image;
- How to determine how much to invest in PR;
- How industry self-regulation works;
- How government regulation is organized;
- The procedure of administrative law;
- How to use the regulatory process strategically;
- The main content restrictions;
- How to protect a business against libel lawsuits;
- What can and what cannot be claimed in advertising;
- How antitrust laws apply to the media industry;
- The goal of investment and pricing regulations;
- The elements of media activism;
- The future role of government in the media.

Tools Covered

We used these tools to address those issues:

- Determining optimal investment in:
 - PR and public affairs;
 - Lobbying;
 - Litigation;
- Decision trees to determine lawsuit strategy;
- Calculation of financial settlements;
- Quantifying the value of lobbying;
- Metrics to measure PR effectiveness;
- Rate of return analysis.

8.7.1 Questions for Discussion

1. Explain the advantages and disadvantages of using outside legal counsel to media firms. What steps can be taken to ensure cost savings when outsourcing legal functions?
2. Discuss some qualities of effective PR professionals. How does a PR campaign figure in the non-market strategy of a firm?
3. How do lobbyists add value to a firm's operations? What factors need to be considered when investing in a lobbying operation? What skills do effective lobbyists need?
4. How can a company assure the compliance by its employees of government regulations?
5. When is industry self-regulation a viable strategy? Discuss the strengths and weaknesses of self-regulation.
6. Discuss regulatory approaches to deal with deceptive advertising. How would a firm proceed to stop unfair competitive practices by a rival?

- 7. How does a firm determine the optimal investment in non-market strategy?
- 8. What are the fundamental differences between European and United States approach to privacy? Describe examples.
- 9. How should broadcasters and online websites deal with sexually explicit images during broadcasts and in web postings?
- 4. What is not considered legitimate grounds for appeal of a governmental regulation in a court?
 - A. Bad policy.
 - B. Exceeding jurisdiction.
 - C. Lack of due process.
 - D. Constitutional violation.
- 5. What kinds of monopolies are subject to legal challenge?
 - A. Ones obtained through acquisitions.
 - B. Monopolies created through exclusivity agreements.
 - C. Predatory pricing.
 - D. All of the above.

8.7.2 Quiz

- 1. What is the fundamental conflict of inter-connection pricing?
 - A. High prices are needed to maintain infrastructure; low prices are needed to spur the consumer electronics sector.
 - B. High prices are needed to support competition; low prices are needed to support universal service.
 - C. High prices are needed to support universal service; low prices are needed to support competition.
 - D. High prices are needed to spur the consumer electronics sector; low prices are needed to maintain infrastructure.
- 2. Paying political consultants to generate the appearance of a spontaneous public reaction in favor of the firm is an example of:
 - A. An astroturf campaign.
 - B. A grassroots PR operation.
 - C. Strategic lobbying.
 - D. None of the above.
- 3. When are employees liable during a criminal prosecution involving a firm?
 - A. At any time they are employed.
 - B. When they act in their own interest.
 - C. When a criminal act takes place under directives from supervisors.
 - D. When acting within the scope of their employment and for the corporation's benefit.
- 6. Which is not a main element of legislative lobbying?
 - A. Collection of unpublished intelligence.
 - B. Communication of interest group's positions with the intention of shaping public policy.
 - C. Testimony on behalf of the bill at legislative hearings.
 - D. Creating goodwill among potential consumers.
- 7. Which is not a component of public relations?
 - A. Purchase of time and space to relay company's message.
 - B. Professional communications.
 - C. Establishing and maintaining a good company "name."
 - D. Publicity.
- 8. What was the court ruling in the 1964 *NY Times vs. Sullivan* case?
 - A. Recovery for defamation charges by third parties cannot be honored by a court of law.
 - B. The First Amendment of the US Constitution prevents a public figure to win in a lawsuit against the press for defamation unless the statement was false, with a reckless disregard for truth.

8.7 · Review Materials

- C. Intellectual property rights must be reviewed by newspaper staff prior to publication of third party items.
- D. Public personalities cannot claim damages from intentional defamation.
9. Which of the following is a true statement concerning international copyright law?
- It is territorially applied.
 - Copyrights are not heritable.
 - It uniformly expires after 14 years.
 - Both A and B.
10. Which is not a part of the legal function in businesses?
- Contracts.
 - Compliance.
 - Market strategy.
 - Tort liability.
11. Which of the following are considered problems with self-regulation:
- Threat of government regulation is necessary for effectiveness.
 - Industry codes often lead to cartel behavior.
 - Firms chronically flout self-imposed rules.
- Only I.
 - Only II.
 - I and II.
 - I, II, and III.
12. What are typical tasks that outside lawyers are hired for?
- Antitrust battles.
 - Office agreements.
 - Bill collection.
 - All of the above.
13. Why is it important for companies to have an internally defined settlement range for different litigation stages within their litigation management?
- Because 90% of cases never make it to court and are settled beforehand.
 - It helps control the costs for external lawyers working on the case.
 - It helps winning the cases.
 - It provides a basis for estimating internal staffing.
14. Which of the statements below is correct about publicity and PR?
- PR is short-term and publicity long-term.
 - PR is long-term and publicity short-term.
 - Publicity aims to form a public opinion.
 - PR effectiveness is measured via total money spent on online marketing.
15. Codes of conduct developed by companies as part of self-regulating mechanisms?
- Can be used as a basis to enforce sanctions against violators.
 - Usually includes also parties outside of the companies' own interests.
 - May be pushed on industries as compromises by a government, when they do not have legal rights to do so directly.
 - Rarely lead to cartel behavior and price collaboration.
16. When is a publication liable for damages when reporting false information about a public figure in the United States?
- When it acted with minor regard to accuracy.
 - When it acted with negligence in publishing.
 - When it acted not only with negligence in publishing but also pursued malicious intent.
 - When the statement was incorrect and not made responsibly.
17. Which of the following is a possible activity by content platforms to control user-generated content?
- Algorithms detecting identifying unsuitable content.
 - User-generated reporting of content.
 - Executive decision to remove content.
 - Content control teams within content platform companies.
 - All of the above.

18. What is the difference between market and non-market competition?
- A. Non-market competition refers to strategies focused on strengthening presence in foreign markets while market competition refers to strategies focused on competing for customers within a market.
 - B. Market competition is a rivalry for customers whereas non-market competition is a rivalry not for customers but for favorable treatment by governments, courts, and the policy process.
 - C. Non-market competition refers to competition that is not directly associated to revenue generation whereas market competition does so.
 - D. Market competition usually leads to price reduction, innovation and quality improvements whereas non-market competition refers to the opposite, often caused by a monopolistic market situation.
19. What are not contributing factors to the increasing role of the government in the digital economy?
- A. The emergence of digital activism.
 - B. Traditional firms are being disrupted and, thus are increasingly under pressure and imperil employment numbers.
 - C. Governments have been an obstacle to the digital economy from the beginning.
 - D. Ever since the emergence of the Internet, its community increasingly demanded regulatory actions, such as net neutrality protections.
20. What are practices to quantify how much a firm should spend on PR?
- A. Doing an analysis comparing the overall cost relative to the estimated overall value of expected results.
 - B. As long as the extra PR benefits are larger than the extra cost.
 - C. Estimate the spending's of competitors and match them.
 - D. Match last year's expenditure, and add if needed.
 - E. All of the above.

Quiz Answers

- ✓ 1. C
- ✓ 2. A
- ✓ 3. D
- ✓ 4. A
- ✓ 5. D
- ✓ 6. D
- ✓ 7. A
- ✓ 8. B
- ✓ 9. A
- ✓ 10. C
- ✓ 11. C
- ✓ 12. D
- ✓ 13. A
- ✓ 14. B
- ✓ 15. C
- ✓ 16. C
- ✓ 17. E
- ✓ 18. B
- ✓ 19. C
- ✓ 20. E



Marketing

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Demand and Market Research for Media and Information Products

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9.1 Why Demand Analysis

» “Nobody knows anything”.

William Goldman (Oscar-winning screen-writer for the films *Butch Cassidy and the Sundance Kid*, *All the President’s Men*, *The Stepford Wives*, *A Bridge Too Far*, *The Great Waldo Pepper*, *Marathon Man* and *The Princess Bride*).

Is Goldman, a classic Hollywood insider and guru, correct with his oft-quoted observation that guesswork rules when it comes to understanding and assessing media audiences, their tastes and preferences? In a strict sense, yes. We do not fully know what the users of a new piece of media content (and of media-related technology and platform) want at any given moment, which is why so many media and information projects fail in the marketplace. But perhaps one should define the task more modestly. To be absolutely sure may be impossible, but maybe one can increase the probability a little? To succeed against competitors operating under similar uncertainty, one need not be exactly on target all, or even most of, the time—just a little less wrong than they are. Over time, this leads to a better track record and to success. And this is the subject of this chapter: how media and technology firms can improve the assessment of the demand for their products and services, and thereby become more successful.

9.1.1 The Importance and Special Problems of Demand Estimation for Media Industries

Understanding demand research is always important and always difficult. On the *macro* level of the overall economy, governments and businesses need to know what to expect by way of aggregate national demand, or sectorial demand such as for housing or energy. On the firm-specific *micro* level, every industry and firm wants to know:

- Who are the potential buyers?
- What is the buyer’s willingness to pay?
- What is their price sensitivity?
- What product features are valued?
- What do customers like about competing products?
- How to identify promotional effectiveness.
- How to identify market segments and select target markets.

Market research is particularly important (and difficult) for media and information firms. Recall some of the basic economic characteristics of media, discussed earlier.

High Investment Needs Media content is often expensive to produce and has a short shelf life. A Hollywood film may cost \$100 million in upfront investment in production and marketing cost, yet have an economic life of a few months only. Similarly, infrastructure distribution networks require huge investment far ahead of actual demand.

High Uncertainty In media, an “80–20 rule” often applies, wherein 80% of products do not break even. Of products, 10% account for 90% of the profits, and 2% of products account for 50% of the profits. Such performance does not follow a normal statistical distribution but, rather, an exponential one. The probability of a great demand (a hit) is very low. Conversely, the probability of a low demand is very high. Of course, this will usually be true, but seldom to such an extreme. These are the characteristics of a “winner-takes-all” business.

Preferences Are Unstable Content suppliers must be able to respond rapidly to changing audience tastes. Each discrete media product—such as a film, a book, a song—is unique and hard to evaluate in advance.

Public Good Characteristics Because viewing and sharing cannot be easily accomplished, media products such as broadcast TV or online content are often given away, rather than sold to identifiable users, and the audience’s attention is then sold to advertisers. To monetize such an audience, the media company must be able to identify and quantify it.

Technology Change Digital technology has had a particularly rapid product cycle in recent decades. Consumers often have no experience with new products in advance. As transmission costs drop, media content markets become global and audiences fragment.

Network Effects The product and service preferences of individuals are interdependent on those of others. There is a “network effect.” This leads to extremes of success because users

dynamically influence each other, both by positive encouragement and negative dismissal. When a product or service catches on, it becomes a self-reinforcing process. Conversely, a product that does not generate such positive feedback drops out. Facebook, Twitter, Pinterest and Instagram quickly became popular, but Friendster and MySpace evaporated.

Where the average utility of a product increases as other participants are added, the demand for the product will increase with the number of users. The more people are on the network or share the experience, the more people are willing to pay. This can lead to a highly unusual demand. Whereas, classically, the number of users drops as prices rise, one may now have a situation where, as the number of users rises, people are willing to pay more because the service becomes more valuable to them.

For these and other reasons, demand analysis, while particularly important in the media and information field, is also particularly difficult.

9.1.2 Examples for the Problems in Forecasting Media Demand

The media world is full of false predictions. Statisticians speak of “Type I errors” and “Type II errors.” Type I errors are “false positives”: the wrong decision is taken by a company, which mistakenly accepts a positive but wrong prediction (“hypothesis”)—in this case, that there is sufficient demand for the product, which turns out to be much smaller in actuality. This happens all the time. It has been estimated that startups overvalue the demand for their innovations by a factor of three.¹ Eternal optimism governs media content and technology, and is a force for progress. But it comes with frequent, expensive and, often, fatal flops.

In communications services, when “picture phones” were introduced in 1963 at the New York World’s Fair, the telecom giant AT&T, which had been at the forefront of designing and introducing the technology, estimated that there would be ten million such phones in use in America by 1980. However, the real number in that year was closer to zero. (30 years later, with smartphones, laptops,

tablets, and camera equipped desktop computers, personal video penetration was at the other extreme, at 230 million). Similarly, at one time, mobile phones connected by satellites were widely expected by experts to be the next Big Thing. In 1998, *The Wall Street Journal* gushed that, “the consensus forecast by media analysts is of 30 million satellite phone subscribers by 2006.” The reality, however, was vastly more modest than these experts predicted. Such phones, aside from some subsidized national security applications, are mostly used as rental units on adventure travel, and even that niche has been rapidly contested by alternatives. Other examples are the video devices Tivo and Slingbox. Both were thought of as sure winners, yet struggled to find markets.

Type II errors, in contrast, are “false negatives:” a product should have been picked but was not. The prediction that demand would be low is accepted, but it transpires that this is incorrect and, in actuality, the product is a winner. In 1877, Western Union, the largest telegraph company in the world, believed that there was no market for the new-fangled telephone. It passed on acquiring the patent offered to it by Alexander Graham Bell. Bell had to go it on his own and, within a few years, his company, AT&T, eclipsed Western Union, which then experienced a long and lingering death. A century later, the shoe was on the other foot. AT&T vastly underestimated the prospects of mobile phones, after an expensive McKinsey consulting study commissioned by the company predicted in 1981 that there would be only 900,000 cell phones in use worldwide by the year 2000. AT&T took the advice and left the field to the local phone companies. However, there were more than one billion cell phones by the millennium year. The company had to spend billions of dollars to get back into the business and was too late to be successful. It failed and was acquired for a song by another phone company, SBC, which renamed itself AT&T.

Errors abound by industry insiders who are close to the subject. In 1916, Charlie Chaplin, who went on to an illustrious film career, opined that, “The cinema is little more than a fad. What audiences really want to see is flesh and blood on the stage.”² When TV started to be successful, movie

1 Gourville, John T. “Eager Sellers & Stony Buyers.” *Harvard Business Review* 84, no. 6 (June 2006): 98–106.

2 Tech News and Lifestyle Blog. “Top 50 Failed Technology Predictions of All Time.” Last accessed May 31, 2011. ► <http://data-katalog.com/index.php?newsid=50975>.

mogul Daryl Zanuck, the 20th Century Fox studio chief, was similarly out of touch. “[Television] won’t be able to hold on to any market it captures after the first six months. People will soon get tired of staring at a plywood box every night”. In the computer field, industry experts could be amazingly wrong. “I think there is a world market for maybe five computers,” opined Thomas Watson, Chairman of IBM in 1943. Ten years later, the company was the world’s leading computer manufacturer. A generation later, the president of Digital Equipment Corporation, one of the world’s largest computer manufacturers at the time, predicted that “There is no reason anyone would want a computer in their home.”³ Bill Gates, a founder of Microsoft and the microcomputer industry, may have continued this trend of myopia in observing in 1992 that “640 kilobytes of memory should be enough for anybody.” In 2018, a typical desktop computer has about eight gigabytes, 12,500 times as much.

Consumers regularly opt not to adopt a product even if it is beneficial to them. The approach of behavioral economics has sought explanations. As mentioned in ► Chap. 4 Technology Management in Media and Information Firms, losses have a far greater negative impact on people than similarly sized gains, a phenomenon that behavioral economists have called a “loss aversion.” Consumers overvalue those things they already own over those they do not own by a factor of about three.⁴ This is known as “the Endowment Effect.”

In many situations, both Type I and Type II errors exist, where the producer is over-optimistic and the buyer is over-cautious. In other words, the producer makes the wrong decision to go forward with the product while the buyer makes the wrong decision not to buy it. Thus, when consumers undervalue the existing benefits of an entrenched product by a factor of three while developers overvalue the benefits of their innovation by a factor of three, the result is a mismatch of nine times between what innovators think consumers desire and what consumers actually want—about one order of magnitude.⁵

9.1.3 Limits to Audience and Market Research

In this chapter, we will investigate ways to conduct the estimation of audiences and market demand. However, as we proceed with looking into various techniques, we must also keep asking the questions: when it comes to content rather than products, *should* media companies use demand estimation techniques in the same way as a car manufacturer or an airline? Shouldn’t decisions on media creations by a media company be based on artistic originality, news judgment and public responsibility?

In that vein, a great deal of criticism has been directed toward audience research as a substitute for a creative judgment. Screenwriters and film directors despise audience research that forces them to modify their creation. Editors bristle at the pressure to tailor their front page stories to attract younger demographics. This is not how a business visionary acts, they argue. Steve Jobs did not test market the original Macintosh. Colonel Parker did not Q-test Elvis Presley. Orson Welles did not use a focus group.

Taking one step further, do media owe their audience a special responsibility to go beyond what that audience thinks it wants? Should they have an obligation to cover significant but boring news and difficult but important topics?

More fundamentally, some thinkers believe that the entire exercise of demand estimation by media companies is tautological: media creates its own demand by influencing people and their preferences. They like what they are told to like. There has long been a debate whether peoples’ preferences are shaping the content of media, or, to the contrary, whether media content has been shaping peoples’ preferences. Do “powerful media” or “powerful audiences” determine media content?⁶ Social science and communications research have not resolved this question.

Those who believe that preferences are inherent to the viewer (the “powerful audience”) tend to study it purely empirically, looking at audience behavior, rather than engaging in theories to explain that behavior. George Gallup, the famed

3 Tech News and Lifestyle Blog. “Top 50 Failed Technology Predictions of All Time.” Last accessed May 31, 2011. ► <http://data-katalog.com/index.php?newsid=50975>.

4 Gourville, John T. “Eager Sellers & Stony Buyers.” *Harvard Business Review* 84, no. 6. (June 2006): 98–106.

5 Gourville, John T. “Eager Sellers & Stony Buyers.” *Harvard Business Review* 84, no. 6. (June 2006): 98–106.

6 Livingstone, Sonia M. “The Rise and Fall of Audience Research: An Old Story With a New Ending.” *Journal of Communication* 43, no. 4 (Autumn 1993): 5–12.

pollster, was among the first to research audience preferences in a very practical way. In the academic field, a central figure was Paul Lazarsfeld, who started an institute in audience measurement at Columbia University to study radio listeners.⁷ Lazarsfeld's statistical techniques were adopted by media and by audience measurement companies such as Nielsen. This approach centers on the audience, on audience sub-groups and their behaviors, rather than their motivations.

In such a vein, many, if not most, media firms look at audience preferences and seek to satisfy them in order to be commercially successful. Yet, media firms themselves are self-contradictory. On the one hand, they argue that they only passively serve existing influences, rather than shape them. This could be called the “Nielsen perspective.” Yet, at the same time, they promote themselves to advertisers as being able actively to re-shape consumer preferences, including on their media choices. That could be called the “Madison Avenue” perspective.

Maybe both major perspectives are correct. Media audiences have preferences that can be analyzed as given at a certain moment. This is referred to by the industry as “media research” or “market research.” However, these preferences can also be influenced by means of “media marketing.” This chapter deals with the former; we will deal with the latter in the next chapter.

9.1.4 How Media Companies Organize Their Market Research

To improve on their odds for success, media organizations engage in substantial market research at every step:

- To let the companies know who their audience is, and how it responds to the content provided;
- To let advertisers know who they are reaching;
- To let advertisers know how effective they are.

A great deal of money is at stake. The largest advertisers in the USA in 2016 were Proctor & Gamble with \$4.3 billion, AT&T with \$3.9 billion, General Motors with \$3.5 billion, Comcast with \$3.4 billion

and Verizon with \$2.7 billion.⁸ On the receiving end, 2016 advertising sales by the TV company CBS were about half of its overall revenues, about \$6.1 billion, and a further \$6 billion from licensing fees and affiliate payments that were themselves heavily dependent on other TV companies' advertising sales. For the major newspaper company Tribune Publishing, two-thirds of its \$1.6 billion in revenues were from advertising about \$1 billion. Of Google's (Alphabet) 2018 revenues of \$110 billion, over 90% came from advertising. With such large amounts of money at stake, advertisers, media companies, network platform service providers and technology firms need to understand their markets and audiences.

Over time, large TV firms organized media and audience research in increasingly complex ways, both in-house and with the use of outside measuring services. The major US TV networks have internal research departments of approximately 30 people—about 20 ratings analysts, plus 3–5 people in primary work on strategic and regulatory issues such as violence, children and boycotts, as well as for qualitative studies, including focus groups. These analysts are mostly at company headquarters in New York. The agenda consists of sales research for advertising sales, internal program research, studies for local stations and radio, and work with outside contractors.⁹ About half a dozen analysts are deployed in Los Angeles engaged in program research.

The top audience research executives in the large media firms hold titles such as “Head of Research”, “President—Research”, “Exec VP—Research”, or “Chief Research Officer”. They report either to the Chief Marketing Officer or to the CEO directly. Audience research departments tend to hire at the BA or Masters level, often with a background in statistics. Some hire MBAs. Experience in digital data analysis and in advertising agencies is helpful.

Starting in the mid- 1980s to mid- 2000s, the major TV companies in America added new cable TV channels. Research departments doubled and tripled, even though the major networks themselves shrank. In time, decentralization took place as the subsidiary cable channels created their own

8 Nanji, Ayaz. “The 10 Biggest Advertisers in the United States.” *Marketing Profs*. July 22, 2016. Last accessed July 11, 2017. ► <http://www.marketingprofs.com/charts/2016/30313/the-10-biggest-advertisers-in-the-united-states>.

9 Scott McDonald, interview with author, July 18, 2012.

7 Zitrom, Daniel. *Media and the American Mind*. Chapel Hill: University of North Carolina Press, 1938, 122–146.

research departments within the same company, e.g. the Disney Channel, ABC and ESPN. There was much expansion, including into digital research and to more program research.¹⁰

Local TV stations, depending on market size, also have market researchers, in particular for ratings analysis. Their work is supported by the TV networks or by outside contractors.

Large magazine group publishers may employ several dozen researchers. Plus the individual magazines may have a researcher or two. At Condé Nast, this function is called the “Research and Insights Group.” Its head reports directly to the CEO and is a member of the Executive Committee.

9.1.5 Case Discussion

Viacom—Golden Age Media (a Hypothetical Case)

The large US media company Viacom, in an effort to target the large and growing retirement-age audience, considers launching a new media endeavor: Golden Years Media (GYM). GYM would offer three products: (a) a cable pay-channel (the Golden Years Channel) that is marketed directly to viewers, (b) a magazine (*Golden Years*), and (c) a website (GY portal). The basic question for the company is whether it should launch Golden Age Media. To answer that question, how could Viacom estimate its audiences, their content preferences, their consumption preferences and their willingness to pay?

A Brief Overview of Viacom

Viacom is an American mass-media company. It owns film and TV production (Paramount), runs more than 160 cable networks

and serves over 700 million viewers worldwide in many dozens of countries and languages. Its channels include MTV, Nickelodeon, BET and Comedy Central. Sumner Redstone, aged 95 in 2018, is the controlling shareholder of Viacom, as well as of the TV network CBS and other media firms, through the family business National Amusements, originally a medium-sized movie theater chain.

Viacom owns a large number of satellite-delivered TV channels that are carried by cable and direct broadcast satellite (DBS) TV operators. Ordered by the target audience ages, they include Noggin (pre-schoolers), Nick Jr. (ages 2–5), NickToons, Nickelodeon (twens), TeenNick (ages 12–24), MTV and MTV2 (12+).¹¹ These channels reach up

to 100 million households. Other Viacom channels target college students and young adults (ages 18–49): mtvU (college), Comedy Central, Spike, VH1 and Logo. These channels reach up to 127 million households. Viacom’s channels targeting mature adults are Nick at Nite (50+), TV Land (18–65) and CMT (Country Music TV) (18–65). These channels reach up to 68 million households. Other Viacom channels that target specific demographics include BET (African American), BET HER (African American women), Logo (LGBT) MTV Tr3s (Latino) and Sundance (film fans).

Viacom now plans to target the 65+ age demographics though three interrelated new media products: the Golden Years channel; the *Golden Years* magazine and the GY portal.

9.2 Data Collection

Good research requires a well-defined question, good data, resourceful interpretation and effective use. The topic of the next section is how to get the data. Later, we will discuss how to analyze it.

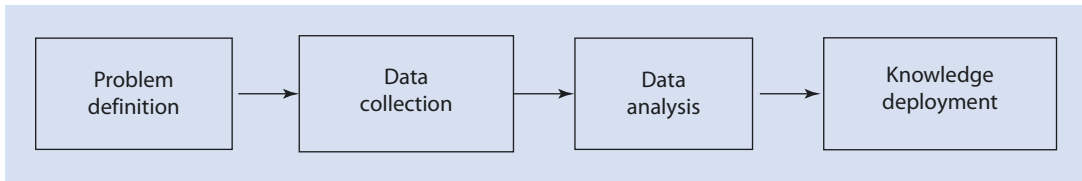
9.2.1 The Impact of Collection Methodology

Figure 9.1 shows the stages of data use, from problem definition, to creation and use of knowledge. Data collection is a critical step. The choice

of the methodology and technology of such collection is not an objective science. But such choices affect results and, thus, influence business and creative decisions. Therefore, it is always a battlefield. One main purpose of audience measurement is to be a tool for attracting and charging advertisers and others. Any change in a metering procedure will therefore impact business. In TV, the replacement of a system of paper diaries with an automated system made a significant difference to the results. The People Meter

¹⁰ Scott McDonald, interview with author, July 18, 2012.

¹¹ Viacom. “Viacom Brands.” Last accessed July 13, 2017. ► <http://www.viacom.com/brands/pages/default.aspx>.



■ Fig. 9.1 Collection Methodology

measurement system showed ratings for the major TV networks that were consistently lower by about 4.5 points than the combined TV diary ratings. In contrast, cable TV had a substantial ratings gain. There were also effects on different programming categories. Participation shows were boosted by 5 points in rating, sitcoms by 1.5, and news by 0.2. But medical shows dropped by 4.1 points. All this has revenue impacts. Each ratings point was worth approximately \$140 million per year. The networks' decrease in ratings by 4.5 points could therefore cost them over \$600 million per year. Thus, one can see that ratings technology and ratings methodology affect dollars, euros and yen.

9.2.2 Collecting Data from Users

Broadly speaking, data is primarily collected from one of the two sides of transactions, either from the *buy side* (users, consumers, audiences), or from the *sell side* (providers, producers, distributors). There are several ways to collect data from users.

9.2.2.1 Surveys

Personal surveys are usually conducted by market research firms. Personal interviews can be in-depth, but they are also expensive and need a reliable survey team. The sample is often biased by self-selection of the subjects who agree to participate, and by the accessibility of the subjects. Follow-up research is time-consuming. In some cases, an interview subject is shown aids to memory (such as past copies of a publication, or of an advert), followed by questions. This is known as the “recognition” method. When no such aids are given, it is referred to as “a recall method” interview.¹²

A major problem with personal surveys is the truthfulness of responses. People will often dissemble about their incomes, taste and actual consumption patterns. Or, they can be forgetful. There is also an “interviewer effect” where, for example, the age, gender, attractiveness, or status of the person conducting the survey may have an impact on responses.¹³ In short, personal interviews are time-consuming, expensive and limited in accuracy.

Mail and Phone Surveys

Mail surveys cost less than in-person surveys and their greater anonymity increases candor. However, the low response rates to “junk mail” mean that, on a “per responder” basis, this is not a cheap method after all.

A type of survey, used for decades by magazines, is often deployed by the Internet industry. It is known as “A/B testing.” Example: By comparing the acceptance rates of test marketing that offer two alternative prices, with the other variables held constant, one may find the responsiveness to price. Suppose that, for a listed price of \$17, acceptance was 10.2% lower than when the price was listed at \$15.¹⁴ This is a price reduction of 11.8%. The “price elasticity” (defined as the percentage change in demand divided by the percentage change in price) is, hence, $\eta = -10.2/11.8 = -0.86$. This means that the price sensitivity is slightly inelastic (less than 1).¹⁵ Where demand is inelastic, a higher price point (such as going to \$18 or higher) would raise revenues.

Telephone surveys are cheap, and allow follow-up questions and clarifications. Here, too, there is a self-selection bias. There are legal restrictions on unsolicited phone surveys when they are coupled to a sales pitch.

12 Kim, Hyo Gyoo. “Traditional Media Audience Measurement: Print and Broadcast Media.” 2006. Last accessed July 13, 2017. ► <http://www.columbia.edu/B8210/read24/suggested/Audience3.htm>.

13 Frankel, Martin R., Marc B. Glassman, and Eleanor Singer. “The Effect of Interviewer Characteristics and Expectations on Response.” *Oxford Journal Volume 47*, no.1 (Spring 1983): 68–83.

14 Kobak, James B. *How to Start a Magazine*. New York: M. Evans & Company, 2002.

15 Disregarding the negative sign.

Internet Surveys

The Internet provides convenient and low-cost ways to ascertain consumer views. To recruit respondents, a website may seek volunteers (for a one-time response, or to serve as part of an ongoing panel). It may offer a reward, such as access to otherwise restricted or for-pay content (a “survey-wall”), or a chance to win a reward in a lottery. They may solicit general user feedback such as “likes,” or create polls. Companies seek respondents through advertising or posting on blogs, websites and social media. They can send e-mails with survey instruments to various mailing lists that can be self-created or rented. They can present each online visitor with a survey, or do so selectively by picking a sample, either randomly or according to certain parameters. A number of companies provide relevant software and services, such as SurveyMonkey and Google Surveys. The software permits customizations of various kinds, as well as data analytics of the responses. Disadvantages are that self-selected respondents may be a statistically biased sample in terms of demographics, and that strategic manipulation by multiple responses from a small group are hard to control.

9.2.2.2 Focus Groups and Test Marketing

Market researchers often use group-wide approaches. They may include interactive “focus groups,” or larger-scale product tests.

Focus groups are often used for film in advance of a wide release. There are two types of such group testing: for production, and for marketing. Production previews help filmmakers fine-tune the movie while it is being made, whereas marketing previews study an audience’s reactions to complete films and assess marketing strategy.¹⁶ A typical focus group gathers about a dozen people (more would be unwieldy for interaction) to discuss the product for, maybe, two hours, talking with each other and to a professional moderator. To benefit from the focus group, marketing managers often listen in from the outside, or peek in through one-way mirrors or video screens. Focus groups can be used to help fine-tune a work in progress. Their response provides feedback to producers, creators, marketers and executives, but

is no substitute for artistic judgment. For example, focus groups hated the pilot to the TV series *Seinfeld* which was green-lit anyway and then became one of TV’s most successful shows.

Focus group testing is similarly done by games developers or publishers. A group of the target demographics, typically young men or adolescents, are brought together. They play the game for a while and are then prompted to discuss their experience and observations. This could include whether the game is too easy or too hard, the visuals, the level of excitement, the characters and so on.

Focus groups are highly unpopular with screenwriters and directors. They are held to be responsible (or used as a smoke screen) for media executives watering down artistically exciting approaches. For people with a statistical bent, the focus group approach is laughably imprecise with its sample size, bias and randomness.

A broader outreach uses *test audiences*. Such test screening is done in a theater, typically in New York or Los Angeles. Sometimes, test audiences are asked to fill out a survey questionnaire about what they liked and did not like about the film. This includes elements such as actors, characters, special effect, plot and pacing.¹⁷ Other test screenings use “audience perception analyzers,” which are systems with little hand-held clickers similar to TV remote controls¹⁸ that send out, record and analyze responses, and their intensity, in real time.

Many popular movies have been altered after being shown to test audiences or focus groups. Television producers and directors fear that shows that test poorly will be dropped by networks, and thus forgo a major content development advantage over film. In contrast to film, a series can improve with constant refinements as it goes along. But this potential is lost when cancellations are based on only one or two episodes, and the show has no chance to improve itself and build a following.¹⁹ The opposite criticism is also made, that testing a film serves as a shield to protect managers’ careers if a film opens badly. Then, the marketing executives can point to the earlier poor

16 Friedman, Robert, and Jason Squire. *The Movie Business Book*, 3rd ed. Maidenhead, UK: Open University Press, 2006, 282–298.

17 Marich, Robert. *Marketing to Moviegoers: A Handbook of Strategies Used by Major Studios and Independents*. Burlington, MA: Elsevier Focal, 2005.

18 Conferex. “Excellence in Presentation.” 2008. Last accessed June 2, 2011. ► <http://www.conferex.co.uk/index-3.html>.

19 Albarran, Alan, and Sylvia Chan-Olmsted. *Handbook of Media Management and Economics*. Mahwah, NJ: L. Erlbaum Associates, 2006, 629.

test results and claim that they produced the best release campaign possible for a weak product.²⁰

9.2.2.3 Demand Experiments

One can get data on audiences and buyers by observing their actual behavior or by experiments.

In an *uncontrolled study*, researchers are only observers. Uncontrolled research often uses behavioral data from samples from panels of consumers. Consumers can keep a diary of their activity and purchases, or these are recorded automatically. Customers may get a reward for cooperating.

In contrast, in *controlled studies* researchers can manipulate the important variables to observe their effect. In controlled studies of actual purchases, the researchers may generate price variations while holding other variables constant, such as advertising. This can be useful but takes time and money.²¹

Magazine test marketing serves as a good example of controlled purchase experimentation. Magazine firms may utilize a “dry test,” where product acceptance is tested without it actually yet being published. On the Internet, such experiments have become much easier. If a website wants to find out whether a new design of a webpage increases sales, it can quickly run a controlled experiment. It will show the new page design to, say, every hundredth visitor. Determination of whether the new design increases sales can be made after a few days, which allows for numbers to build and to correct for unusual weather, holidays, etc.²²

Test marketing means launching the media product, e.g. a TV show or a film, with full marketing and advertising efforts in several test cities or regions. The consumer response is then tracked. Such test marketing for films enables decisions about marketing strategies, improvements, fine-tuning or discontinuation. The problem with test marketing is that it is slow. It also leads to a premature exposure of the product to competitors. With the Internet, information spreads rapidly and test audiences are much less isolated than in the past.

In-store purchase experiments can be costly and run into millions of dollars. The cost is high because each additional factor studied requires the use of more stores in order to obtain statistically valid results. When Quaker Oats conducted an in-store experiment that focused on the effect of price alone, the study required the use of 120 stores for three months.²³ For technology products such as TV sets or computers, charging lower prices for experimental purposes can become quite expensive. This, then, leads to the use of laboratory experiments.

A *laboratory experiment* research facility can be set up at a shopping mall or other high-traffic location. It resembles a small store to provide the realism of in-store trials without their high cost and exposure to competitors. Participants and prices are controlled. Consumers may be rewarded by a substantial discount, or other benefits. The overall cost is smaller than for in-store testing and is therefore more popular with electronics products.²⁴ Other laboratory experiments may provide users with play money, observe how they engage with content and with on-shelf retail content such as magazine covers, subject them to advertising messages, followed by product choice decisions, and monitor the impact of the advert. They may also simulate a living room setting to observe user behavior. Such lab in-home simulation aims to provide insight into the typical interactions of consumers with devices and programming in a home-like setting. Research questions may be: How are programming choices made? When and how are available devices used? What else is done while watching? What interactions does a message or content trigger? How can a program stand out from the rest?

9.2.2.4 Automatic Audience Metering

The individualized or group surveys and experiments are usually too slow, costly and unreliable for the mass production of data. In consequence, large-scale data collection was an early goal. TV and radio broadcasting were the first to use automatic metering. In the USA, the rating service company Nielsen became the main authority for TV ratings. Nielsen has over 200 designated TV direct market areas (DMAs), which it “sweeps”

20 Marich, Robert. *Marketing to Moviegoers: A Handbook of Strategies Used by Major Studios and Independents*. Burlington, MA: Elsevier Focal Press, 2005, 27.

21 Holden, Reed, and Thomas Nagle. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. New Jersey: Prentice Hall, 2001.

22 Varian, Hal R. “Kaizen, That Continuous Improvement Strategy, Finds Its Ideal Environment.” *New York Times*. February 8, 2007. ► <http://www.nytimes.com/2007/02/08/business/08scene.html>.

23 Holden, Reed, and Thomas Nagle. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. New Jersey: Prentice Hall, 2001.

24 Holden, Reed, and Thomas Nagle. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. New Jersey: Prentice Hall, 2001.

four times a year. Similar audience measurement companies operate all over the world wherever advertising supported TV or radio is in place.²⁵

Early TV audiences were measured using, primarily, a “diary system.” The viewers recorded their TV viewing in a paper diary—an awkward system for channel-hopping viewers. A second way in which TV audiences were tracked was by telephone surveys. This enabled fast turnaround, but this sample, too, can be biased. These problems encouraged the development of automatic systems for audience monitoring. Nielsen’s People Meter, rolled out in 1987, is an electronic box placed in 5000 randomly selected household and positioned near their TV sets. It measured households viewing instantly and eliminated “lying” responses. Drawbacks are that often there is nobody in the room actually watching. Viewers must identify themselves so as to differentiate between different members of a household, and this requires active cooperation. A solution to this problem is a “passive” meter that records the behavior of the respondents without requiring any effort by the respondent.²⁶ One such method was introduced by Arbitron, (a company subsequently acquired by Nielsen). It created a digital “watermark” (identifier) embedded in recorded music and in the music of advertisements played, and these codes are received and identified by monitors in each market. Analytic software then identifies the time and station, as well as the advertising or music content.²⁷ This system with its content identified through embedded codes, can be used for broadcast TV, satellite and cable, as well as for advertisements, and follows the person wherever they are. Such a “Passive People Meter” (PPM) requires a device worn by the consumer, which then detects and records the content the consumer is exposed to, whatever the program source.²⁸

A problem with the accuracy of TV data collection is that greater audience fragmentation makes results less reliable. The percentage of standard deviation tends to grow as the measured percentages of “ratings” and “shares” become

smaller. For example, a “true” ratings of 6 (6% of TV households) in a sample of 3000 will show as a sample rating between 5.2 and 6.8 (± 0.8) in 95% of the samples taken. The relative error is thus $0.8/6$, or $\pm 14\%$. But the same error at the same 95% confidence level for a “true” rating of only 2 will be ± 0.5 . (This means a relative error of $\pm 25\%$). And for a small cable channel with a “true” rating of $.3(\pm 0.2)$, the relative error is $\pm 65\%$. This means that the samples need to become larger as audiences fragment, and this adds cost and potentially slows down the system.

9.2.2.5 The Measurement of Websites: User-Level Measurements of Internet Activities

The Internet is an excellent survey tool. When it comes to the measurement of Internet usage itself such as of website visitors, here, too, there are two basic ways of how to proceed:

1. To measure user behavior (the “user-centric” approach);
2. To measure websites (the “site-centric” approach);
 - 2.1 A subcategory of website measurement is the “ad-centric” approach, in which clicks on advertisements are counted.

User-level measurement of online activity is an approach based on a sampling of techniques. It uses a large panel of general Internet users, observing their behavior and visits to websites. The users install a software meter on their computers that measures and recalls their behavior. The meter reads the URL in the browser, then counts and forwards data to the web rating company. Data is then matched to websites and reported.²⁹ To automate the process of tracking Internet traffic on the user level, “cookies” or similar tools are used. Cookies are electronic files to tag individual users with unique identifications. It allows websites to recognize individuals.³⁰

comScore (which acquired rival Media Matrix in 2002) claims a panel of two million worldwide Internet users, including one million in the USA who opt in and share their clickstream data on

25 European Audiovisual Observatory. “Sites of the TV Audience Measurement Companies.” August 2001. Last accessed June 1, 2011. ► <http://www.obs.coe.int/db/gavis/00002194.html>.

26 Albarran, Alan, and Sylvia Chan-Olmsted. *Handbook of Media Management and Economics*. Mahwah, NJ: L. Erlbaum Associates, 2006, 632.

27 Baskerville, David. *Music Business Handbook and Career Guide*, 8th ed. Thousand Oaks, CA: Sage Publications, 2005.

28 Arbitron. “The Portable People Meter System.” Last accessed July 11, 2017. ► <http://www.arbitron.com/downloads/esomar2000.pdf>.

29 Coffey, Steve. “Internet Audience Measurement: A Practitioner’s View.” *Journal of Interactive Advertising* 1, no. 2 (Spring 2001): 13.

30 Deck, Cary A. et al. “Tracking Customer Search to Price Discriminate.” *UArk.edu*. June 2003. Last accessed July 11, 2017. ► <http://comp.uark.edu/~cdeck/Tracking%20Customer%20Search%20to%20Price%20Discriminate.pdf>.

webpages visited.³¹ Nielsen's NetRatings uses a group of about 2.5 million in the USA which form part of an opt-in panel of people who give information about themselves such as age, gender and income.³² In time, over 100 web ratings companies emerged; the major firms are Google Doubleclick, Nielsen, Experian, Adobe Analytics, Akamai Real Time Web Monitor, Quantcast, comScore, Hitwise and Amazon's Alexa.

There are several advantages to a user-level approach. It provides demographics and measures actual behavior. There is no conflict of interest in which the website inflates its count in order to raise its advertising revenues. (In some cases, however, the user measurement company also operates large websites, as Google does for example, and provides placement services to advertisers). The user-level approach provides additional tools for analysis. Mouse activity can be measured through a monitoring of the number of clicks, time spent moving the mouse,³³ or total time spent on a webpage. On the other hand, the user-based methodology requires user cooperation by signing up. Hence, incentives must be offered to users.³⁴ The sample thus has some biases.

Another problem of user-centric measurement is its disadvantage to small sites which may get only a few hits and may thus be ignored or undercounted. It also provides poor site diagnostics on which site a user reaches and what the user does there.³⁵ Also, user-centric systems are not welcome at workplace computers. Most large companies have firewalls and security systems, and measurement software cannot be installed. And, as with all panel/sample-based measurements, certain locations and demographics are under-represented. Therefore, the measuring companies often recruit panelists to "balance" panels, and they may also correct for remaining biases through post-sample weighting, i.e. retreating the results. This invites problems.

9.2.3 Measurement at the Provider (Sell-Side) Level

So far, we have discussed the ways in which audiences can be measured on the level of the actual *users*. The other major approach is to focus on the *seller/provider side* and to measure there. This is done in various ways.

9.2.3.1 Surveying Retailers

Bestseller Lists Book bestseller lists are tabulated by newspapers, magazines, or other organizations from actual sales. They are compiled from reports by hundreds of book stores, with the identity and weight given to each store not being disclosed. The system is basically an extensive sampling of retailers. The problem with such lists is that they are self-fulfilling. They determine the location of a book's display inside a bookstore, which has a substantial effect on the book's sales. The list also determines whether or not the book will be discounted in price.

Because it does not take all that many sales to make it to a bestseller list, they have been subject to manipulation. Publishers or authors can "pad" the list by buying their own books in bulk from stores around the United States to get their sales figures up for the lists. The authors of the book *The Discipline of Market Leaders* business consultants Michael Treacy and Fred Wiersema, reportedly spent \$250,000 of their personal money to buy 10,000 copies of their own book. This propelled the book into the bestseller list and to subsequent sales of over 250,000 copies, easily recouping their money. *The New York Times* now places a dagger next to any titles when substantial bulk sales are being reported at individual stores.

9.2.3.2 Self-Reporting

Producer self-reporting is mainly used by newspapers and magazines, and is also part of Internet "site-centric" measurements. This system of central audit bureaus of circulation (ABCs) exists in many countries to audit and verify newspaper and magazine circulation. Before ABCs, publishers exaggerated sales to advertisers. Controversies ensued. Advertisers and advertising agencies then created an institutional method to verify circulation claims. The way the system works is that a publication such as a newspaper or magazine reports its circulation and sales to a central unit, the ABC. Typically, twice a year each magazine and newspaper submits a

31 Delo, Cotton. "Your Guide to Who Measures What in the Online Space." *Advertising Age* 82 (September 18, 2011): 1.

32 Innovateus. "What Is the Nielsen Rating System?" Last accessed July 11, 2017. ▶ <http://www.innovateus.net/innopedia/what-nielsen-rating-system>; Delo, Cotton. "Your Guide to Who Measures What in the Online Space." *Advertising Age* 82 (September 18, 2011): 1.

33 Brown, David. "Inferring User Interest." *IEEE Internet Computing* 5, no. 6 (November 2001): 35.

34 Cooley, Robert. "Web Usage Mining: Discovery and Applications of Usage Patterns from Web Data." *SIGKIDD Explorations* 18, no. 2 (January 2002): 13.

35 McDonald, Scott and James Collins. "Internet Site Measurement Developments and Print." Presented at *Worldwide Readership Research Symposium 2007*, Vienna, October 2007.

statement of its circulation, (a “Publisher’s Statement”). The ABC is responsible for auditing to verify the numbers and keep everyone honest. An ABC board typically consists of advertisers and advertising agency representatives, as well as newspaper and magazine representatives.

Even with audits, there have been regular instances of padding of circulation numbers. In

2004, Belo Corp., owner of the *Dallas Morning News*, as well as of other newspapers and TV stations, was investigated. It was found that the company had falsely reported numbers by counting, for example, unsold papers. This overestimated weekday circulation by 5.1% and Sunday circulation by 11.9%. The company had to refund advertisers \$23 million.

9.2.3.3 Case Discussion

Viacom Golden Years—Self-Reporting

Magazines self-report their circulation, subject to auditing of those numbers. Suppose that the *Golden Years* magazine had a verified test run in the New York State market for a three-month period (■ Table 9.1), accompanied by a regional promotional campaign.

Extrapolating nationally from New York State, the number of

subscribers in the USA would be about 133,000. Such an overall circulation, after strong promotion, is relatively low considering that *AARP the Magazine* has a circulation of 22.5 million.

Another observation is that, in Month 1, the rate of increase of subscribers was rapid, probably because the new product was being

promoted. It grew from 0 to 7000. In Month 2, subscribers increased to 8000, a much slower rate of growth. In Month 3, the increase was only 100. Circulation plateaued, and would likely even decline with the decline of magazines generally, although this decline would be somewhat offset by the rise in the number of retirees.

9.2.3.4 Measuring Film Box Office Sales

The measurement companies in the USA for film audiences are Exhibitor Relations Co. (ERC) and, in particular, Rentrak.³⁶ They record film ticket data by collecting box office attendance figures from theaters (i.e. the retailers) and issuing weekly reports to the news media. To make sure theaters are not misreporting the number of tickets sold, undercover checkers may be used who buy numbered tickets at the first and last shows at randomly selected theaters. The main criticism of this movie audience reporting methodology is that it is inaccurate. Anne Thompson, editor of *Premiere Magazine*, dismissed the numbers as “made up—fabricated—every week.”³⁷ For example, distributors tend to exaggerate the popularity of 3-D films (whose tickets are pricier.) Sunday figures are extrapolated from the Friday–Saturday figures, based on experience.

■ Table 9.1 Golden Years Magazine Circulation Reports (Schematic)

Golden Years magazine Circulation January–June, NEW YORK (3 issues)	Month 1	Month 2	Month 3
<i>Paid</i>	6,000	7,400	7,500
<i>Complimentary</i>	1,000	1,100	1,100
<i>Single copy sales</i>	0	0	0
<i>Total paid and verified circulation</i>	7,000	8,500	8,600

9.2.3.5 Point-of-Sale Measurement

For music, one must distinguish between different approaches to measurement. The first is to measure radio audiences and airplay. This has been discussed in the preceding section on user-level measurement. The second is the

36 Other major Hollywood market research firms are Marketcast (owned by Shamrock Capital). The French owned MPG closed down in 2014.

37 Shaw, David. “Tinseltown Spins Yarns, Media Take Bait.” *Los Angeles Times*. February 12, 2001. Last accessed July 11, 2017. ▶ <http://articles.latimes.com/2001/feb/12/news/mn-24444>.

provider-level measure of sales and of digital uploads.

In the old days of the music sales system, *Billboard Magazine* (or its equivalent in other countries) contacted a sample of selected retailers to create bestseller lists. Reporting was often inaccurate, merely rank-ordered rather than with full numbers, and susceptible to manipulation and favoritism. A vast improvement came about through the point-of-sale (POS) SoundScan System. Developed by Sound Data in 1987 and used by *Billboard* for its charts, it is a computerized data collection system with barcode scanning done by retailers. SoundScan claims to measure 85% of all music sales in the USA. Point-of-sale purchases are tabulated from over 14,000 US retail outlets, as well as mass merchants and non-traditional distributors such as online stores and venues.³⁸ It is also used by performing rights organizations so as to track royalties.

Nielsen acquired SoundScan in 1991. Nielsen also provides the related POS sales services BookScan and VideoScan. Video DVD sales, however, remain a more difficult number to do well. Distributors usually hype a film's initial DVD sales, but do not release periodic sales information thereafter.³⁹ Yet, such DVD sales information is important to actors, directors and writers for royalties and profit information. In consequence, talent agencies and management firms created research teams to check on DVD revenues. There are also specialized companies that work on DVD sales, such as Screen Digest.

9.2.3.6 Tracking Downloads and Uploads

Another way of measuring the sale of music is to measure uploads of music to users. In 2004, *Billboard* magazine introduced the “Billboard Buzz Top 25”, based not on sales or airplay but, rather, on the extent artists were being discussed by a selected sample of users.

Music download purchases from iTunes are known to Apple, of course, but are not reported

by the company outside of a “most popular” iTunes chart. SoundScan tracks online sales as well as online streams of music. Nielsen partnered with major online music sellers and streamers including Apple, Spotify, Beats Music, Google Play and Xbox Music to count songs downloaded and streamed online. In aggregating overall sales, online album sales are counted as a full sale, just as a physical CD or vinyl record. When a single track is purchased, it counts as 1/10 of an album sale. For streaming (i.e. from one of the services above), 1500 tracks streamed from the same album counts as one album sale.⁴⁰ Nielsen tracks video streamed from Netflix and other online video platforms by using the audio watermarks embedded in the videos. These are received by the Nielsen People Meters located in the sample households.

YouTube displays a counter on the page which counts the number of times a video is played. YouTube uses these views to put together “What’s hot” pages showing clips with large interest as well as weekly, monthly, yearly and all-time lists of the most viewed videos. Being highly popular creates prestige and bragging rights. Google also pays highly watched content providers a share of the advertising revenues associated with that content. Thus, for reasons of both ego and money, content providers have an incentive to drive up the visitor count. This can be done by promoting and pushing content, and by presenting the content and its links with sensationalist headlines or pictures to attract click-throughs and to encourage forwarding of the material over social media. This is known as “clickbait.” Websites can also buy views. Content providers on YouTube inflate their views by buying them from service providers such as YTView.⁴¹ The individual seeking clicks selects the service requested and its quantity. This can include “likes” or (even more problematically) “dislikes” (\$5.00 for 100 “likes”), comments (\$15.00 for 100 comments), subscribers (\$20.00 for 100 subscribers) and views (\$2.00 for 1000 views). Some sites use bots to browse the selected websites.

38 International Standard Recording Code. “What is SoundScan?” 2010. Last accessed July 11, 2017. ► <https://www.isrc.net/FAQ-Soundscan.php>.

39 Horn, John. “DVD Sales Figures Turn Every Film into a Mystery.” *Los Angeles Times*. April 17, 2005. Last accessed July 11, 2017. ► <http://articles.latimes.com/2005/apr/17/entertainment/et-dvdmoney17>.

40 MacNN. “Billboard, Nielsen tipped to track streaming music, video services.” November 20, 2014. Last accessed July 13, 2017. ► <http://www.electronista.com/articles/14/11/20/billboard.introducing.streaming.plays.digital.sales.into.album.chart/>.

41 Hoffberger, Chase. “I bought myself 60,000 YouTube views for Christmas.” *The Daily Dot*. January 3, 2013. Last accessed July 11, 2017. ► <http://www.dailydot.com/entertainment/how-to-buy-youtube-views/>.

9.2.3.7 Measuring Internet Website Traffic

Site-level measurement is basically a self-reporting system by the website (or by a hired service provider) about its visitor count. This method relies on software that records every time a page is requested.⁴² Site-level measurement has systematic measurement biases. These are the major problems of over-inclusion and under-inclusion. It over-counts because it repeats returning visitors. Users may be viewing from several devices and locations, or clear their browser caches, and would then appear as new users.⁴³ Conversely, the system under-counts cached pages and cannot distinguish multiple users on the same computer.

Websites try to get information about their visitors in several ways:

1. One way is often referred to as “packet sniffing.” It directly extracts usage data from the packets addresses.⁴⁴
2. Another way is setting registration requirements, with users identifying themselves; however, this does not work well because it requires an effort by users.
3. Using “cookies.” As mentioned, these are electronic tags of individual customers with a unique identification. Essentially, it allows a website to recognize an individual.⁴⁵ Many users refuse or delete cookies. Such users get counted as “uniques” by a server-centric system when, in fact, they are repeat visitors.⁴⁶

Site-centric measurement methods are preferred by website owners, in particular because they usually report a higher number of visits to the website.

Also, even small websites with a limited visitor count can show their traffic and its composition to advertisers. But there are other problems

which turn advertisers off. We already described the ways in which “clickbait” is provided and clicks are purchased from service providers who will, for hefty fees, drive up traffic. Other problems are:

- Often, measurements are made by the websites themselves.
- Even if third party companies handle the measurements, they are often biased in favor of their client.
- Demographic information is often poor.
- “Bots” are counted. Although there are filters that cut automated page requests, these filters can be easily defeated
- Websites try to attract traffic through various techniques of “search engine optimization” (SEO), but traffic gained in such a way is often fickle and uninterested.

Major companies in the USA that measure Internet audiences are Nielsen/Net Ratings, Media Metrix, Google DoubleClick, Adobe Omniture and Quantcast.

9.2.3.8 Advertising-Level Measurement

Advert-level measurement is a sub-category of site-level measurement. It counts the number of visitors to an advertisement. Click-through (CTR) software measures whether a user clicked on a particular advertisement and links it to its sponsor. This helps advertisers to measure the actual effect of an advert on many in a way that is unavailable to most TV and print adverts. It creates a payment structure based on success. With a high value placed on a user’s clicking on an advert, abuse was inevitable. Robots were used to create “hits,” and when they were filtered out, the websites that sought to inflate their click rate hired people from low-waged countries to create phony clicks all day.

9.2.3.9 Hybrid Web Measurement

The difference between third-party services (user-centric) and a site’s own server count (server-centric) is not only methodological, but also has concrete economic results. User-centric numbers were smaller and websites were therefore under-compensated by advertisers. This led to hybrid approaches by several companies.

42 McDonald, Scott, and James Collins. “Internet Site Measurement Developments and Print.” Presented at *Worldwide Readership Research Symposium 2007*, Vienna, October 2007.

43 Thielman, Sam. “Watching the TV Watchers: Companies jostle to measure network, online audiences.” *Variety*, January 12, 2001. Last accessed July 11, 2017. ▶ <http://variety.com/2011/digital/news/watching-the-tv-watchers-1118030108/>.


44 Nirsoft. “Description” 2011. Last accessed July 11, 2017. ▶ <http://www.nirsoft.net/utils/cports.html>.

45 Deck, Cary A., and Bart Wilson. “Tracking Customer Search to Price Discriminate.” *Electronic Inquiry* 44, no. 2 (April 2006): 280–295.

46 McDonald, Scott, and James Collins. “Internet Site Measurement Developments and Print.” Presented at *Worldwide Readership Research Symposium 2007*, Vienna, October 2007.

In 2009, to compromise between the approaches favored by websites and advertisers, comScore introduced a dual system. It added direct (site-centric) measurements which enables websites to count and register traffic directly. Such a combined measurement takes into account actual visits plus extrapolations based on the panelists' behavior. The two data streams are then triangulated using an algorithm to produce an estimate.

9.3 Analyzing the Data

We have looked at how to measure and collect data. The next step, using the flow chart of  Fig. 9.1, is how to organize and interpret it. The first step is to organize the raw data in a manageable way, to transform it into useful information. This is the basic approach of what is generically known as “business intelligence.” It was—and often still is—the major way to deploy data. A second and more ambitious step is to take this organized information and transform it into “knowledge” by subjecting it to analysis. One way to do so is in a *qualitative* fashion, by processing the information as people and organizations typically do, through judgment and experiences. This is “expert-based information processing.” The alternative path is a statistically-based *quantitative* approach of analyzing the data.

We now deal with the first element: the organization of data into information.

9.3.1 Transforming Data into Information—Audience Metrics

Organizing raw data in the media field results in audience metrics. There are several such measures developed, in particular for broadcasting.

9.3.1.1 Broadcast Metrics

Ratings, Shares, and Gross Ratings Points: The rating of a program is its share of the total audience. For example, a TV rating = viewers of a program ($\times 100$) \div TV households. In the United States, there are around 110 million TV households. If 22

million households watch the show *Grey's Anatomy*:

$$\text{Rating} = \frac{22 \times 100}{110} = 20$$

The next metric, “share” is also a market share, but only as applied to the consumers at that given moment. “Share” is the percentage of TV sets in use (or persons viewing) tuned to a program at its time slot, also known as HUT (Households using TV).

$$\text{Share} = \frac{\text{Viewers} \times 100}{\text{HUT}}$$

For example, if 66 million households watch any TV during the *Grey's Anatomy* time slot (= HUT). Then the share = 22 million HH $\times 100/66$ million HH (HUT) = 33.3.

The share is greater than the rating, since it is the percentage of actual watching households rather than of all potential ones. However, that also means that a program aired when hardly anybody is watching TV, such as at 5:00 am on a Sunday morning, may have a tiny audience (and rating) yet a high share.

Reach (or CUME): The CUME or “reach” measures the number of viewers, listeners, readers, or visitors who use a specific media product at least once per week.⁴⁷

Average Quarter Hour Audience (AQH): AQH is the average number of persons who listen to (or watch) a station or site for at least five minutes during a week. Example: Suppose that Radio Station #1 has a CUME of 20,000, which is high for the market, and an AQH of 150, which is low in that market. Interpretation: The station attracts large number of people but does not keep them and therefore has few listeners at any given time. The station seems to promote itself well but does not provide good programming to keep all listeners tuned in.

Average Frequency (AF) of Exposure: The AF is a calculation that uses some of the measure above. It shows how many times an advertisement must be played or shown so that the average user will be

⁴⁷ Search Microservices. “What is reach? - Definition from Whats.com.” Last accessed July 11, 2017. <http://searchsoa.techtarget.com/definition/reach>.

exposed to it a certain number of times, as desired by the advertiser's marketing plan. This frequency is the number of advertising exposures divided by the overall cumulative audience. The number of exposures is the number of advertisements times the average audience:

$$AF = \frac{\text{number of spots per week} \times \text{AQH}}{\text{CUME}}$$

To meet the target AF, one must have the Number of advertisement per week = $(AF \times \text{CUME})/\text{AQH}$.

For example, assume Radio Station #1 has an AQH of 150 and a CUME of 20,000. To obtain a desired AF of 3, the advertiser calculates the number of spots per week using the above equation: $(3 \times 20,000)/150 = (60,000/150) = 400$. The result means that it needs 400 advertising spots per week to reach the average listener three times. On the other hand, Radio Station #2 has an AQH of 2500 and a CUME of 10,000. To obtain an AF of 3, the number of spots per week is: $(3 \times 10,000)/2500 = 30,000/2500 = 12$. This indicates that, on Radio Station #2, one only needs 12 advertising spots per week to reach the station's average listener three times. This will be much cheaper because it is more targeted. However, Radio Station #1 will reach twice as many people overall because it has a higher CUME.

Number of Impressions: This is the number of times an advertisement is viewed, listened to, or displayed.

There are economic measures associated with audience metrics:

Cost per 1000 Impressions (CPM): Cost associated with 1000 views of content, video, audio, and so on.⁴⁸

9.3.1.2 Website Metrics

Websites count "users" or "unique visitors." Unique visitors are based on cookies that identify a user's computer. For online TV, the basic metric is "streams," which means the number of times the video is accessed during a time period (Nielsen uses +3 days from the live initial showing).

For online media, some of the audience metrics are similar to those of TV and radio. Others make more use of the capabilities of interactive media where users can be identified and counted:

- **Clicks.**
- **Click-through Rate (CTR):** Number of clicks divided by number of views of an advert or post.⁴⁹
- **Advert Views:** those may be substantially different from content views;
- **Total Reach:** Includes direct users and those shared by them with friends or as the result of clicking on an advert.
- **Organic Reach:** Total number of people who saw a post in a newsfeed or otherwise, but not as the result of an advert.
- **People Talking About This:** The total number of people generating stories during the past week about the post or content, which includes comments, likes, shares, offer claims, mentions and so on. This kind of metric measures the "buzz"—the number of people talking or writing about something (but not the number of people exposed to these messages).⁵⁰
- **Likes:** Facebook lets its users express their sentiment through "like," "love," "sad," or "angry." However, the "likes" of a company page do not represent how many people actually see the content of the page (number of views).⁵¹
- **# of Retweets:** Number of times an advert/Tweet has been "reshared" by another user.⁵²
- **# of Mentions:** Number of times a second user uses an earlier Twitter handle in one of his posts.
- **Link Shares:** Number of times a URL has been shared.
- **Follower Growth:** Growth of follower base.

48 AMA. "Dictionary." Last accessed July 11, 2017. ► <https://www.ama.org/resources/Pages/Dictionary.aspx?dLetter=C>.

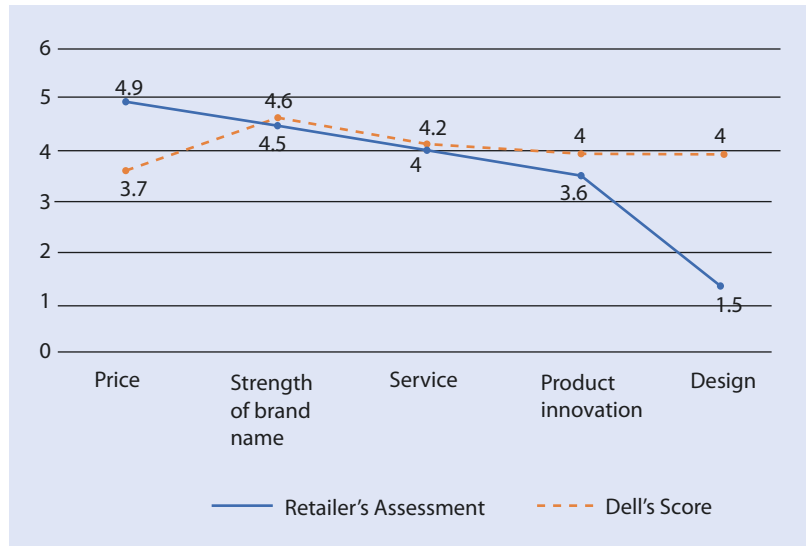
49 Google. "Clickthrough rate (CTR): Definition." Last accessed July 13, 2017. ► <https://support.google.com/adwords/answer/2615875?hl=en>

50 Bhandari, Rishi, Jonathan Gordon, and Andris Umblijs. "Getting beyond the buzz: Is your social media working?" *Financial Times*. Last accessed July 11, 2017. ► http://www.ft.com/cms/s/0/811df72c-c477-11e1-a98c-00144feabd00.html?ft_site=falcon&desktop=true#axzz4mYdPU7aR

51 Krug, Sammi. "Reactions Now Available Globally." *Facebook*. February 24, 2016. Last accessed July 11, 2017. ► <https://newsroom.fb.com/news/2016/02/reactions-now-available-globally/>

52 Egeland, Chad. "5 Metrics You Should Be Tracking on Twitter, But Probably Aren't." *Social Media Today*. February 7, 2015. Last accessed July 11, 2017. ► <http://www.socialmediatoday.com/content/5-metrics-you-should-be-tracking-twitter-probably-arent>.

Fig. 9.2 Comb Analysis: Divergences in Evaluating Product Factors by Dell and its Retail Distributors



There are also economic metrics associated with the audience metrics, such as:

- **Cost per Click (CPC):** Cost associated with each click on an advert.⁵³
- **Cost per Action:** Cost associated with each of the single actions that are monitored.⁵⁴

9.3.2 Transforming Information into Knowledge: Qualitative Analysis

The next step in the use of the data is the transformation of *information* into *knowledge*. One important way to do so is in a non-statistical way—instead, going through the judgment process of experts, both external and internal to the organization. They will make their judgment based on their own internal computation, experience and gut feeling. How can one use these expert judgments in a methodical way? We describe three such approaches: comb analysis, the Delphi methodology and opinion leaders' predictions and evaluations.

9.3.2.1 Expert Surveys: Comb Analysis

Retailers are closer to customers than a manufacturer. They are experts on buyers. “Comb chart analysis” is a technique for seeking the opinions of

the producer for the criteria most important to consumers regarding the selection of a product and comparing it with the opinions of the retailers.⁵⁵ For instance, if the computer manufacturer Dell wants to know why it is selling fewer desktops to the electronics retail chains than HP does, it could use a comb chart analysis. There are three steps. First, researchers ask the retailers to rate (e.g. on a scale of 1–5) the importance to its customers of various purchase criteria such as price, brand, reputation, service, product innovation and so on.

Figure 9.2⁵⁶ shows the retailers' evaluation of importance of Dell's score. The comb analysis indicates that Dell needs to lower its price—the most important purchase criterion. But it can also cut back on design and the cost associated with it.

9.3.2.2 Expert Surveys: The Delphi Methodology

The Delphi methodology was created in the 1950s by the RAND Corporation think tank. The goal is to reach consensus by experts on a certain topic. The Delphi method combines quantitative and qualitative data. It uses a group process consisting of about 10–15 experts. Anonymity is protected. The researchers solicit written responses to questions while preventing direct communication

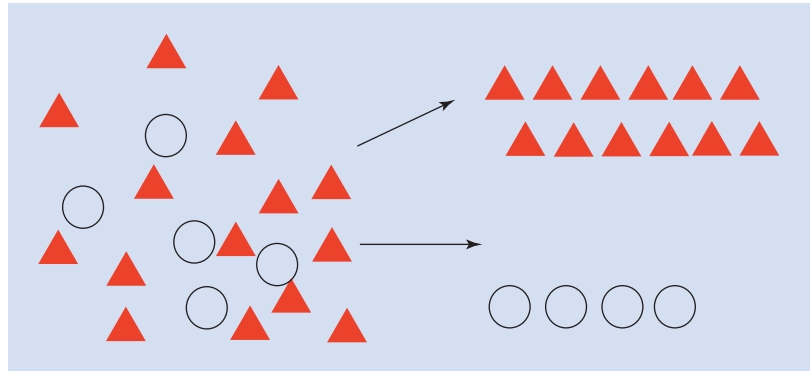
53 Google. “Cost-per-click (CPC): Definition.” Last accessed July 13, 2017. [▶ https://support.google.com/adwords/answer/116495?hl=en](https://support.google.com/adwords/answer/116495?hl=en).

54 Loomer, Jon. “How to Measure Facebook Advertising Success: Monitor These 5 Metrics.” *Jon Loomer Digital*, March 11, 2014. Last accessed July 11, 2017. [▶ http://www.jonloomer.com/2013/09/10/facebook-ads-metrics/](http://www.jonloomer.com/2013/09/10/facebook-ads-metrics/).

55 Koch, Richard. *The Financial Times Guide to Strategy*. London: FT Prentice Hall, 2000, 193.

56 Graph based on Koch, Richard. *The Financial Times Guide to Strategy*. London: FT Prentice Hall, 2000, 193.

■ Fig. 9.3 Organizing and Classifying the Data



among the respondents. In the first round of questions, questions have several answers with scores ranging from one to ten. In the second and subsequent rounds, participants are provided with information on how the group rated the same questions and a summary of comments made by each participant. Then, the participants receive the same questions again. The Delphi rounds continue until a predetermined level of consensus is reached or no new information is gained.⁵⁷

9.3.2.3 Surveying Trendsetters and Opinion Leaders

A third way to access experts is to survey the opinion of critics. Professional critics and reviewers are prime examples for opinion *leaders*, as well as *predictors*, of their respective audiences. Critics often function to represent the tastes of their audience and they are therefore “leading indicators” just as much as they are opinion shapers.⁵⁸

9.3.3 Quantitative Analysis: “Data Mining” —Overviews of Techniques

The next step in the quantitative interpretation of data is the transformation of “information” into “knowledge” through statistical techniques. This is described as “business modeling” or

“business analysis.” More popularly, it is known as “data mining.” This activity is a central part of what has become known (and feared) as “Big Data.”

There are several basic techniques for “data mining” in audience and market research. They are included in the software packages offered by companies such as Oracle, IBM, Microsoft, SAS and Statsoft. The purpose of this discussion is not to make you an expert in the use of these tools, but to give you a broad understanding of what they are and for what purposes they can be used.

9.3.3.1 Organizing and Classifying the Data

In this technique data gets segmented by category; for example, male or female, age, group, watching or not watching and so on, and its behavior is observed (■ Fig. 9.3).⁵⁹ This is similar in concept to the organization of data described above for the creation of basic media metrics.

9.3.3.2 Attribute Importance

This technique is useful for finding the factors that have the most influence on observed behavior (■ Fig. 9.4).⁶⁰ For example, the factors most likely to influence customers to purchase a certain product, or to respond to a marketing campaign. The technique works by considering each attribute and weighting its importance

57 Green, Jeremy et al. “Forecasting market demand for new telecommunications services: An introduction.” *Telematics and Informatics* 19, no. 3 (August 2002). Last accessed July 11, 2017. ► <http://www.sciencedirect.com/science/article/pii/S0736585301000041>.

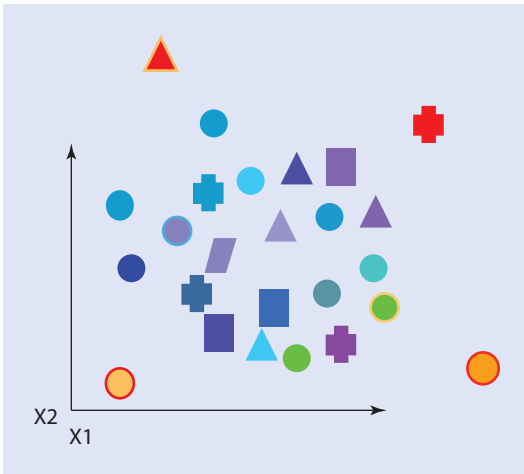
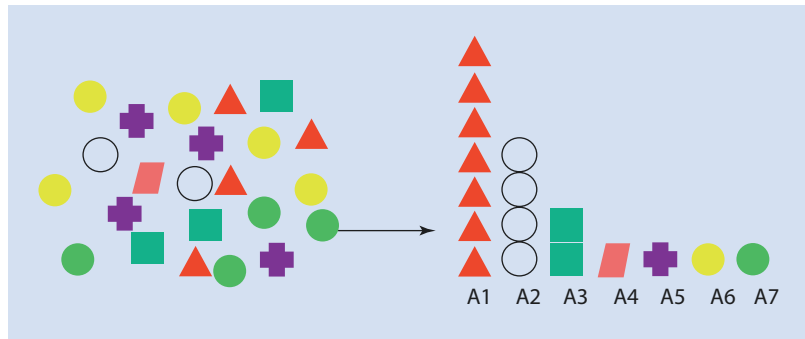
58 Eliasburg, Jehoshua, and Steven M. Shugan. “Film Critics: Influencers or Predictors.” *Journal of Marketing* 61, no. 2 (April 1997): 68–78.

59 Berger, Charlie. “Oracle Data Mining 11g Release 2: Competing on In-Database Analytics.” *Oracle White Paper*. February 2012. Last accessed July 13, 2017. ► <http://www.oracle.com/technetwork/database/options/advanced-analytics/odm/twp-data-mining-11gr2-160025.pdf>.

60 Berger, Charlie. “Oracle Data Mining 11 g Release 2: Competing on In-Database Analytics.” *Oracle White Paper*. February 2012. Last accessed July 13, 2017. ► <http://www.oracle.com/technetwork/database/options/advanced-analytics/odm/twp-data-mining-11gr2-160025.pdf>.

9.3 · Analyzing the Data

■ Fig. 9.4 Attribute Importance



■ Fig. 9.5 Anomaly Detection

against the other attributes. The factors are then ranked from strongest to weakest.

9.3.3.3 Anomaly Detection

This technique identifies unusual cases based on deviation from the norm. For example, an “outlier” point may merit attention (■ Fig. 9.5).⁶¹ It could be an error, flagging a needed change in the data collection. Or, it may help to identify a potential earlier adopter and innovator. Or, it points to someone who abuses the system, such as an identity thief.

9.3.3.4 Clustering

This kind of analysis helps to find groupings within the data which may represent customer segments. What are the customer categories that

are most likely to spend more than \$1000 per year on books? This kind of data analysis may help design different marketing approaches to different user categories.

To identify clusters, algorithms try to find a grouping of data at a point with a small distance among them, which means that they are similar. A “centroid” point represents the most representative point in a cluster (■ Fig. 9.6).⁶² The algorithm searches for “clouds of observations” where observations occur frequently and which are clearly distinct from other clouds by space between them in which no (or very few) observations occur.

9.3.3.5 Association

An association rule could be, “Given past choices of film viewing by a viewer category, a new film x may be expected to be chosen, with a certain statistical confidence.” This kind of analysis can be used to find cross-sell opportunities, with product A often associated with product B and indicating root causes of user behavior (■ Fig. 9.7). The associations that are identified can help design recommendations, promotions and product bundles.

9.3.3.6 Feature Extraction

The number of attributes or variables may be large. Statistical technique reduces them to underlying essential attributes. This results in a smaller number of variables (■ Fig. 9.8).⁶³ One such technique for feature extraction is principal component analysis (PCA). PCA aims to identify the main factors, for behavior, and identifies the vari-

61 Berger, Charlie. “Oracle Data Mining 11g Release 2: Competing on In-Database Analytics.” *Oracle White Paper*. February 2012. Last accessed July 13, 2017. ► <http://www.oracle.com/technetwork/database/options/advanced-analytics/odm/twp-data-mining-11gr2-160025.pdf>.

62 Oracle. “Data Mining Concepts.” Last accessed July 13, 2017. ► http://docs.oracle.com/cd/E11882_01/datamine.112/e16808/algo_kmeans.htm#DMCON238.

63 Berger, Charlie. “Oracle Data Mining 11g Release 2: Competing on In-Database Analytics.” *Oracle White Paper*. February 2012. Last accessed July 13, 2017. ► <http://www.oracle.com/technetwork/database/options/advanced-analytics/odm/twp-data-mining-11gr2-160025.pdf>

Fig. 9.6 Clustering

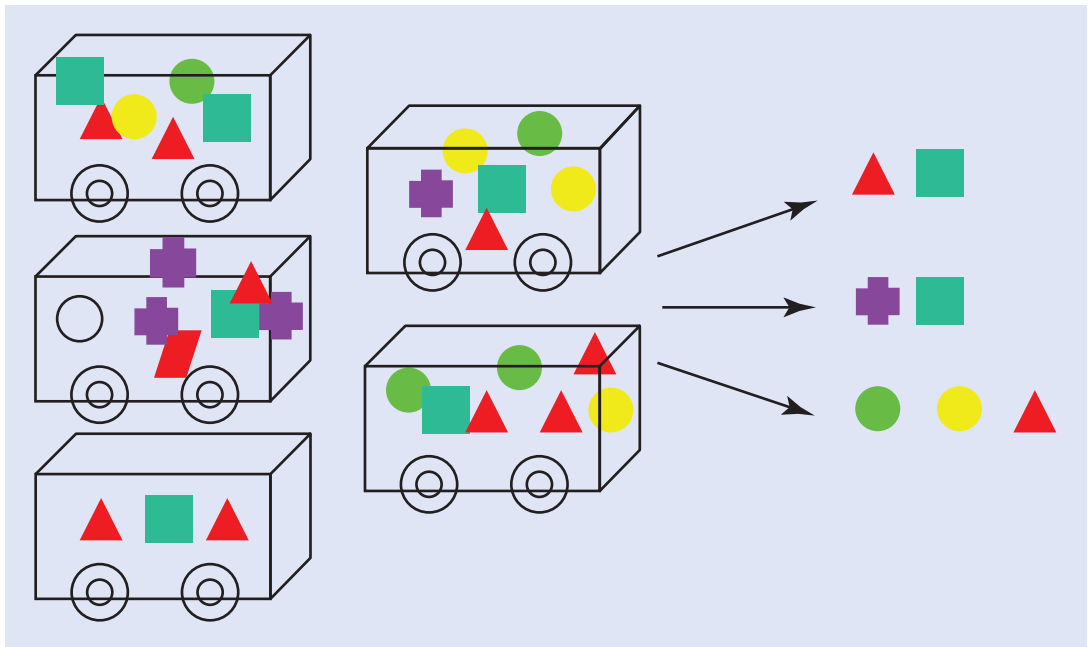
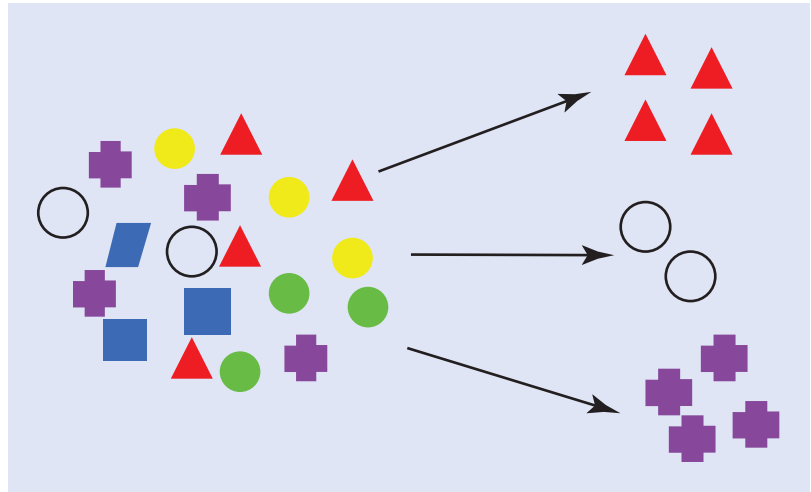


Fig. 9.7 Association

ables of a dataset which explain most of the variance in the data (Fig. 9.8).⁶⁴

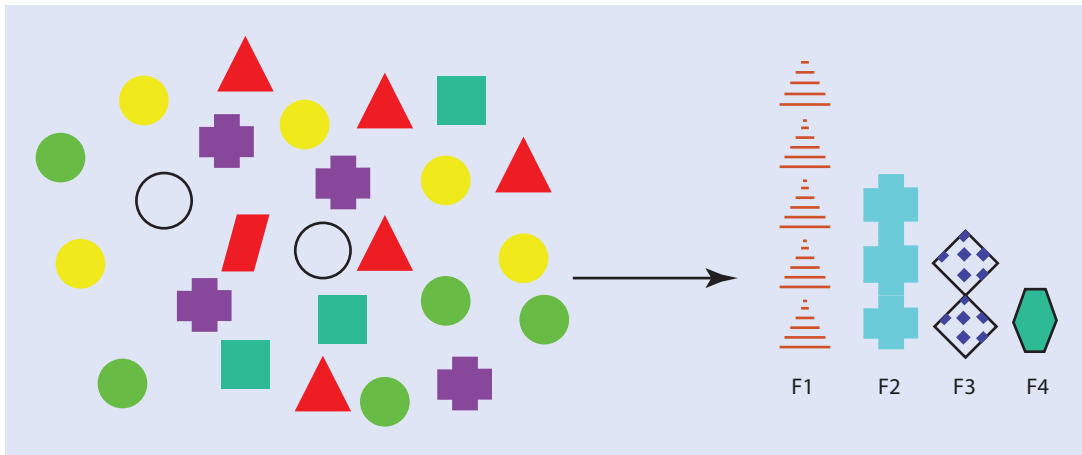
9.3.3.7 Correlation

This approach tries to find the inter-relationship among various factors, such as age and the frequency of watching a particular program. The

strength of the linear association between two variables is quantified by the correlation coefficient.⁶⁵ The correlation coefficient $\rho(x,y)$ takes a value between -1 and 1 : the larger (or smaller) the number, the stronger the correlation of the two variables. A $+1$ or -1 coefficient indicates perfect correlation (all points would lie along a

64 Berger, Charlie. "Oracle Data Mining 11g Release 2: Competing on In-Database Analytics." *Oracle White Paper*. February 2012. Last accessed July 13, 2017. <http://www.oracle.com/technetwork/database/options/advanced-analytics/odm/twp-data-mining-11gr2-160025.pdf>.

65 Berger, Charlie. "Oracle Data Mining 11 g Release 2: Competing on In-Database Analytics." *Oracle White Paper*. February 2012. Last accessed July 13, 2017. <http://www.oracle.com/technetwork/database/options/advanced-analytics/odm/twp-data-mining-11gr2-160025.pdf>.



■ Fig. 9.8 Feature Extraction

straight line in this case). A positive correlation shows a positive association, i.e. increasing the value of one variable corresponds to a higher value in the other variable; for example, the older the observed person, the higher the frequency of watching a given program. In contrast, with a negative correlation, the older a person, the lower the frequency of watching the program indicates no association between the variables. A correlation coefficient close to zero.

An example is the question as to whether there is a correlation between movie theater ticket sales and a film's budget. An analysis of almost 12,000 movies looked at each film's budget in relation to how many tickets it sold. While one would assume that a bigger budget—which brings with it better known movie stars, more special effects and so on—would result in high ticket sales, no such correlation was found.⁶⁶

9.3.3.8 Regression and Econometric Estimation

Regressions add more factors than a simple one-on-one correlation. The technique identifies how several factors explain the target variable and also the impact of other exogenous factors (■ Fig. 9.9).⁶⁷

Econometrics is an application of various regression techniques over several variables; typically using either cross-section observations over several people or firms, or a time series analysis over several time periods. It allows the synthesis of large amounts of information. It also provides a framework for a systematic analysis through explicit assumptions, which is known as “modeling.” An example is the explanation of how sales—which is known the “dependent,” or the “explained,” or the “left-hand” variable—are related to several “independent,” or “explanatory,” or “right-hand” variables such as price.

Given adequate data, an econometric technique can identify the key variables that may affect sales—price, advertising effort and so on. It uses “control variables” to adjust for factors that may have affected sales—such as the state of the economy, the growth of population, or the season.⁶⁸ One can also add demographic variables such as age, education and gender, or psychographic variables that reflect a buyer's lifestyle—such as their activities, interests, and opinions (known as AIOs):

$$\text{Unit sales} = a + b_1 \text{ price} + b_2 \text{ advertising} \\ + c_i \text{ control variables} + \mu$$

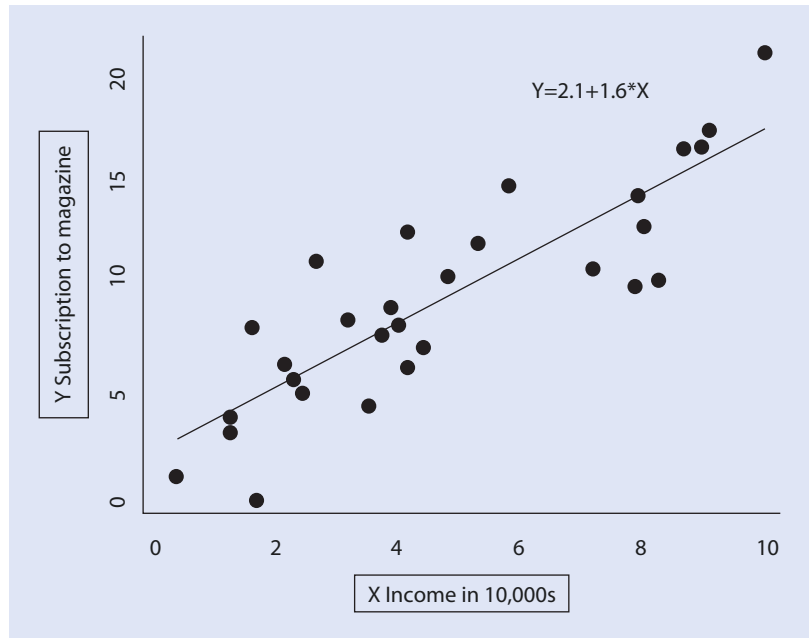
The a and the several b and c coefficients are parameters that are estimated in the regression.

66 Olson, Randy. “Does a bigger film production budget result in more ticket sales?” Randal S. Olson. December 29, 2014. Last accessed July 11, 2017. ▶ <http://www.randalolson.com/2014/12/29/does-a-bigger-film-production-budget-result-in-more-ticket-sales/>.

67 Statsoft. “Elementary Concepts in Statistics.” Last accessed July 11, 2017. ▶ <http://www.statsoft.com/textbook/elementary-concepts-in-statistics/>.

68 Nagle, Thomas T., and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 2nd ed. Hoboken: Prentice Hall, 1995.

Fig. 9.9 Econometric Regression Analysis: Magazine Subscriptions and Income



The μ is the unexplained residual, also known as the “error term.”

The most common form of a regression technique is called ordinary least squares (OLS). One can estimate OLS regression using readily available statistical software packages, e.g. STATA, SAS, EXCEL, or Minitab.⁶⁹ The analyst defines the variables and the model and inserts the data. OLS estimation results in parameter estimates for the coefficients b_1, b_2, \dots, c_i that best fit the data. The “best fit” is defined as the lowest sum of the squares of the difference between the actual value of the data and the value predicted by the equation when it uses the parameter estimates of the parameters.

A statistical measure known as the “R-square” reflects the overall fit of the model: the percentage of the observed variation in the dependent variable that is explained by the independent variables. An R^2 above 0.8 would indicate a fairly good fit of the model. The statistical significance of each individual coefficient is measured by the

“t-statistic.” The rule of thumb when interpreting results is that t-statistics must be greater than 2 (or -2) to be a statistically significant.

Often, relations among variables are not linear but, rather, exponential. For example, higher income may lead to higher consumption, but not in a linear fashion but rather that one consumes more in the same proportions as the increase in income. In such situations, a “logarithmic” model allows the determination of the exponential growth rates and other non-linear relations. For example, one could define a model as:

$$\text{Sales} = a(\text{price})^{b_1} (\text{advertising})^{b_2} (\text{other variables})^{b_i}$$

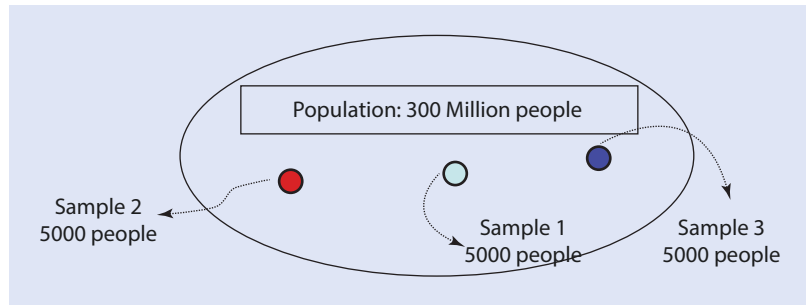
To calculate those parameters, a, b_1, b_2, b_i , one takes the natural logarithms (\ln), which transforms the exponential relation into a linear one, and then find the linear “least square” best fits:

$$\ln \text{sales} = \ln a + b_1 \ln \text{price} + b_2 \text{advertising} + b_i \ln \text{other variables} + u$$

The coefficients of the logarithmic models are mathematically the “elasticities”, or the “sensitivities” of the explained (or left-hand) variable “Sales” with respect to changes in the explanatory

69 Princeton University, Data and Statistical Services. “Interpreting Regression Output.” Last accessed July 11, 2017. ► http://ds.princeton.edu/online_help/analysis/interpreting_regression.htm.

■ Fig. 9.10 Sampling



(or right-hand) variables of price, advertising and so on.⁷⁰

As mentioned before, the elasticity of sales with respect to price (price elasticity) is defined as the percentage change in sales as a result of a percentage change in price. This can be expressed as:

$$\text{Price elasticity} = \frac{\% \text{ change in sales}}{\% \text{ change in price}}$$

When demand is said to be elastic, it means that a relatively small difference in price will affect the quantity demanded considerably. In contrast, where elasticity is low, it would take a relatively high change in price to make much difference in the quantity demanded.

Beyond the models described—the linear and the logarithmic models—there are many other specifications for econometric demand estimation that involve increasing complexity.

9.3.3.9 Statistical Inference: Sampling and Statistical Confidence

There are two ways to measure a target market. One can measure the entire group we are interested in. An example of this would an analysis of, say, all women aged 23–30. Alternatively, one could look at a smaller group, a “sample,” as a representative of the larger population.⁷¹ This is

cheaper, faster and more practical. But it may provide incomplete and unrepresentative coverage.

After choosing a sample and measuring its response, the researchers must address the question of how the sample relates to the overall population. Suppose one takes three independent samples of 5000 people from the the overall national population and asks all sample groups the same question: “Did you watch the Golden Age channel last week?” (■ Fig. 9.10). There is an excellent chance that each sample result will differ.

One would expect that the three samples would yield similar but not identical estimates. For example, we could find that for Sample 1: $p = 25\%$, Sample 2: $p = 27\%$ and Sample 3: $p = 24\%$. Which one is right? If we take a large number of samples, we would find that their results are distributed in a normal distribution around a peak, which corresponds to the true number.⁷² But finding that “true peak” will take considerable sampling and thus is not practical. Due to constraints of time and money, researchers typically take one sample and follow up with “inferential statistics” to state how certain they are of the result. 65%, 95% or 99% “confidence levels” are often chosen. One starts with the center of the distribution of the observed sample. One “standard deviation” from the center will include about 65% of all sampling results, two standard deviations will include about 95% and three standard deviations will include 99%. In other words, 95% of samples will lie within about two standard deviations from the observed sample.

70 AmosWeb. “Elasticity and Demand Slope”. 2000–2001. Last accessed July 11, 2017. ► http://www.amosweb.com/cgi-bin/awb_nav.pl?s=wpd&c=dsp&k=elasticity+and+demand+slope.

71 There are several types of samples. In a “random sample” each unit in the population has an equal chance of being selected. A “stratified random sample” is when one defines sub-groups and selects random samples from each sub-population group and pools them. A “convenient sample” uses accessible observations, for example choosing students on-campus for an academic marketing research study by a professor. The “judgment” sample is chosen according to the estimate of someone familiar with the characteristics of the overall population.

72 This follows the “Central Limit Theorem:” the true percentage of people watching a program will be at the peak of the distribution of the multiple samples.

A *z*-score (or “standard score”) is a statistical measure of comparing a single sample result to a data set that is normally distributed. It uses the standard deviation of the sample mean for comparison. A *z*-score can be calculated using the following formula:

$$z = (X - \bar{x}) / SD$$

where *X* is the observed value, \bar{x} is the sample mean and SD is the standard deviation of the sample.

For example, if the sample mean is 0.25, with a standard deviation of 0.02 for 5000 observations, there is a 65% chance that the true population mean is between 0.23 and 0.27 (one standard deviation from 0.25). There is a 95% chance the population mean is between 0.21 and 0.29 (two standard deviations) and a 99% chance it is between 0.19 and 0.31 (three standard deviations). The potential error, due to sample being “off,” is the term *e*:

$$e = z \sqrt{\frac{pq}{n}}$$

where:

- *p* = proportion that answered positively;
- *q* = (1-*p*), those who answered negatively.

Suppose these are the parameters:

- *p* = 0.25 (25% of sample watched the program);
- *q* = 0.75 (75% did not watch);
- *n* = 5000 (sample size);

and we chose a 95% probability, which means, from a table, that *z* = 1.96:

$$e = 1.96 \sqrt{\frac{.25 \times .75}{5000}} = 0.12 \text{ or } 1.2\%$$

If there are 100 million TV households in the USA, then the number of American HHs that watched the Golden Years channel last month, with 95% certainty, lies between 23.8 and 26.2 million (25 million ± 1.2 million).

This method works for questions requiring a yes/no response (e.g. watched/did not watch). However, it does not work well for continuous types of data, such as determining the average amount of time spent watching a particular program. For this type of calculation, one uses a related method.

Similarly to before, one estimates the mean of the population by finding the mean of the sample and adding/subtracting an appropriate margin of error. The confidence interval equation is as follows:

$$u = \bar{X} \pm e$$

where:

- *u*: mean of the population;
- \bar{X} : Mean of the sample;
- *e*: margin of error.

The margin of error (*e*) is determined by the standard deviation (SD) and the sample size *n*. The differences are that, instead of a “*z*-score,” one now looks up a “*t*-score” in a statistical table, and the numerator is the standard deviation:

$$e = t \left(\frac{SD}{\sqrt{n}} \right)$$

$$u = \bar{X} \pm t \left(\frac{SD}{\sqrt{n}} \right)$$

Like the *z*-score, the *t*-score is determined by the level of confidence (e.g. 0.90, 0.95, 0.99) that is desired and the sample size *n*. It can be found in the relevant tables by inputting values for *n* and *r*.

If Nielsen claims its measurement results are within the 95% confidence (*r* = 0.95), what does that mean? It means that if its study was repeated 100 times, then, in 95 of the cases the result would be in the stated interval.

9.3.3.10 Conjoint Analysis

Conjoint analysis—also discussed in ► Chap. 3 Production Management in Media and Information and in ► Chap. 11 Pricing of Media and Information—is another standard market research tool.⁷³ Conjoint analysis is used to measure the tradeoffs people make in choosing among products and services.⁷⁴ The foundation of this technique is the assumption that a product can be disaggregated into individual attributes. For example, a TV set has attributes such as size, price, style, picture sharpness, color and

73 Green, Paul E., and Vithala R. Rao. “Conjoint Measurement for Quantifying Judgmental Data.” *Journal of Marketing Research* 8, no. 3 (August 1971): 355–363.

74 Populus. “Conjoint Analysis.” Last accessed July 11, 2017. ► http://www.populus.com/files/Conjoint%20Introduction_1.pdf.

9.3 · Analyzing the Data

so on. The respondent is asked to choose between different levels of a pair of product attributes.⁷⁵ This enables the researcher to identify the value that a consumer attaches to each product attribute. The data are then analyzed with statistical tools and the utility of a consumer's relative strength of preference for each level of each product attribute is determined. The value of a product, it is assumed in this methodology, is equal to the sum of utilities to the consumer. This enables the researcher to predict the prices which the consumer would pay for various combinations of attributes in a product. It helps to set prices and target buyers, even before the product is developed. The methodology works best for products that are evaluated by consumers based on separable attributes. But this is often not the actual buying experience, because consumers often do not pay much attention to specific product attributes.⁷⁶

This statistical analysis is calculation-intensive, but computer packages are available that generate an optimal set of tradeoffs for each participant. The example concerning an MP3 Player presented in Table 9.2 shows how conjoint analysis attributes importance to products. Acceptance likelihood is calculated by adding up the sums of the

attribute level utilities contained in the product profile.^{77, 78}

9.3.3.11 Diffusion Models

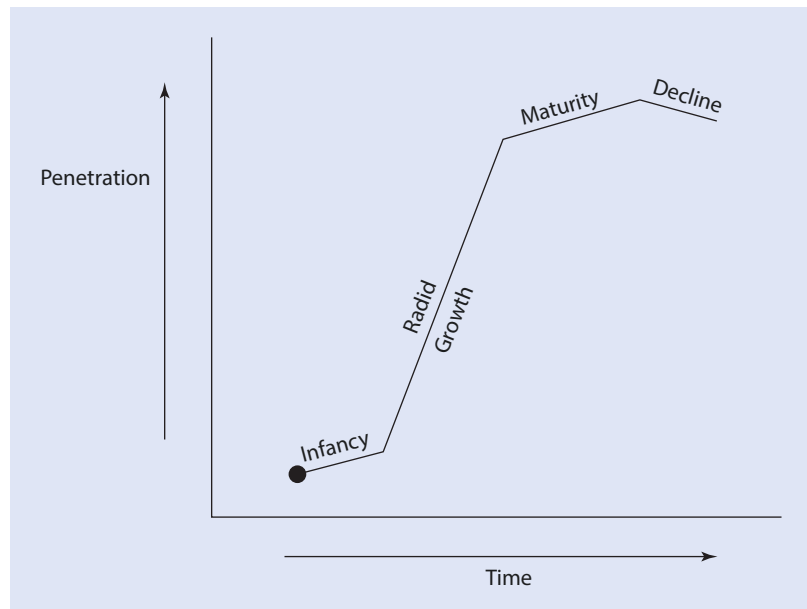
Generally, the adoption of a new product follows an S-curve pattern (Fig. 9.11). Such an S-curve helps to predict demand for a new product. Adoption rises slowly at first. It then accelerates as the pace of adoption picks up. In time, however,

Table 9.2 Conjoint Analysis Example: The Importance of Attributes of MP3 Players (Scale 1–10)

Quality	8.24
Styling	6.11
Price	2.67
User friendliness	7.84
Battery life	4.20
Customer service	5.66

Nagle, Thomas T., and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 2nd ed. Hoboken: Prentice Hall, 1995.

Fig. 9.11 Stages of Product Penetration



75 Nagle, Thomas T., and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 2nd ed. Hoboken: Prentice Hall, 1995.

76 Nagle, Thomas T., and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 2nd ed. Hoboken: Prentice Hall, 1995.

77 Populus. "Conjoint Analysis." Last accessed July 11, 2017. ► http://www.populus.com/files/Conjoint%20Introduction_1.pdf.

78 A conjoint analysis of cellphones is provided in ► Chap. 11, Pricing of Media and Information.

the market becomes saturated and the adoption rate of new users slows down.

$$\text{Cumulative sales} = \frac{a}{1 + be^{-kt}}$$

where t is time, and a , b and k are for saturation level and steepness and e is the base of natural logarithms, about 2.718.⁷⁹ This S-curve of adoption is called a “diffusion,” “logistic” or “epidemic model”. The latter term derives from the notion that a product will spread like a virus as it catches on.⁸⁰ Examples for diffusion are the adoption of smartphones, the audiences of a word-of-mouth hit movie, or the diffusion of Internet Protocol Version 6 (IPv6).

Different S-shapes occur with different parameters a , b , and k . One has to determine, from early data, what the parameters are, for a projection of the rest of the S-curve.

To find the acceleration inflection and the saturation level,⁸¹ and can compare the new product with an earlier and similar product. One can then use a “historical diffusion index” (HDI) to compare a product with a predecessor:

$$\text{HDI}_t = \frac{\text{Penetration } A_t \times 100}{\text{Penetration } B_t}$$

For example, compare the diffusion of DVD players to the diffusion of VHS video cassette recording players 15 years earlier. VHS was in 95% of US households in 2008, which was its maximum market demand. DVD was in 75% of households in 2008. This means that the $\text{HDI} = (75 \times 100) / 95 = 79\%$. Thus, the DVD market in 2008 was still 21% below its potential, measured by VHS. The VCR reached a 75% penetration after 12 years, while DVD took only 6 years. Hence, the DVD penetration rate was two times faster than that of VCR. The VCR took 4 years to rise from 75% to 95% and, assuming that DVDs maintain their penetration pace, it was likely to

take another $4/2 = 2$ years to reach 95%. One can make similar comparisons of DVD with Blu-ray DVD. However, it was quite possible that consumers do not greatly value high-definition over standard-definition quality, or that they shift to on-demand online video, and both diffusion speed and maximum market demand for Blu-Ray may therefore be lower. And that is what, indeed, happened. Thus, the problem with the diffusion approach is that there are many differentiating variables and they make comparisons among products unreliable.

The Bass Diffusion Model is a way to predict the gradual penetration of a product. It is discussed in ► Chap. 10, Marketing of Media and Information. The model has been widely used in marketing forecasts, especially for new products and technology.⁸²

9.3.3.12 Autonomous Data Mining

The various data mining techniques can be applied in two ways: “supervised” and “unsupervised” learning. In supervised learning, the data analyst identifies a target attribute and several variables, sets the questions for the data, and then the program finds the strength of relationship, categories and other features. In contrast, in unsupervised learning the analyst does not specify target attributes; there is no particular association, or even a goal. Instead, the data mining program will find associations and clusters in the data by itself, if such exist.⁸³

9.3.3.13 What to Do with Data Mining?

Beyond methodology, there are two larger questions regarding data mining of audience preferences and behavior:

1. Does it really work?
2. Does it work too well? (The “creepiness” factor).

Examples of the application of data analysis are everywhere. For example, the music industry tracks the performance and potential of music

79 McBurney, Peter, Simon Parsons, and Jeremy Green. “Forecasting market demand for new telecommunications services: An introduction.” *Telematics and Informatics* 19, no. 3 (2002): 225–249.

80 Wilson, Ralph. “The Six Simple Principles of Viral Marketing.” *Web Marketing Today*, February 1, 2005. Last accessed July 11, 2017. ► <http://www.wilsonweb.com/wmt5/viral-principles.htm>.

81 Carey, John, and Martin Elton. “Forecasting demand for new consumer services: Challenges and alternatives.” *New Infotainment Technologies in the Home: Demand-Side Perspectives*. Mahwah, NJ: Lawrence Erlbaum Associates, 35–57.

82 The model makes several simplifying assumptions:

- The market potential remains stable over time.
- The model is binary; that is, it assumes that a customer either adopts or does not adopt an innovation.
- Market and product characteristics have no influence on product diffusion.

83 Berger, Charlie. “Oracle Data Mining 11 g Release 2: Competing on In-Database Analytics.” *Oracle White Paper*, February 2012. Last accessed July 13, 2017. ► <http://www.oracle.com/technetwork/database/options/advanced-analytics/odm/twp-data-mining-11gr2-160025.pdf>.

9.4 · Conclusions and Outlook

instantaneously from data on streaming and downloading. The information generated by digital platforms such as Spotify and Twitter is analyzed for insights. Labels can see which songs perform with various audiences and the behavioral patterns of those audiences.

This being part of marketing operations, stories of accomplishment are well-publicized. Yet, it is important not to be swayed by anecdotal stories of success. In other instances, there have been outright failures.⁸⁴

Google Flu: Google tried to use big data information (specifically, user searches of symptoms) to predict and analyze trends for the flu faster than the Centers for Disease Control (CDC). For a while, the company received highly favorable publicity.⁸⁵ In subsequent years, however, Google's methodology could not identify flu outbreaks reliably.

2016 US Presidential Election: All big data analytics showed that Hillary Clinton was going to win the election, with a high certainty. Yet, this did not happen.⁸⁶

9.4 Conclusions and Outlook

9.4.1 Case Discussion

Viacom Golden Years—Conclusion For the Cable TV Channel Golden Years, What Do We Find?

- A Delphi study confirms the experts' overall view that there is room and demand for such a channel. Delphi experts believed in the potential in a market, niche, and expected about three hours of weekly watching.
- Focus groups show an active support for the concept.
- Nielsen results shows that senior-oriented channels have fairly substantial audiences: Fox News ranked #4 among cable channels, History Channel #5, Nick at Nite #11, AMC #12, TV Land #22.
- A Simmons market survey found in test marketing among viewers of the Golden Years channel a viewing of 120 minutes \pm 3 for a week.
- An econometric analysis shows that the likelihood of subscribing to the Golden Years channel is positive and significant with age and income, with sports and news programming, rural location and a female household. Audience surveys and advertising-based mea-

asures show a strong demand by users of the Golden Years channel (and users of the Golden Years website) for travel, drugs and insurance. These are large markets for advertisers.

- A diffusion analysis shows a likely slow but steady growth in audience.
- Focus groups and surveys (mall, phone and follow-up) confirm demand.
- Conclusion: Viacom should go ahead with the Golden Years channel based on demand analysis, but subject to an analysis of cost.

For the Golden Years Magazine, What is the Evidence?

- Test marketing in New York State shows ABC national audited circulation figures of about 133,000 subscribers, and demand experiments with differentiated subscription offers show an optimal circulation of about 120,000.

Both figures are low, and unlikely to generate a profit.

- Demographic trends (seniors) are favorable but, in general, magazine circulation and advertising are in decline.
- Conclusion: Given the various negatives, and considering that Viacom has no experience as a magazine company, it should not proceed with the magazine. (This assumes that the magazine does not generate significant spillover benefits to the GYC cable channel or to the web portal that would justify it to function in the role of a "loss leader.")

For the Website Golden Years Portal, What is the Evidence?

- From site-based Google Analytics data, Viacom finds that the 65+ years cohort is fairly low in visitor count.
- Conclusion: The trends suggest growth potential. Because the return rates and page views of

84 McGlohon, Mary. "Data Mining Disasters: A report" Last accessed July 11, 2017. ► <http://www.cs.cmu.edu/~mmcgloho/pubs/accidents-sigbovik08.pdf>.

85 Leber, Jessica. "The Failures of Google Flu Trends Show What's Wrong with Big Data." *Fast Company*. March 13, 2014. Last accessed July 11, 2017. ► <https://www.fastcompany.com/3027585/the-failures-of-google-flu-trends-show-whats-wrong-with-big-data>.

86 Lohr, Steve, and Natasha Singer. "How Data Failed Us in Calling an Election." *New York Times*. November 10, 2016. Last accessed July 11, 2017. ► <https://www.nytimes.com/2016/11/10/technology/the-data-said-clinton-would-win-why-you-shouldnt-have-believed-it.html>.

visitors are solid, Viacom should take a chance with growth potential and go ahead with the Golden Years web portal.

Should Viacom Modify the Content of the Golden Years Channel?

- An econometric study shows strong positive correlations of its content with sports and news/documentaries. There were also correlations to romance and a

female audience. These are also a positive effect of late-night programming. Programming decisions should take these preferences into account.

- A conjoint analysis found that consumers base 72.3% of their decision to subscribe on price, 39.6% on the number of films per day, 18.2% on discount coupons, but a negative 3% on easy listening hours. Therefore, Viacom should avoid easy listening hours on the Golden

Years channel and increase the frequency of films per day. Viacom should also lower the cable channel price, since users seem to be very price sensitive.

- For the Golden Years website, the audience research found that there was an unexpectedly large interest in the 55–65 year cohorts. This suggests editorial and pricing policies to attract and keep such viewers who are still outside the core 65+ target group.

9.4.2 Challenges in Audience and Market Research

This should be the golden age of demand research. Many of the data constraints of the past have been lifted, and data processing and distribution have become easy and cheap. But, even with better tools, it is much harder to do demand research today than in the past. It is harder to estimate demand for new products and services in a rapidly changing environment, with fragmented audiences, much greater choice and shorter attention spans.

9.4.2.1 Challenge #1: Coordinating and Integrating the Several Data Flows about Users

Media firms want to know who they reach across the various distribution platforms, and advertisers want to know the total reach of a campaign. Networks providing content need to demonstrate the reach of their program, regardless of when it was watched and on what platform. Industries seek measurements that cross the boundaries of platforms, devices, time, and location of usage. This is technologically complex, expensive to develop and hard to operate reliably in real time.

To be effective in measuring across platforms requires a presence by measuring companies on these platforms, or at least close partnerships. This strengthens measurement companies that operate in several media segments. There are significant economies of scale, economies of scope, and network effects that,

together, generate advantage to market leaders such as Nielsen, ComScore and, potentially, Google.⁸⁷

9.4.2.2 Challenge #2: Individualization

The logic of increasingly targeted audience research is to drill down to the individual. The collection technology is capable of individualization and can track individual media behavior, rather than broad aggregates, and to do so for an individual's overall media consumption. This means a device that people carry with them, probably a smartphone app of some sort, that can identify media watermarks in the digital flow of information, regardless of the platform or location in which they are received.

The trends go in that direction. Cellphones have been used in media measurement beyond their role in measuring their own usage as media devices. Researchers can use specially adapted mobile phones to measure what TV programs consumers watch.

On top of that, smart phones are increasingly used as payment devices. Thus, location, transaction, media consumption and personal information could be correlated. One could then measure, in real-time, the effectiveness of advertising, promotions, and differentiated pricing.

There are significant privacy issues here. There are also important questions on whether individualization means that some consumers will get

⁸⁷ Google. "TV, Digital, & Marketing Mix Modeling." Last accessed July 11, 2017. ► <https://www.google.com/analytics/attribution/features/>.

better deals than others. The airline model of highly differentiated pricing will spread. It also means that some of the content will be individualized, and that the concept of the mass audience served by mass media and measured in highly aggregate ways will become anachronistic.

9.4.2.3 Challenge #3: The Globalization of Media Audience Research

The third challenge is the internationalization of media consumption and supply, and hence of measurements. Nielsen is active in over 100 countries. It also provides a measurement base that is generally accepted by partners to apply to transactions based on those numbers. Similarly, Google's measurements operate for numerous countries' users and websites.

9.4.2.4 Challenge #4: Restrictions on Data Collection and Use

Many countries have enacted privacy laws that restrict the collection and use of individual data. In addition to affecting the practices of audience research, these laws vary greatly. European countries are more concerned with the use of individual data than the USA, or many Asian countries. In the past, the practices of data collection and analysis were shielded by being aggregate and anonymous. With individualization, however, this will cross into personal identification. Thus, as technology is becoming more powerful in collection, interpretation and dissemination, the legal rules will create a significant pushback.

9.4.2.5 Challenge #5: Creation of New Research Methodologies

In the past, data collection methods had been inaccurate and slow. Given the relatively leisurely collection methods, analytical tools were similarly sluggish. On top of that, most of the academic demand models could not even be realistically applied in a business setting. They included variables and information that were not available in a way that could satisfy the rapid operational needs of companies.

Today, we have moved from data shortage to glut, and the main problem is how to analyze the data effectively and rapidly. It is here that social and behavioral scientists need to make progress,

and it is here that media audience practitioners and media academic researchers must collaborate.⁸⁸ In the near future, the tools of online tracking will permit a real-time observation of overall audience, global aggregations, large samples, customer individualization and the tracking of their consumer behavior. This will add power to data collection. But how is that data used? Current methodologies are limited.

Today's audience research instruments, described in this chapter, are probably just the beginning of the development of next generation tools that will utilize, in much more advanced ways:

- Behavioral research;
- Audience instant feedback;
- Trendsetter tracking;
- Cross-cultural sampling;
- Online and mobile tracking;
- Social network analyses;
- Internet-of-things sensor networks.

9.4.2.6 Challenge #6: Semantic Mining and Unstructured Data

The ability to combine structured data with unstructured material—that is, “text”—is an important frontier for media and audience research.⁸⁹ There are no strong methodologies to integrate non-quantitative “fuzzy” information. For example, social media tweets, blogs and so on are analyzed and combined with structured Nielsen data to extract more information about audience views of a program. Companies have been using Twitter and Facebook as means for finding demand for their products as well as the view of their brands.

9.4.2.7 Challenge #7: Integration with Managerial Decision Making

Collecting data and transforming it into information and knowledge is one thing. Making it operationally useful inside media organizations is another. New data products may not be known to or utilized by the media manager and creators, or are resisted since it might affect their content making decision.

88 Noam, Eli. “Research Demands on Demand Research.” In *Telecommunications Demand and Investments: The Road Ahead*. Eds. James Alleman et al. New York: Springer, 2014.

89 Berger, Charlie. “Oracle Data Mining 11 g Release 2: Competing on In-Database Analytics.” *Oracle White Paper*. February 2012. Last accessed July 13, 2017. ► <http://www.oracle.com/technetwork/database/options/advanced-analytics/odm/twp-data-mining-11gr2-160025.pdf>.

9.4.3 Conclusion

Demand analysis becomes more important:

- The greater the uncertainty;
- The greater the upfront investment;
- The greater the economies of scale and network effects;
- The more competitive alternatives there are;
- The shorter the product cycle.

Is the determination of audience preferences—demand analysis—a “bean-counting” by uncreative minds, a tool for pandering to audiences rather than for leading them? A manager should not make the choice between creative “gut” judgment and qualitative analysis. If used effectively, they are complementary.⁹⁰ The avant garde media manager may be three steps ahead of the audience, too far for popular success. The conventional media manager follows the audience by one step in effect, letting audience research make content decisions. The moderately successful media manager is probably one step ahead, using audience research as a starting point. And the successful innovator can be two steps ahead, with a creative understanding of the audience, market and society, plus research to lower the risk.

Reliance on the “gut feeling intuition” of single-minded entrepreneurs and of internal advocates can be the most expensive way to learn. If a film has a cost of \$50 million with a 20% probability grossing \$250 million, then improving the odds to 22% by smarter demand analysis raises expected profits by \$5 million, or 10%.

And, therefore, we should disagree with Goldman’s classic Hollywood adage that, “nobody knows anything.” Of course, nobody knows everything. But one can improve the odds on getting it right, and that is enough for a competitive advantage. Understanding one’s audience is a relatively cheap investment with a high return. Demand analysis is the key to improving the odds.

We are just at the beginning.

9.5 Review Materials

Issues Covered

We have covered the following issues in this chapter:

- Why market and audience research is important, but particularly difficult, for media firms;
- How media companies organize themselves to perform market research;
- How the data collection technology and methodology impacts business decisions;
- The ways to collect data at the user level and from the provider;
- How to apply techniques for data mining analysis;
- The techniques of data mining for demand analysis;
- How audience research is becoming globalized;
- The business impacts of collection methodologies;
- Why new research methodologies will be needed in the future;
- Whether media managers should be driven by demand numbers.

Tools Covered

We used tools for demand and market research:

- Automatic metering;
- Controlled and uncontrolled experiments;
- Personal interviews;
- Panel data use;
- Surveys (mail, phone, Internet);
- Focus groups;
- Mobile research;
- Self-reporting and auditing;
- Click-counting;
- Measuring Internet traffic: site-level measurement, user-level measurement and user-centric measurement;
- Audience metrics (ratings, CUME, AQH, average frequency of exposure);
- Statistical inference, sampling and confidence intervals;

⁹⁰ Holden, Reed, and Thomas Nagle. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. Hoboken: Prentice Hall, 2001.

- Correlation coefficient;
- Econometric demand estimation;
- Epidemic models of diffusion;
- Delphi and comb analysis;
- Audience model-building;
- Feature extraction (e.g. principal component analysis);
- Clustering;
- Conjoint analysis;
- Attribute importance;
- Anomaly detection;
- Nielsen and Arbitron methodologies;
- POS measurement into issues.

8. Propose how to conduct demand experiments for a new video game console.
9. If a magazine publisher considered publishing a new business magazine for college students, describe techniques to see if there was a demand for such a magazine. What would be the pros and cons of each technique?
10. How can a website company measure the audience engagement with its product? What are the advantages and disadvantages of various techniques?

9.5.1 Questions for Discussion

1. Since the 1980s, media technology has led to a fragmentation of audiences on many levels. Is there still something that can be called “the mass audience”?
2. *Fashion and Food* is a new magazine on upscale shopping. How can one determine who will be interested in the magazine?
3. How can Internet research enhance a film distributor’s knowledge about the audience and demand for a particular movie?
4. What kind of data is needed to enable a media firm to use regression analysis to predict demand and potential sales for a mobile phone? A book?
5. How can qualitative audience measurements help television broadcasters?
6. Describe how a laptop manufacturer would use the conjoint analysis technique to design and market its product. At which stages should this technique be used?
7. Compare the usefulness of a Delphi survey with a survey of the general public. When would you use each one?

9.5.2 Quiz

1. Which of the following media require the least participant collaboration for audience research?
 - A. Radio.
 - B. Internet.
 - C. Television.
 - D. Books.
2. A banner advertisement is a type of:
 - A. Active advertising exposure.
 - B. Passive advertising exposure.
 - C. Click through.
 - D. Target advertisement.
3. Which of the following is *not* a tool to forecast demand for new products?
 - A. Consumer surveys.
 - B. Producer surveys.
 - C. Comb analysis.
 - D. Z-score.
 - E. Historical analogy test.
4. What is an audience “share”?
 - A. The percentage of time each family member spends watching TV.
 - B. The percentage of TV sets in use (or persons viewing) tuned to a program.
 - C. The number of TVs in a household.
 - D. The amount of time spent watching a TV program.
 - E. The percentage of TV sets per town.

- 9
5. When should management utilize the Delphi methodology?
 - A. To predict the future of a product.
 - B. To compare purchase criteria with the producer's opinions.
 - C. To study "network effects."
 - D. To gain the opinions and suggestions of experienced experts on audience needs, attitudes and priorities.
 6. What method should management use to compare its products with those of a competing firm?
 - A. Metcalfe's law.
 - B. Log-file analysis.
 - C. Comb analysis.
 - D. Audience metrics.
 7. What should the management of a motion pictures firm ask itself in order to estimate demand for a movie?
 - A. Does the genre cater to overlapping audiences?
 - B. What was the demand for movies with the same actors, genre, or director?
 - C. How many times was the movie trailer viewed via the Internet?
 - D. What is the lifecycle for similar movies?
 - E. All of the above.
 8. Which of the following is *not* a problem of user-centric Internet audience measurement?
 - A. Click fraud.
 - B. Meters are "black boxes" and require industry validation.
 - C. Small sites are at a disadvantage.
 - D. Poor site diagnostics.
 9. The management of a new magazine would most likely use which of the following techniques to measure its circulation?
 - A. Folio 400 reports.
 - B. Direct mail test.
 - C. Self-reporting.
 - D. Surveys.
 10. Why is audience research important for media firms?
 - A. To know how many people are utilizing their products and services.
 - B. To know who and how many people are reached by their products and services, and what the audience actually wants.
 - C. To estimate future profits.
 - D. To study audience demographics.
 - E. All of the above.
 11. What are the problems of econometric demand estimation?
 - A. Insufficient and unreliable data.
 - B. Need to assume a specific mathematical model for relationship between price and sale.
 - C. Predicting the future requires assumption that behavior is the same as in the past.
 - D. If specification is incorrect, the results will be incorrect.
 - E. All of the above.
 12. Which statement is right about the problems with econometrics models?
 - A. The models estimate elasticities exactly.
 - B. Econometric models are good at forecasting future performances.
 - C. Results rarely turn out to be statistically significant.
 - D. Econometric models often face methodological problems of how to interpret the results.
 13. Which of the following is not a reason why advertisers distrust site-centric data?
 - A. No demographic profile information is given.
 - B. All page requests, regardless of whether from a work-based or a home-based computer, are included.
 - C. Pages sent from web servers are not necessarily received.
 - D. Returning users are counted.
 - E. A, C and D.

14. Under what circumstances would one apply a conjoint analysis?
- A. If the company wants to predict the overall brand perception and acceptance based on familiarity and how much the brand is liked.
 - B. To identify the potential market for a product and contrast the position of competitive products according to their target demographics.
 - C. To illustrate and predict how a new product will be accepted by the population.
 - D. If the company wants to vary the product attribute mix according to estimated customer preferences in order to add value to the customer perception of the product.
15. What is the correct order of the data use methodology?
- A. Data collection -> Problem definition -> Data analysis -> Knowledge deployment;
 - B. Problem definition -> Data collection -> Data analysis -> Knowledge deployment;
 - C. Data collection -> Problem definition -> Knowledge deployment -> Data analysis;
 - D. Knowledge deployment -> Problem definition -> Data collection -> Data analysis.
16. Which of the following is a characteristic of the Conjoint analysis?
- A. It assumes a rational buying process where a typical buying experience constitutes of aggregating the value of individual attributes to make a purchasing decision.
 - B. It is calculation-intensive.
 - C. It is a market research tool.
 - D. It predicts the prices which the consumer would pay for different attribute combinations.
 - E. All of the above.
17. What are challenges in audience and market research?
- A. Different data privacy laws in different countries.
 - B. Applying and using data resources by media managers.
 - C. An increasing fragmentation of audiences.
 - D. All of the above.
18. What data mining technique refers to segmenting data by category?
- A. Clustering.
 - B. Organizing and classifying data.
 - C. Attribute importance.
 - D. Feature extraction.
19. If two filmmakers would want to fine tune their movie, what data collection would they be most likely to use?
- A. In-person surveys.
 - B. Production focus groups.
 - C. Marketing focus groups.
 - D. A laboratory experiment.
20. What is Business Intelligence (BI)?
- A. BI refers to the process of organizing raw data in a manageable way and to transform it into useful information.
 - B. BI is the analysis of organized information and transforming this information into knowledge.
 - C. BI describes qualitative data analysis.
 - D. BI refers to the whole data analysis process that includes raw data transformation, further quantitative analysis tools mixed with qualitative ways of judgment.

Quiz Answers

✓ 1. B

✓ 2. B

✓ 3. C

✓ 4. B

✓ 5. D

✓ 6. C

✓ 7. E

✓ 8. C

✓ 9. B

✓ 10. E

✓ 11. E

✓ 12. D

✓ 13. E

✓ 14. D.

✓ 15. B

✓ 16. E

✓ 17. D

✓ 18. B

✓ 19. B

✓ 20. A



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10.1 Marketing: General

For years, the sky was the limit for the information sector. Information became cheap, global, and plentiful. Information products became faster, smaller, and more widespread. Information industries became convergent, competitive, and innovative. But after 2000, the media and information industries experienced a series of calamities: the dot.com bubble, the telecom crisis, the music bust, the cable-TV cord-cutting, the e-publishing's lack of monetization, the PC and consumer electronics sales drop, the semiconductor boom-and-bust, and the newspaper implosion. In this stressful environment, how do firms respond? The situation is a major challenge for strategists, technologists, and content creators. But also it is in particular a challenge for marketers, who are called upon to keep their companies afloat by generating sales. Of course, marketing has always been important in media. A Hollywood saying goes: "There are no bad movies, only bad marketing campaigns." But an environment of supply glut, limited attention to go around, shortening product cycles, and price deflation has made the task harder than ever. It is therefore not surprising that the importance of media marketing has increased by leaps and bounds.

What do we mean by media marketing? One must distinguish two very different meanings:

1. The marketing of products generally, *using media*. For example, the promotion of cornflakes or automobiles on television or on websites.
2. The marketing *of media* and media-tech products themselves.

We will focus on the second meaning, the marketing of media, but often make connections that apply to the first.

In this chapter we will learn what marketing is: the 4 Ps (product, pricing, placement, and promotion); the use of word-of-mouth; the advertising system; how to set the advertising budget; how to allocate among media types; how to promote to advertisers; how to use the Internet for marketing; and how to analyze marketing performance.

10.1.1 What Is Marketing?

Marketing is the process of creating a demand for a firm's products. This is not just a modern activity. It goes back to the mists of history, ever since farmers and artisans tried to interest others in their products. Advertising, a major component of marketing, already existed in Ancient Egypt, Greece, and Rome. By the 1600s, advertisements were regularly printed in newspapers.¹

Marketing vs. distribution These two terms are often used interchangeably but they are really different. Marketing is the creation of the market. Distribution is the delivery of the product to the market.

Marketing vs. sales Marketing is the strategic and planning function, the creation of awareness and interest in the product, and the setting of pricing. The sales function executes the strategy through deals with customers and outlets. Sales and marketing activities are closely coordinated, with a feedback loop from salespeople based on their experience with customers. Marketers, in turn, use the information to improve products and marketing plans.

Upstream marketing vs. downstream marketing

In the marketing of media, there are two fundamental directions of activity:

1. Marketing of media products to audiences (downstream);
2. Marketing of media outlets to advertisers (upstream).

Typically, media firms must market in both directions—upstream and downstream.² This is a major difference to the marketing of most other products, where marketing is purely downstream. However, this duality is spreading to other industries as firms add advertising for third parties their products.

1 Eyre, Rachel and Michael Walrave. *The Media Communications Book*. New York: Oxford University Press, 2002.

2 Several media industries had only limited upstream marketing to advertisers, for example recorded music, telecom networks, and consumer electronics devices. However, one of the effects of the migration of many media activities to online connectivity has been to add advertising dimensions to these media.

10.1.2 The Marketing Function: Structure and Organization

Most companies have someone in charge of the marketing function with a title such as “chief marketing officer” (CMO) or, in the case of smaller firms, “director of sales and marketing.” The CMO reports to the CEO and typically oversees vice presidents of sales and of marketing, and often of customer relations, and marketing communications. He or she manages and coordinates marketing operations, creates a budget, plans and manages the marketing department, and integrates marketing decisions and activities with the business strategy. For the upstream sale of advertising by a media company, the person in charge has a title such as “vice president of advertising,” “associate publisher/advertising director,” “advertising director,” “national sales manager,” or “sales manager.”³

CMOs live dangerously. Their tenures are short because they often take the blame if revenues are disappointing. The average CMO tenure in the USA was measured as 22.9 months, in contrast to the much longer 53.8 months of the average CEO.⁴ In Brazil, similarly, the average CMO tenure is 26 months. On a positive note, marketing executives tend to be relatively mobile across firms and industries.

In the past, marketing operations were often organized by geography (e.g. “California; East Coast; Asia”). Later, marketing departments became composed of brand managers who were focused on a particular product and its success. Taking the next step, marketers also focused on customer relationships and on categories of customers. Account managers were established as the single point of contact with major accounts, selling them the entire range of products and services, and across regions. An emerging fourth dimension is marketing on particular platforms, such as “digital marketing.” Firms often combine these dimensions in a matrix system that combines regions, products, customer classes, and platforms.

10.1.3 How Does the Marketing of Media Products and Services Differ from Regular Marketing of Other Products?

The marketing of media has many similarities to general marketing but there are also special aspects:

- For most products, revenue is generated by sales to end-users or intermediate distributors. In the media industry this is not the case. Media products are often *given away rather than sold* to identifiable users. Broadcast TV, radio, free and online newspapers, and website information are examples.
- As mentioned, there is *often a simultaneous “two-sided” marketing* that involves content being pitched to audiences for their attention and audiences subsequently pitched to advertisers.
- Low marginal costs and high fixed cost provide *strong economics of scale*. They create incentives for investment in marketing campaigns ahead of the market in order to build market share. In addition, many marketing activities, such as advertising or PR, have scale elements themselves and hence favor large firms. To advertise nationwide rather than locally is less expensive, especially if transaction costs are factored in.
- It is frequently *difficult to exclude unauthorized consumption*—e.g. piracy—and it is hard for marketers to “compete with free.”
- Often, there is a *short product cycle* and a short marketing window (for theatrical films only a few weeks).
- *Changing distribution technology* creates numerous new distribution channels and fragmentation of markets, often moving away from the mass audience to a “long tail.” This creates thin and specialized audiences, requiring specialized marketing.⁵ At the same time, greatly reduced costs of transmitting information over distances leads to global rather than local markets.

3 Daly, Charles P., Patrick Henry, and Ellen Ryder. *The Magazine Publishing Industry*. Needham Heights, MA: Allyn & Bacon, 1997.

4 ANA/Booz Allen Hamilton. “Marketing Department Priorities Often Differ From CEO’s Agenda.” October 11, 2004. Last accessed on May 10, 2010. ► <http://www.boozallen.com/publications/article/659394>.

5 Anderson, Chris. “The Long Tail.” *Wired*. October 1, 2004. Last accessed July 12, 2017. ► <https://www.wired.com/2004/10/tail/>.

- *Unique products.* Media products are often unique one-shot productions. As a film marketer noted, “if we release twenty-eight films, we need to create twenty-eight different audiences and twenty-eight different marketing campaigns.”⁶
- A special complicating factor is that *some media industries are in secular decline.* From 1950–2000, newspaper penetration in the USA declined from 38 to 24% of the population. Circulation increased by 19%, but the population was up 70%. After 2000, strong declines in absolute terms began, driven by online-based news, totaling by 2016 to a loss of about one-third of circulation.
- There is especially *high uncertainty and instability of demand* for content. Users often do not know, articulate, or communicate their preferences well. Many products are “experience goods” which are hard to sample in advance by consumers.
- Many *products are “intangible”*; that is, they are not physical objects but ephemeral.
- There is a *skewed distribution of success.* The top five products in many media segments can generate between one and two-thirds of revenues, although they may represent a tiny fraction of the total number of products released.⁷ There has been a large increase in the number of product makers. Success is increasingly rare in statistical terms. Compared to 1998, fewer than half the new releases make it to the bestsellers lists, reach the top of audience rankings, or win a platinum disc.
- There are *strong “network effects.”* Preferences of users are often shaped by the usage of others. The demand for some products depends on the supply of other products. Network effects are often fad and hit driven.
- The excess supply of information, together with a low marginal, leads in competition to a *price deflation* near marginal cost levels. That price does not cover the full cost of

production. Therefore, the product must be strongly differentiated from those of rivals, since price competition would be ruinous.

10.1.4 Limited Attention

Perhaps the most significant special aspect of marketing of media to audiences is a huge *excess supply*. There are a significant and growing number of competing products in the media market. The more efficient distribution technology is, the faster this cumulative process advances. It is the challenge of marketers to deal with the huge abundance of products. Marketing of media therefore means *competing for consumers’ time/attention budget*, not only their money budget. And the more efficient the distribution technology, the greater this overabundance and competition for “mind share.” While supply is growing exponentially, the demand is growing much more slowly, due to limitations of attention, time, and budget. This raises the intensity of competition in a predictable trend. Fragmented audiences mean greater marketing efforts are needed. In 1965 in the USA, 81% of women aged 18 to 34 could be effectively reached with three TV advertisements. By 2000, 97 were needed,⁸ and the number keeps rising.

The mismatch with content supply and the relatively static attention time increases the marketing effort required to gain attention for one’s products. Marketing costs for the average Hollywood movie climbed from \$12 million in 1991, to \$22 million in 1997, to \$31 million in 2001, and to \$35 million in 2006. (The Motion Picture Association of America subsequently stopped reporting these figures.) For some films, marketing expenses were easily double that.

Thus, the most fundamental problem for marketing media is the rising competition for attention: there is increased creation and production of information, and thus a growing competition for scarce attention. This leads to rising costs for seeking attention for media products. The result is a squeeze: a price deflation for media products,

6 Epstein, Edward Jay. *The Big Picture, the New Logic of Money and Power in Hollywood*. New York: Random House, 2005.

7 Aris, Annet. *Value-Creating Management of Media*. Hoboken: John Wiley & Sons, 2005.

8 Aris, Annet. *Value-Creating Management of Media*. Hoboken: John Wiley & Sons, 2005.

but at the same time a cost inflation for the marketing of these products. This price/cost squeeze is the fundamental problem for media marketing. It is partly alleviated by the greater need for all other industries to gain attention, and that often requires a higher advertising volume, which benefits those media companies that are platforms

for such advertising. Such advertising, however, is declining in price in terms of per unit cost, due to the increased supply to advertisement placement opportunities.

For these reasons and others, marketing is particularly important in the media and information field, and it is particularly difficult.

10.2 Case Discussion

Condé Nast's *Fly & Sky* Magazine

Throughout this chapter we will follow the marketing strategy of a major media company Condé Nast for a new hypothetical magazine project called *Fly & Sky*.

Condé Nast is owned by Advance Publications, a privately held company controlled by the Newhouse family. In 2015, Advance Publications took \$8 billion in revenue and had 25,000 employees. It has a wide diversification of media including 25 newspapers plus, cable channels, and magazines. It owns 87 cable TV systems (under the banner of *Bright House*), with two million households. A three-way consolidation merger with Time Warner Cable and Charter communications in 2016 created the second largest cable company in America, in which the Advance/Newhouse partnership owns a 14% stake.⁹ Advance also owns 12 TV stations, 40 city business journals, and free newspapers. Advance also controls the online social news sites Reddit, Backchannel, and Ars Technica.

When it comes to magazines, Advance owns Condé Nast (founded in 1909 and acquired in 1959) and Fairchild Publications (founded in 1892 and acquired in 1991 from Disney). These two mag-

azine groups were consolidated in 2005. It also owns, since 1995, the magazine group American City Business Journals with its over 40 regional magazines.

Magazines are one of the least concentrated segments of the information industry. Entry barriers are relatively low. Magazine companies have multiple titles, and magazines are increasingly specialized. There are sizeable revenues from high-priced copies at the newsstand but most sales are by subscription. The industry is moving fast into e-publishing. Overall, the market for magazine publishing has declined, however.

Condé Nast's magazine title line-up is sprawling. Perhaps best known are *The New Yorker*, *Vanity Fair*, *Vogue*, and *Wired*. Others include women-oriented magazines such as *Allure*, *Brides*, *Elegant Bride*, *Glamour*, *Modern Bride*, and *Teen Vogue*. Condé Nast is less strong in men's magazines. Perhaps the biggest success in male-oriented magazines is *Hemmings Motor News*, which is an 600-page(!) monthly magazine heralded as the "bible" of car collectors with its guides, almanacs, extensive classifieds section, and

website. Its headquarters is in tiny and remote Bennington, Vermont. *Hemmings* reaches 210,000 subscribers plus 50,000 readers at newsstands, selling at \$6 per copy. The *Hemmings Motor News* website includes the classified ads, product directories, car clubs, a parts locator, T-shirts, memorabilia, and access to customer service.

Hemmings has been successful despite modest beginnings. Terry Ehrich, a Harvard-educated businessman, bought *Hemmings Motor News* in 1969, when it was making \$250,000 annually and selling around 30,000 copies. It is now making more than \$20 million annually and sells over 250,000 copies a month. It includes around 20,000 pages of advertisements per year.¹⁰

Condé Nast is now considering (in our hypothetical) the launch of the new magazine *Fly and Sky* in order to increase its male readership, a magazine with a focus on aviation. Its goal is to duplicate the success of its *Hemmings Motor News*. What marketing strategy and efforts should Condé Nast undertake to make this new magazine successful?

9 James, Meg. "Charter completes purchase of Time Warner Cable, Bright House." *Los Angeles Times*. May 18, 2016. Last accessed July 5, 2017. ► <http://www.latimes.com/entertainment/envelope/cotown/la-et-ct-charter-time-warner-cable-20160517-snap-story.html>.

10 Kiener, Robert. "Hitting on All Cylinders – Hemmings Motor News – Brief Article." *Nation's Business*. June 1999. Last accessed June 20, 2012. ► http://findarticles.com/p/articles/mi_m1154/is_6_87/ai_54695735/.

10.3 Product Design

The field of marketing is full of easy-to-recall catchphrases and terminology. Among these are the “4 Ps” of marketing:

- Product;
- Positioning (or placement);
- Price;
- Promotion.¹¹

We will discuss these four dimensions sequentially as applied to the media and information sector. We begin with product design.

Even if the marketing is creative, it must be promoting a distinct and attractive product to be successful over the long run.¹² An effective product leads a firm out of commoditization space, which enables higher prices. However, it carries a higher risk, a potentially large development cost, and a higher chance of consumer disfavor. Originality is one dimension of a new product. It may make a product “cool,”¹³ convenient, or effective. But originality must also deal with the fact that familiarity is comforting. New products have therefore a broader appeal if they are familiar in style, appearance, or operation to previous products.

In the past, product design was “supply-side” oriented, from the producer/creator to the user. This was classically expressed by Henry Ford, who proclaimed that a customer for his cars “can have any color that he wants as long as it is black.” Production efficiencies rather than marketing demands set the tone. The opposite approach—a “demand-side” orientation—was to cater purely to the preferences of the market. In time, product design became increasingly an interactive process of both supply and demand considerations. Technology product companies created “MTS-circles” (marketing-technical-sales) where engineers and designers accompany sales and

marketing people on their customer visits in order to understand the users of their products and their needs.

Taking one step further, customers provide their input into the design process directly. Traditionally, surveys, focus groups, and test marketing have been used. More recently, online social platforms have been used for feedback. A fundamental problem for users to have a meaningful input they must judge unfamiliar products. In response, the founder of Sony, Akio Morita, stated “We don’t believe in market research for a new product unknown to the public ... so we never do any. We are the experts.”¹⁴ Steve Jobs of Apple similarly disdained consumer surveys for new products. This is not to say that he ignored consumers. His view was that a product should have its own style and identity. He kept fussing over minor aspects of packaging that seemed unimportant to pure techies. The goal was to elevate the product into an experience.

The integration of product creation and marketing has its limits when the creators themselves are being drawn into the marketing orbit. Newspaper publishers came up with the concept of the “total newspaper,” attempting to coordinate editorial and business departments with each other in order to create an audience-oriented newspaper.¹⁵ Stories and topics being covered, it was hoped, would reflect audience interests more closely than in the past when editors and journalists selected them. But most journalists believe that integrating marketing into the editorial side is bad for newspapers and magazines’ quality and credibility, and hence harms brand reputation.

10.3.1 Statistical Tools for Product Design

Given the great uncertainties about media products, companies have looked for statistical tools

11 Ehmke, Cole, Joan Fulton and Jayson Lusk. “Marketing’s Four P’s: First Steps for New Entrepreneurs.” *Purdue Extension*. May 2005. Last accessed July 12, 2017. ▶ <https://www.extension.purdue.edu/extmedia/ec/ec-730.pdf>.

12 Eastman, Susan, Douglas Ferguson, and Robert Klein, eds. *Media Promotion and Marketing For Broadcast Cable and the Internet*, 5th ed. New York: Focal Press, 2006, 217.

13 Lamb, Charles W., Joseph F. Hair, and Carl D. McDaniel. *Marketing*. Cincinnati, Ohio: South-Western College Publishing, 1996.

14 Cooper, Lee G. “Strategic Marketing Planning for Radically New Products.” *Journal of Marketing* 64 (January 2000): 110.

15 Dennis, Derrick. *Media Management in the Age of Giants*. Hoboken: Wiley-Blackwell, 2003.

for identifying product designs that improve the odds of success. For example, there are models to forecast box-office performance based on the past track record of actors, directors, and sub-genres. This might help in the selection and design of films or TV series. However, to date these models have not worked well, or else the success rates for new films and TV shows would be more impressive.

For other products and services, the method of conjoint analysis is used in planning the design of a product. Conjoint analysis is a statistical technique for analyzing customers' responses to the various features of products. It is based on the tradeoff that surveyed individuals reveal for various features of a product. (For a discussion of conjoint analysis, see ► Chap. 9 Demand and Market Research for Media and Information Products.

10.4 Product Positioning

The positioning of a product into the market is an essential factor for demand. Positioning is the way a company wants customers to think about its brand versus that of the competition. To position a product it must understand the market and its customers. The methods for accomplishing this goal are several and varied: test marketing, retailer surveys, historical analogy, surveys/sampling, focus groups, psycho-physiological tests, automated sample metering, recording of sales, lab experiments, econometric data analysis, conjoint estimations, and others. They are discussed in ► Chap. 9 Demand and Market Research for Media and Information Products.

Positioning is becoming increasingly important as mass production for mass markets gets partly substituted by specialized products for niche markets. Positioning can be “hard” (based on concrete technological features) or “soft,” based on image, or a combination of the two.

Technology industries tend to favor a “hard” type of positioning. Content industries favor the “soft” approach.

The challenge to marketers is to establish the positioning identity through early adopters who will then put the followers at ease. An example is how the Japanese videogame console maker positioned Nintendo's Wii consoles. Nintendo's strategic goal for Japan was to position the Wii as a game platform for the living room instead of the teenager's bedroom. The key to do this was to reach women. The company then recruited so-called “alpha moms” who were invited to play together with their friends. They were not video game players but could be influential within their communities. The alpha moms' comfort level with the Wii, coupled with their credibility as non-professionals, quickly generated a viral takeoff of the device.

In positioning a media product it is often important to concentrate on a particular niche market and to target the company's resources. Many radio stations do so by identifying a single listener type that its employees should always keep in mind when working on programming or promotion. For example, the programming and promotion staff of the station would describe their target audience as “Tiffany,” a hypothetical 22-year-old recent college graduate, who works in the public relations department of a major company. “Tiffany” is single but would like to have a family in the future, lives in an apartment with a room mate, enjoys music and the outdoors, is comfortable in casual clothing, and is a member of a health club. For the radio station, “What would Tiffany think?” is a key question in any discussion.

This approach is a short hand for a company to identify its “unique selling point” (USP) for positioning. In what ways is its product essential, different, and believable? To be differentiated from rival offers is usually important in order to avoid being in a “commodity” market.

10.4.1 Case Discussion

Condé Nast—Positioning Fly & Sky

Condé Nast must shape an image or identity for the magazine, a process known as “product positioning.” Who are the rivals? Where are the under-served market niches?

There are at least 28 competing aviation magazines on the subject of amateur flying, just in the USA. On top of that, there are about 40 aviation magazines for commercial and military pilots, airline and airport managers, and aircraft designers and manufacturers. Plus, aviation magazines from other English-speaking countries aimed at an international readership.

What Condé Nast needs to do is to decompose the market for aviation magazines and its

components (■ Fig. 10.1) and look how well-served by other magazines these segments are.

The bars represent different use types, such as student pilots and helicopter pilots. For each category the bars show its size as well as how well it is served by existing magazines, and the share of the leading magazine. Looking at this figure, the market for serious pilots (military, airline captains, professional service pros, etc.) seems saturated. But the market for non-flying “adventure buffs” is under-served, as is the market for pilots who fly for fun on weekends. The market thus leaves room for those serving aviation enthusiasts who are looking for adventure

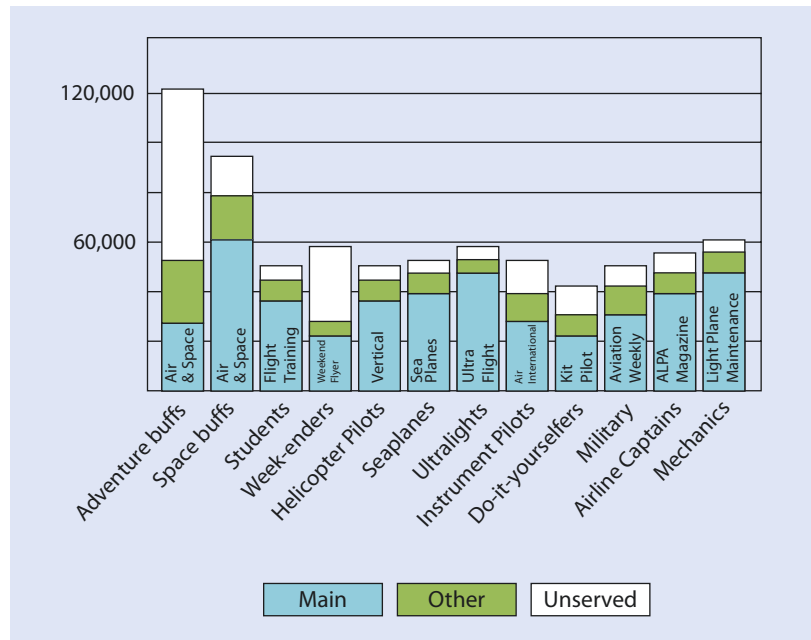
fantasies, or who fly only occasionally for recreation. These are overlapping customer groups that Condé Nast can consider attracting.

In designing such a new media product, Condé Nast may visualize the target *Fly & Sky* reader as a hypothetical “Larry” and position itself to serve him:

- He is 43 years old;
- He owns a computer store in Denver;
- He loves biking, scuba, and snowmobiling;
- He would like to get a pilot’s license and take his family backwoods camping, but is too busy;
- So right now he’s dreaming.

10

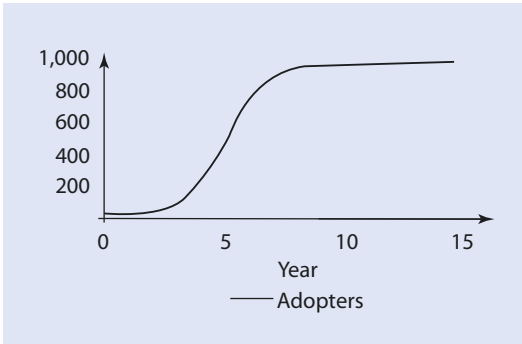
■ Fig. 10.1 Coverage of reader segments by major magazine



10.4.2 Demand and Audience Analysis

An important task is to estimate the size of the market in which one operates, and what realistic sales goals would be. The *Bass diffusion model* is

a way to predict the gradual penetration of a product. The model was introduced by Frank M. Bass in 1969 and has been widely used in marketing forecasts, especially for new products and technology.¹⁶ It postulates that the penetration of a product over time depends on two



■ Fig. 10.2 The Bass model: diffusion of adoption

major factors and their interaction: external influences such as advertising, and internal influences such as word-of-mouth. The basic premise of the Bass model is that adopters can be classified as innovators or as imitators, and the speed and timing of adoption depends on their magnitude.

The model specifies the number of users according to an equation, which in simplified form is

$$N(t) = \left[p + \frac{q}{m} N(t-1) \right] [m - N(t-1)]$$

where:

- $N(t)$: the number of present time buyers;
- $N(t - 1)$: the number of previous time buyers;
- m : the estimated market size.

The two key variables of the Bass diffusion model are:

- p : the coefficient of innovation (accounting for external influences such as marketing/advertising)
- q : the coefficient of “imitation” (internal influences within the group, e.g. word-of-mouth effects).

The average value of p is 0.03 and often less than 0.01. The average value of q is between 0.3 and 0.5.¹⁶ The model identifies T^* as the maximum rate of adoption:

$$T^* = \frac{1}{(p+q)} \times \ln\left(\frac{p}{q}\right)$$

For example, using the values for $p = 0.03$, $q = 0.38$, the maximum rate of adoption T^* would be about 1 million and would be reached in about six to seven years. (See ■ Fig. 10.2).

10.4.3 Case Discussion

Condé Nast's *Fly & Sky*—The Bass Diffusion Model

According to the US Census Bureau, the population of American males aged 22 to 55 is about 74 million. Assume that 2% of this demographic group is interested in aviation. Thus, the potential market for the magazine is:

$$m = 2\% \times 74 \text{ million} = 1.48 \text{ million}$$

We assume that the parameters of innovation and imitation are the average values found for other products, $p = 0.015$, $q = 0.20$.

Suppose that in Year 1 the number of subscribers $N_1 = 0.8$ million. Accordingly, the remaining market potential is $m - N_1 = 1.48 \text{ million} - 0.8 \text{ million} = 0.68 \text{ million}$.

The estimated new subscriptions of *Fly & Sky* in the next period ($t = 2$) are then:

$$\begin{aligned} N(t) &= \left[p + \frac{q}{m} N(t-1) \right] [m - N(t-1)] \\ &= \left[0.015 + \frac{0.20}{1.48} (0.8) \right] (0.68) = 83,710, \end{aligned}$$

an increase of about 10%. Earlier, when subscriptions were at a level of 200,000, the model predicted an annual rise of about 54,000, a growth of 27%, i.e., it was accelerating at a faster rate.

10.4.4 Competitor Analysis

In order to position one's product, one must understand the appeal and identity of one's competitors. Competitor analysis is discussed in more detail in ► Chap. 14 Strategy Planning in Media and Information Firms.

10.4.5 Branding

“Positioning” is done through the product's design, its pricing, but also through its *branding*. The brand of a product is its positioning identity to consumers.

16 The model makes several simplifying assumptions: the market potential remains stable over time; and the model is binary. That is, it assumes that a customer either adopts or does not adopt an innovation; market and product characteristics have no influence on product diffusion.

17 Sultan, Fareena, John Farley and Donald Lehmann. “A Meta-Analysis of Applications of Diffusion Models.” *Journal of Marketing Research* 27, no. 1 (1990): 70–77.

Effective branding has several advantages to the producer. It:

- Creates differentiation instead of commodification;
- Permits pricing at a premium;
- Simplifies consumer choice, projects credibility, creates consumer loyalty;
- Communicates quickly;
- Provides a weapon to counter retailer power.

Brands are especially important for media products where users do not have much information and search costs are high. Here, branding applies to a set of technology products, a bundle of content, a bouquet of publications, or an entire medium. Newspapers brand themselves as a news source with credibility¹⁸ and research has shown that trust raises circulation.

Branding usually involves a name, a logo, a distinctive look, and so on. Logos are often joined with taglines, such as that of pay-TV provider HBO: “It’s not TV, it’s HBO.” In Brazil, the major TV network is Rede Globo which has a distinctive logo showing the world’s globe; every Globo-affiliated TV station, as well as many of its newspapers and magazines, use it.

Another managerial question is how consistent the brand image should be across a sprawling enterprise. There are two views. The “centralized brand” view argues that firms must project a consistent image across product lines, divisions, and countries. This leads to a push for brand consistency (same color, logo size, price policy.) To maintain and enforce such consistency, an internal “brand auditing” then emerges, in which the corporate center of a company seeks to make sure that uniformity is maintained.

In the other perspective, large companies accept differentiated branding across its different parts. For example, the media companies Viacom and Bertelsmann have weak overall brands but strong sub-brands that can go their own way. Viacom’s sub-brands in the present and past, such as MTV, Nickelodeon, Paramount Pictures, Blockbuster Video, and CBS are highly recognizable and quite different from each other, whereas

Viacom itself is not well known by the broader public. In contrast, the Walt Disney Company has a strong overall brand but often weak sub-brands such as “Buena Vista.”

Brands can be so important that some companies are transformed into “virtual firms” whose main asset is their brand identity. They may not design or produce the product, but their image extends to the products they pick or market.

10.5 Pricing

The third element of marketing’s classic 4 Ps is pricing. It is the setting of prices by the seller and is an expression of a business’s strategy and its marketing plan. It issues are discussed in ► Chap. 11 Pricing of Media and Information. Only a few points follow here.

Firms normally set prices following several broad strategic options:

1. *Market pricing* (matching competitors’ prices).
2. *Cost-based pricing* (cost-plus).
3. *Value-based pricing*. This usually means price differentiation among customers, because each values the product differently. Price differentiation is prevalent in media. Books are sold as expensive hard-cover volumes first, then as cheap paperbacks. The price difference is much larger than the cost difference. In consumer electronics, a small variation in a production may be accompanied by a large price difference. Films have a price sequence, from relatively expensive theater tickets down the ladder to video-on-demand, pay cable, and eventually to free, advertising supported broadcast TV.
4. *Strategic pricing*. This aims to achieve a strategic goal such as gaining market share or establishing a brand identity. To gain market share, a firm would price low (“penetration pricing”) and marketing would stress the low price and high value.¹⁹ Conversely, a firm might use “premium pricing,” setting a high price as part of creating a superior image of quality.²⁰

18 Meyer, Philip and Yuan Zhang. “Anatomy of a death spiral: Newspapers and their credibility.” *Association for Education in Journalism and Mass Communication*. August 10, 2002. Last accessed July 12, 2017. ► http://www.unc.edu/~pmeyer/Quality_Project/anatomy_of_death_spiral.pdf.

19 Montgomery, Stephen L. *Profitable Pricing Strategies*. New York: McGraw-Hill, 1988.

20 Lamb, Charles W., Joseph F. Hair, and Carl D. McDaniel. *Marketing*. Cincinnati, Ohio: South-Western College Publishing, 1996.

10.6 Promotion

10.6.1 Promotion: General

For marketers, the main obstacle is grabbing people's attention so they will consider a product's value. To do so involves advertising, generating word of mouth, public relations, publicity, and so on. This is true for all products, but for many information products the special economic characteristics create major problems, as discussed earlier. As one film studio executive observed, "movie marketing campaigns are like election campaigns."²¹

10.6.2 Timing

Timing is essential for a profitable product release. Movie audiences peak in the USA around Christmas time, as well as Thanksgiving and summer. In contrast, French movie theaters are slower in the summer but very busy in October.²² New generations of videogame consoles are released to coincide with the Christmas gift giving season, as are certain books and consumer electronics. A spring release anticipates the strong selling window of light summer reading, where books are usually self-bought. A fall release of books anticipates Christmas sales and is heavier in non-fiction and specialty books as gifts to others.

A second dimension for timing is the sequencing of "release windows" to different submarkets or distribution platforms—whether geographic, willingness-to pay, or technology-based. The basic principle for a release sequence strategy is: first, distribute the product to the market that generates the highest incremental profit per unit of time; then, "cascade" through other platforms in the order of their incremental profit contribution.²³

10.6.3 Word of Mouth, Buzz, and Viral Marketing

Viral marketing is a type of promotion that activates the users themselves to distribute speedily

positive information to many other individuals. Positive information that is passed on by many people (word-of-mouth, WOM) is often called "buzz." It is not easy to initiate but when it takes off it can be very effective.²⁴ The advantages of WOM are its credibility and its low cost. Start-ups and independent product marketers therefore benefit most.²⁵ Generating buzz is often carefully planned and constructed.

Elements of "WOM" marketing are:

- Create media events.
- Recruit individuals who are trendsetters, in particular celebrities. The aim is to encourage press coverage and increase the word-of-mouth effect. One method is to send teams to "in" clubs where they distribute the product or discount cards to particularly trendy people.²⁶
- Distribute a sample. A movie trailer is an example. Fox posted the first four minutes of *Borat* on YouTube and received a million views within two weeks, which helped that low-budget and quirky movie to earn \$26 million at the box office in its opening weekend alone.
- Release a film's music.
- Investigate social media reporting and what the target audience likes and is interested in, what is trending, and how quickly they trended.
- Create shareable content.
- Create a hashtag to help increase viral attention.
- "Trendjacking": piggyback on things that already are going viral
- Humanize the campaign.²⁷
- Create "cool." Google was able to generate buzz for its new Gmail when it offered memberships to only a select number of people, which generated a massive WOM.

21 Epstein, Edward Jay. *The Big Picture, the New Logic of Money and Power in Hollywood*. New York: Random House, 2005.

22 Martine, Danan. "Marketing the Hollywood Blockbuster in France." *Adweek Magazines' Technology Marketing* 23, no. 3 (Fall 1995): 131.

23 Lieberman, Al and Patricia Esgate. *The Entertainment Marketing Revolution*. Upper Saddle River: FT Press, 2002.

24 Adams, William J., and Charles A. Lubbers. "Promotion of Theatrical Movies." In *Research in Media Promotion*. Ed. Susan Tyler Eastman. New York: Routledge, 2000.

25 Joachimsthaler, Erich and David Aaker. "Building Brands without Mass Media." *Harvard Business Review*. January–February 1997. Last accessed July 12, 2017. ► <https://hbr.org/1997/01/building-brands-without-mass-media>.

26 Van Camp, Scott. "Motorola Looks for More Buzz Per Buck." *Adweek*. July 2004. Last accessed July 12, 2017. ► <http://connection.ebscohost.com/c/articles/16609907/motorola-looks-more-buzz-per-buck>.

27 York, Alex. "What Is Viral Marketing & Does It Actually Work?" *Sprout Social*. May 17, 2016. Last accessed July 6, 2017. ► <http://sproutsocial.com/insights/viral-marketing/>.

WOM marketing has an image of authenticity, transparency, honesty, and openness. This encourages exploitation. Sony Ericsson paid 60 actors to pretend to be tourists on Times Square asking people to take photos of them using their new Sony Ericsson camera phones and then demonstrating and praising the features. These kind of campaigns led the U.S. Government to require that all viral marketing representatives must disclose their identities when operating.²⁸

10.6.4 Publicity and Public Relations

Public Relations are communication techniques to help an organization create a good reputation for itself, its goals, and its projects.²⁹ Publicity, a subset of PR, is the generation of positive news stories.³⁰ The target audiences of a publicity campaign are, in particular, other media, potential customers, employees, investors, educators, and government officials.

Publicity is particularly important for films because of their short shelf life, which requires the creation of awareness even before release and advertising. Studios therefore try to generate free publicity for films. This is related to but different from the attempt to influence film critics, who judge a film's merits. Publicity tries to generate media coverage for the film as an event itself. Celebrity stories are placed in magazines, cable channels, and entertainment shows owned by the same media companies that own the film studio. In particular studio publicists collaborate with journalists and magazines, giving selective access to advance film screening. There are "press junkets" with studios paying for the expenses of traveling journalists, though today most serious media outlets limit acceptance. Press junkets are an efficient way to bring together the talent and the journalists, enabling group interviews.

It is easier to generate publicity about stars than about a film. Magazines also need cover photographs of stars to boost their circulation. When

reporters and their publications need to get access to a film celebrity they often have to go through the studio and agree to make references to the film. To control the information during a film's production, the crew and cast must sign non-disclosure agreements that limit their talking to the journalists. More ingeniously, studios might generate "back stories" that claim to be news, in order to get news coverage.

Celebrity appearances on TV are an effective way of promotion and they are free publicity. But they need to be carefully orchestrated and booked months in advance.³¹ Competing TV shows on rival networks will avoid booking the same guest, so choices must be made. For certain books, too, the publicity of authors on TV morning shows and in the press has a major impact. As a result, TV affects the composition of book sales and their publishing through their favoring attractive authors, provocative subjects, and simple conclusions/advice. There is a symbiotic relationship between the broadcaster's need for material and the author's need for exposure.³²

When it comes to technology products, pre-product information is often covered in the press or in trade magazines.³³ Companies create such stories with great care, to generate attention without disclosing too much information to competitors in advance. More details on managing the PR function are to be found in ► Chap. 8 Managing Law and Regulation.

10.6.5 Product Placement

Placing a company's product or brand within other media content is a way by which companies can promote their product. For the film *The Devil Wears Prada*, starring Meryl Streep, Prada paid for the title and supplied many of the bags and shoes featured in the film. Other fashion industry companies also placed products. In Dream Works' romantic comedy *The Terminal*, starring Tom Hanks, there were product placements for 40 retailers such as Burger King, Starbucks, Borders, Verizon, Swatch, Godiva, and several airlines.

28 Shinn, Anns. "FTC Moves to Unmask Word-of-Mouth Marketing; Endorser Must Disclose Link to Seller." *The Washington Post*. December 12, 2006. Last accessed July 6, 2017. ► http://www.highbeam.com/doc/1P2-2793118.html?refid=easy_hf.

29 Henry, Kenneth. "Perspective on Public Relations." *Harvard Business Review* (July–August 1967): 30.

30 Belch, George E. and Michael A. Belch. *Advertising and Promotion: An Integrated Marketing Communications Perspective*. 4th ed. New York: Irwin/McGraw-Hill, 1998.

31 Marich, Robert. *Marketing to Moviegoers: A Handbook of Strategies and Tactics*. 2nd ed. Carbondale: Southern Illinois University Press, 2009.

32 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce*. Cambridge: Harvard University Press, 2000.

33 Easingwood, Chris, and Anthony Koustelos. "Marketing High Technology: Preparation, Targeting, Positioning, Execution." *Business Horizons* 43, no. 3 (October 2004): 27–34.

Product placement can be an effective way to advertise without being “in-your-face” and without it getting lost in the clutter of other advertisements. They are a major way to overcome the trend of consumers skipping advertising commercials on time-shifted online TV. The viewer is rarely informed about a product being featured as a paid promotion except fleetingly in the final credits. The audience, ideally, should not notice the placement at the time yet remember it in an almost subliminal way. People recall 25% of products seen in the background, which is high. A managerial disadvantage is that a film’s audience ought to match the target consumers sought by the product’s marketer which is not always the case as the film evolves. There is also a timing issue. Product release is difficult to coordinate with the film release timing, especially across the globe.

The cost of product placement depends on the amount of time on screen, the popularity of the movie, the fit with the product and the marketing strategy. One company, Kantar Media, tracks the time devoted to in-show branded content (product placement) on prime time broadcast television. Nielsen, similarly, tracks the number of product appearances and brand mentions in broadcast and cable TV shows, linked to the show’s viewership ratings.

Product placement has moved from film and TV to videogames, as a new way to reach, in particular, young males, a target demographic that has increasingly moved away from television and therefore TV commercials.³⁴

10.7 Advertising

10.7.1 Advertising: General

Advertising is a crucial element in the media industry. It is the vehicle through which consumers are informed and persuaded about a product. Its role for media is two-fold:

1. Advertising is the economic foundation of many types of media;
2. Media products are being promoted through advertising.

10.7.2 Advertising Agencies

Standing between the media company and a company’s marketers is typically the advertising agency. It also provides services such as market research, design of a media plan, and its execution.³⁵ There are almost 15,000 ad agencies in America alone, but it requires scale to provide clients with integrated advertising and marketing communications services worldwide and across media. Thus there has been a consolidation of agencies into very large companies (■ Table 10.1). To preserve the creative advantages of smaller size and specialization, these “superagencies” own many smaller agencies. For example, with the boom of the Internet, interactive ad agencies emerged, specializing in online marketing services, such as web design Internet advertising campaigns and search engine optimization.

Advertising agencies used to receive much of their income as a percentage of advertisement billing—usually 15%. However, negotiated commissions can set a different rate, for example 10%, or at a cost-plus basis, a set fee, or a performance-based compensation. In the 1990s, fee-based models replaced commissions as the main compensation, accounting to 75% in 2010. Performance-based compensation, on the other hand, accounted for less than 1% of compensation agreements.

■ Table 10.1 World’s largest advertising agencies by revenue (2017)

	Agency group	Revenue in \$ billions
1	WPP (UK)	19.7
2	Omnicom (USA)	15.3
3	Publicis (France)	11.4
4	Dentsu (Japan)	8.4
5	Interpublic (USA)	7.9
6	Havas (France)	2.5
7	Hakuhodo DY (Japan)	2.2

Source: Agency webpages

34 Richtel, Matt. “A New Reality in Video Games: Advertisements.” April 11, 2005. *The New York Times*. Last accessed July 6, 2017. ▶ <http://www.nytimes.com/2005/04/11/technology/11game.html>.

35 Belch, George E. and Michael A. Belch. *Advertising and Promotion*. New York: McGraw-Hill Irwin, 2001.

When it comes to retaining an advertising agency, a company usually invites several agencies to pitch a proposal. They are chosen based on their plan, its cost, their past record, and their fit. The advertiser gives its agency the basic requirements and budget for an ad campaign. The agency then creates a strategy, produces the advertisements, buys time or space, and creates activities.

10.7.3 How Much to Spend on Advertising?

One of the most important decisions a firm has to make is how large its advertising budget should be. This question is related to but different from the one on how to use that budget most effectively, which will be discussed further below. A company must avoid over-spending which hurt profits, or under-spending, which potentially weakens the product.³⁶ There are several approaches.

1. *Resources Available.* The advertising budget is whatever the firm can afford in a given year. However, this means that money would be wasted through over-generous advertising spending in a good year, while in a bad year the low advertising budget would exacerbate problems.
2. *Percentage of Sales.* This approach may provide a simple rule-of-thumb, but letting the level of sales determine advertising dollars reverses the cause-and-effect relationship between advertising and sales. Advertising is an investment to grow sales, not the other way around.³⁷ The approach is also inflexible: often, the percentage should be raised when sales are dipping. Many general and trade publishers rely on a rule-of-thumb formula of allocating 5% of a published book's retail price to its marketing and promotion. Specific promotional budgets are often based on a book's anticipated revenue. This formula means a marketing budget of about 10% of a publisher's revenues. For smaller educational or academic publishers, the marketing budget is lower and between 6% and 10%.³⁸
3. *Competitive Parity.* Firms match one another's advertising budgets. Companies therefore often subscribe to services such as "Competitive Media Reporting," which estimate the top 1000 companies' advertising in ten media and in total. Market intelligence firms record firms' advertising presence in various media and extrapolate their spending from such data. While this has some usefulness, companies' marketing situations and strategies are rarely similarly situated. For example: Charter Cable and the satellite broadcaster Dish Network are direct rivals for multichannel TV subscribers. In 2017, Dish had 13.5 million subscribers³⁹ and Charter, after a merger with Time Warner Cable, had 17.1 million.⁴⁰ But should they spend roughly the same on advertising? Charter/Time Warner Cable is a well-known firm and its reputation is established with customers. All it had to do was to keep its customers from defecting. In contrast, Dish's reputation was still developing, and most new customers had to be persuaded to switch away from cable. On the other hand, in rural areas unserved by cable, Dish has a much easier time to persuade people to subscribe. Also, Charter operated only in certain franchise regions whereas Dish was active nationwide. Charter's advertising must therefore be much more targeted geographically. Considering all of these factors, one can see that the parity approach is inconclusive.
4. *Meeting Objectives.* The fourth approach is to consider the firm's communications objectives and then identify the budget required to attain these goals. These objectives define communications tasks. These tasks should be measureable, with a target audience, the degree of change sought, and the time period for the objectives. A hypothetical illustration of the objectives approach is the promotion of a new film on national TV channels. The analysis proceeds in steps:

36 Martin, Reed. *The Reel Truth: Everything You Didn't Know You Need to Know About Making an Independent Film*. New York: Faber and Faber, Inc., 2009.

37 Belch, George E. and Michael A. Belch. *Advertising and Promotion: An Integrated Marketing Communications Perspective*. 4th ed. New York: Irwin/McGraw-Hill, 1998.

38 Zell, Hans M. *Book Marketing and Promotion: A Handbook of Good Practice*. Oxford: INASP, 2001.

39 Tartaglione, Nancy. "Dish Network Q1 Earnings Fall 6% on 143 K Pay-TV Subscriber Attrition." *Deadline Hollywood*. May 1, 2017. Last accessed July 6, 2017. ► <http://deadline.com/2017/05/dish-network-earnings-first-quarter-2017-subscriber-loss-1202080168/>.

40 Huddleston, Jr., Tom. "Netflix Has More U.S. Subscribers Than Cable TV!" *Fortune*. June 15, 2017. Last accessed July 12, 2017. ► <http://fortune.com/2017/06/15/netflix-more-subscribers-than-cable/>.

1. Define the desired target market:
 - Identify a potential target market for the film (young adult males) as 50 million people (i.e. about 17% of the US population);
 - Set the goal of 8% of the target market (four million people).
2. Estimate the number of advertising impressions needed to persuade each 1% of the target population:
 - For example, assume that each single exposure to a TV advertisement will persuade 2% of the target audience (two advertising exposures to get 4%, etc.).
 - This means, for an 8% audience, four exposures of the target population of 50 million.
 - The cost of reaching 1000 viewers (CPM), for the target audience, is about \$50. To buy 4 ads that reach 50 mil people costs hence 4 exposures × 50 million audience × \$50/1000 = \$10 million.
5. *Marginal Analysis Approach.* One would model the optimal advertising budget to find the point where marginal expenditure equals marginal revenue. This model depends on the marginal productivity of advertising. This approach is the more sophisticated version of the objective and task approach.⁴² Firms formulate quantitative models to estimate consumer behavior. The models use statistical techniques such as multiple regression analysis to estimate the relative contribution of the advertising budget to sales performance.⁴³ They add behavioral and economic parameters and make various assumptions.⁴⁴ These models are, however, difficult to apply in real world situations due to data scarcity.
6. *Valuing Customers.* One tool companies use to evaluate the profitability of investments in marketing is to establish a customer's "lifetime value" (CLV), which is the present value of all future profits that a company can potentially generate from a customer. This is similar to a discounted cash flow of the revenues coming in from the customer, though it also accounts for customer retention or loyalty. The formula for the CLV is each year's profit from that customer (which may include the multiplier effect from that customer's word-of-mouth promotion, plus the value of that customer to advertisers), discounted for the value of money in the future, and adjusted for the probability of losing that customer (churn). From that, one must subtract the cost of gaining the customer in the first place. If one assumes for simplicity that the profit margin is the same each year and continues for a long time, then the CLV can be approximated by the formula

$$CLV = M \frac{R}{1 + I - R} - AC$$

where M = margin (profit) per sale;
 I = discount rate;

Thus the required budget to reach the objective is \$10 mil. This assumes a clean fit of the programs chosen with the target audience – a highly optimistic assumption. If we assume that the TV ads also reach 25% of viewers who are of no interest to the advertiser, the required budget would be \$12.5 million. Would that expenditure be worth its business impact?

The distributor's objective is a 4 million audiences × \$5.00 distributor share per ticket sold at box office. The expected revenues are hence: = \$20 million. This is more than the advertising cost of the campaign, which is \$12.5 million. But there are also other marketing and distribution costs. (There are, of course, also substantial production costs, but most of these are already "sunk" and hence not part of the decision process on a marketing budget.)⁴¹ Therefore, the revenues from aftermarkets would have to be substantial to make the film truly profitable.

⁴² Cravens, David W., Gerald E Hills, and Robert B. Woodruff. *Marketing Management*. Scarborough, ON: Irwin, 1987, 514–520.

⁴³ Belch, George E., and Michael A. Belch. *Advertising and Promotion: An Integrated Marketing Communications Perspective*. 4th ed. New York: Irwin/McGraw-Hill, 1998.

⁴⁴ For example, they assume that a company's advertising attracts customers probabilistically and that consumers choose only one of the companies based on the ads viewed and at only the advertised price.

R = retention rate;

AC = acquisition cost.

The firm would invest in customer acquisition up to the value of the CLV of the acquired customer. This maximum investment in customer acquisition is:

- Higher with higher retention rate R ;
- Higher with higher margin M ;
- Higher with a lower discount rate (e.g. with lower risk).⁴⁵

We have now discussed several ways to analyze the overall size of an advertising and marketing budget.

10.7.4 Case Discussion

How Much should Condé Nast Spend on a Marketing Effort to Gain a Subscriber?

$CLV = M \times R / (1 + I - R)$ minus acquisition cost.

Margin (M): annual profit per customer (revenue – cost).

Retention rate (R): percentage of customers estimated to renew subscription with *Fly & Sky*.

Discount rate (I): a percentage to account for time value of money of future revenue. Acquisition cost (AC) to gain customers.

The calculation of the profit margin is:

- Subscription revenue per year per subscriber = \$20;

- Estimated annual revenue of advertising per subscriber = \$10.80;

- Estimated annual cost per subscriber (print and mailing, excluding marketing costs): \$8.80;

- Margin = 20 + 10.80 – 8.80 = 22.

The number of subscribers who renew is 90%, which means that the average subscriber is expected to stay on for about ten years.

The consumer's lifetime value can then be calculated using the discount rate $I = 12\%$.

$$CLV = M \times I / (1 + I - R) - AC$$

$$= 22 \times 1 / (1 + .12 - .90) - AC$$

$$= \$100 - AC$$

Thus, Condé Nast should not spend more than \$100 to acquire a new subscriber, and possibly less if the marginal effect of spending is low. If the retention rate, however, was 55%, then the CLV would drop to about \$38.60 and with it the spending to gain such a customer.

It should be noted that the optimal budget is not a static number. For example, it depends on its effectiveness which may change over time. Consumers ignore advertising because there is more and more of it. And therefore advertisers must expose them to still more ads to generate an impression. The increased supply of media—channels, webpages, apps, and devices—raises the supply advertising inventory and lowers its price, increasing it still further and creating clutter.⁴⁶ This means that quantity and intensity must rise for a campaign to be successful, which then creates an arms race of aggressive advertising that alienates consumers.⁴⁷

10

10.7.5 The Optimal Mix of Marketing Activities

Advertisers will usually diversify the media in which they advertise. In 2003, Hollywood studios allocated only 1.3% of their marketing spend toward Internet advertising, but 60% on TV, 25% on print, 5% on radio, and 3% on outdoor.⁴⁸ By 2016 TV still dominates the movie marketing budget, with most big

budget films spending 70% or more on TV. Print, radio, and outdoor dropped and TV and Internet gained.⁴⁹ For some films, advertising spending on the Internet was as high as 50% of the marketing budget.⁵⁰ In 2013 McDonald's spent 78%⁵¹ of its \$988 million advertising budget on television advertising (\$770.6 million.) The question is what the optimal media mix is for a company, and within marketing activities. How would one approach this question?

45 Best, Roger. *Market-Based Management*. Hoboken: Prentice Hall, 2012.

46 Stokes, Rob. "EMarketing: The Essential Guide to Online Marketing, v. 1.0." *Flat World Knowledge*. July 11, 2013. Last accessed July 12, 2017. ► http://catalog.flatworldknowledge.com/bookhub/reader/19?e=fwk-105454-ch03_s08.

47 Brookins, Miranda. "Disadvantages of Online Advertising Options." *Small Business*. Last accessed July 7, 2017. ► <http://smallbusiness.chron.com/disadvantages-online-advertising-options-10212.html>.

48 Sweny, Mark. "Online ad spend set to double" *The Guardian*. July 12, 2007. Last accessed July 6, 2017. ► <https://www.theguardian.com/media/2007/jul/12/advertising>.

49 Rainey, James. "The Perils of Promotion: Pricey TV Campaigns, Fear of Change Shackles Movie Spending." *Variety*. March 8, 2016. Last accessed July 6, 2017. ► <http://variety.com/2016/film/features/movie-marketing-advertising-tv-campaigns-1201724468/>.

50 Kapko, Matt. "Why Facebook is Key to Sony's Movie Marketing." *CIO*. January 10, 2017. Last accessed July 6, 2017. ► <http://www.cio.com/article/3155960/marketing/why-facebook-is-key-to-sonys-movie-marketing.html>.

51 Rudd Center for Food Policy and Obesity. *Fast Food FACTS*. Yale University, New Haven: Rudd Center for Food Policy and Obesity, 2010.

10.7.6 Case Discussion

What Are the most Effective Ways to Market *Fly & Sky*?

A marketing budget buys impressions, but impressions are not created equal. The number of sales made based on a marketing impression is known as the “conversion rate.” If five people subscribe out of 1000 reached, the conversion rate is 0.5%.

The first column in [Table 10.2](#) shows the cost per impression, according to the type of marketing activity. (All numbers are hypothetical.) TV, for example, costs \$44, whereas radio costs \$20 and direct mail \$75. However, media and marketing activities differ in impact. First, the probability of the particular marketing approach to reach the target audience vary. The probabilities are listed in column 2. For example, it is 20% for TV and 50% for Condé Nast’s own magazines. The better aimed the medium is to the target audience, the higher the percentage. One can now calculate the cost per thousand of reached target audience. That cost would be, again for TV, \$220, and for billboards \$75.

The second factor is the “conversion rate.” How many sales does an impression generate? Column 4 provides the conversion rate, per thousand, of an ad impression to that results in a sale. Thus, for TV impressions it is assumed to be 1; for WOM and for price promotions, it is 2. This now permits the calculation of the marketing cost, before overheads, of a sale. These figures are provided in the right-most column. The lowest cost per sale is obtained by using Condé Nast’s own magazines (\$40), followed by online advertising (\$66.6) and WOM/publicity (\$83.75). Most of the other media and marketing approaches are considerably more expensive. In addition, we have earlier found that the CLV of a subscriber to *Fly & Sky* is \$100. Thus, it would not make sense to invest more than that amount to gain a subscriber. If Condé Nast wants to use the most price-effective way of generating sales, it would stick to promotion in its own magazines. If it wants to diversify its approach somewhat

and reach beyond its core audiences, it would also include online advertising and WOM/publicity. In addition, one must consider that the productivity of additional marketing expenses decline somewhat. If one assumes that the “conversion productivity” of a marketing activity for *Fly & Sky* declines, for each additional increment of \$100,000 in marketing spend, by 20%, then the cost per sale for Condé Nast’s in-house magazines would rise for the second increment by 20% to \$48, for the third increment to \$57.6, and for the fourth one to about \$70. At that point, it would be more cost-effective to add online advertising to the marketing plan, at \$66.6 per sale generated. Similarly, after online advertising is increased, its third increment would become less cost-effective than WOM/publicity at \$83.75. By the numbers provided, the ratio of spending for the three marketing approaches would be 5:2:1, for a total of \$800,000. Beyond those budgets, the return on marketing activities would be negative.

Table 10.2 The cost-effectiveness of different marketing activities

Marketing activity	Cost per 1000 impressions (\$)	Average probability of reaching target audience of selected outlets (%)	Cost per reach of 1000 target audience (\$)	Conversion rate per 1000 impression	Media cost per sale (%)
Newspapers	50	20	250	1	250
Condé Nast magazines	40	50	80	2	40
Other magazines	90	80	112.5	1	112.5
TV	44	20	220	0.5	440
Radio	20	15	133.3	0.5	266.7
Online	10	30	33.3	0.5	66.6
Prod. placement	1	5	200	0.2	1000
Billboards	15	20	75	0.1	750

(continued)

Table 10.2 (continued)

Marketing activity	Cost per 1000 impressions (\$)	Average probability of reaching target audience of selected outlets (%)	Cost per reach of 1000 target audience (\$)	Conversion rate per 1000 impression	Media cost per sale (%)
WOM/publicity	33.5	20	167.5	2	83.75
Direct mail	75	20	375	0.1	3750
Event sponsor	71	20	355	1	355
Price promotion	74	20	370	2	185

Table 10.3 Cost-Effectiveness of Magazines in Advertising to Aerobics Users

Magazine	Total circulation 2017	Aerobics users	% Aerobics users	Cost per 1000 impressions (\$)	Cost per reaching aerobics user (\$)
<i>Road & Track</i>	1,100,000	21,000	1.9	219.44	6.27
<i>Rolling Stone</i>	1,450,000	117,450	8.1	160.88	1.99
<i>Scientific American</i>	350,000	26,250	7.5	171.31	2.28
<i>Seventeen</i>	2,000,000	146,000	7.3	77.24	1.06
<i>Shape</i>	2,500,000	130,000	5.2	129.20	2.48
<i>Sports Afield</i>	43,000	1161	2.7	108.14	4.01
<i>Sports Illustrated</i>	1,000,000	48,000	4.8	370.50	7.72
<i>Vanity Fair</i>	1,175,000	173,900	14.8	200.55	1.36

10.7.7 Allocation Within a Media and Marketing Category

Within a medium, a company must allocate its budget to the most effective advertising platforms. Suppose, for example, that a company is trying to determine which magazine to choose for aerobic ads. It considers the following options (Table 10.3).

Shape, Track and Field, Seventeen Magazine, and Rolling Stone have the highest circulation and reach the most people. Should they be the preferred vehicles for the advertisements? For targeting the aerobics users, *Seventeen Magazine, Shape, and Rolling Stone* have the highest reach in absolute numbers;⁵² *Track and Field* reaches fewer such

aerobics users. And *Scientific American* has one of the highest percentage of its readers as potential aerobics users. *Shape* does not match such a reach among the target audience. If we look at the best fit—the percentage of readers who are aerobics users—the top performers are *Vanity Fair, Rolling Stone, Scientific American, and Seventeen*. These magazines seem to be the most efficient advertising vehicles. But one must also consider the cost. This depends on the price of an ad per thousand (CPM) charged by the magazine's publisher. When cost is considered, the best buys are *Seventeen* (\$1.06 per aerobics user reached), *Vanity Fair* (\$1.36) and *Rolling Stone* (\$1.99). *Shape* is not in the top 3.

As one can see, the number of variables and options is large. To assist marketers, computer optimization models have been created as media planning tools; such models have been around

52 Belch, George E. and Michael A. Belch. *Advertising and Promotion: An Integrated Marketing Communications Perspective*. 4th ed. New York: Irwin/McGraw-Hill, 1998.

since at least 1963 and took off after 2005. They incorporate information about the audiences of each advertising vehicle, such as its size, the cost of generating such exposure, and the impact. Beyond the analytics, the models help to implement their findings operationally: they select media outlets, help schedule the exposure, and guide early buys of advertising space and time slots to reduce cost.

A variety of strategic parameters must be set. For example, there is a choice between reach and frequency. Given a limited budget, advertisers must decide whether to have the message seen or heard by more people (reach) or by fewer people but more often (frequency). Such tradeoffs are part of the optimization models.⁵³

10.8 Promotion to Advertisers, Retailers, and Distributors

Media companies usually must market to various intermediaries. Book publishers deal with wholesalers, book clubs, and retail chains. Film studios deal with theater circuits, TV networks, and cable channels. Music labels deal with retail chains, department stores, and online music download sites. Television networks sell ad space to advertisers. Syndicators allocate much of their promotion budget toward selling their programs to stations rather than promoting their programs to the public.⁵⁴ In promoting their products to such intermediaries, media companies engage in what has come to be more generally known as “B2B” business-to-business marketing.

B2B marketing strategies are different from B2C (business-to-consumer) strategies in a number of ways. For example, B2B marketing often uses personal relationships and connections as a selling tool.⁵⁵ Developing these relationships is a long-term investment. Even relatively simple transactions such as the sale of an advertisement may take a year: establishing a relationship, make the pitch, negotiate a deal, and implement it. The

Internet has accelerated this considerably, but the human element has not vanished (see the discussion below.) Such personal relationship building is not common in B2C because the marketing executives do not have a personal relationship with the large consumer base, nor could they realistically sustain it. B2B is a repeat business with frequent transactions which tends to keep both sides seeking cooperation and trust. And while this is often also the case for consumer transactions, both sides have less stake in the relationship and act accordingly. B2B marketing also tends to focus on more complex products and systems, whereas B2C strategies are relatively simple for the general public to understand.

10.8.1 Promotion to Advertisers

Media based on advertisements must “sell” themselves to advertisers such as local retailers, national brands, and advertising agencies. To do this, media companies must create an internal organization or hire outside contractors. The head of promotion to the advertisers has a title such as “director” or “vice president for advertising sales,” or “media director.” The person with the task to persuade specific prospects to buy advertising space or spots is called an “account executive.” He or she deals with the “buy side” of advertising agency managers with titles such as “media director,” “media buyer,” or “media coordinator.” Account executive salaries are usually paid a flat rate (“draw”) plus a commission on their ad sales – for radio and cable about 15%, for TV, where prices are much higher, 7–15%.⁵⁶

The advertising sales directors, along with the publisher and the CMO, is responsible for developing the promotion campaigns for the media company. They must make an accurate estimate of the expected advertising revenue. The level of spending in all of the company’s departments and its profit or loss is dependent on this revenue estimate, which is thus highly important. They also have to develop a budget for the tasks.

A media company will promote itself as an advertising platform in a wholesale fashion through marketing as a product itself to

53 A word of caution: there are several problems with quantitative modeling. First, it is based on past behavior and data. Second, it is difficult to predict people’s responses to any stimulus. Examples of media mix models are ADplus, Adware, Media Control, Media Management Plus, Mediabuy Telmar, Tvscan, and Nielsen.

54 Ferguson, Douglas and William Adams. “Local Television Promotion: News, Syndication, and Sales.” In *Media Promotion and Marketing for Broadcasting, Cable and the Internet*. Boston: Focal Press, 2006, 88.

55 Brennan, Ross, Louise Canning, and Raymond McDowell. *Business to Business Marketing*. California: SAGE Publications Inc., 2007.

56 Smith, F. Leslie, John W. Wright II, David H. Ostroff. *Perspectives on Radio and Television*, 4th ed. New York: Taylor & Francis, 1998.

create awareness. For example, cable channels put ads in trade magazines like *Advertising Age* to reach advertisers and media planners. Even more important, however, is the personal sales pitch to potential advertisers.⁵⁷ Companies hire independent sales representatives for markets where their sales or potential do not justify a full-time sales employee. These independent reps receive a commission of about 10–20%⁵⁸ and typically must pay for their own expenses. They tend to be experienced and come with substantial contacts in the particular market. They may work for several media companies, at times even competitors. There are also advertising brokers who buy large numbers of spots at discounted prices from stations and resell them.⁵⁹

Classically, for a media company, the development of its advertising sales involves several basic steps (we will later discuss the impact of the Internet on this process):

- Finding a prospective buyer;
- Learning about the prospective buyer, its business, its customers, competitors, strategy, performance, and needs;
- Establishing a relationship;
- Providing the prospect with a proposal, featuring benefits and costs;
- Engaging in negotiations and closing the deal;
- Delivering, evaluating, and following up.

In other cases the initiative comes from the buyer, that is, the advertiser. An advertising agency solicits a request for proposals for a package of magazines or shows for a client. The media company then responds with a proposal that details the number of slots, the programs and why they would work for the client, the air dates, and the price for this package. The network and the advertiser then negotiate on the CPM, the package price, and on the list of shows and dates.⁶⁰ In the past, the time needed to sell an ad to a new advertiser and then see it through may have been a year or even

longer.⁶¹ With the Internet and ad-service (such as Google), this process can be de-personalized, automatized, and can take place almost instantly. The Internet also makes direct auctions possible. To link advertising sellers and buyers, the auction site eBay created a platform that allows cable networks to bid confidentially on the advertising needs of agencies through a system of reverse auction.

Normally, the media company will list its prices in a “rate card.” It may also detail deadlines, policies, additional fees, and artwork requirements.⁶² For the *New York Times*, a black-and-white full-page ad costs, in 2016, \$178,633 (or \$204,251 as part of the Sunday edition).⁶³ That year, the daily print circulation was 590,000 and the Sunday circulation was 1.1 million.⁶⁴ Against this rate card, discounts are offered in return for an advertising commitment to a certain number of ads within a specified time period, which is called a bulk space contract.⁶⁵ Prices tend to be negotiable. The network and advertiser negotiate on the CPM and the list of shows, dates, and expected rates. The larger the advertisers’ commitment, the better the terms of the deal.

Selling media space is not the end of the effort. The media company needs to demonstrate to the advertiser that its advertising spend has been effective.⁶⁶ To do so the media company measures the audiences reached and the impact produced.⁶⁷

10.9 The Impact of the Internet on Marketing

The Internet is an inexpensive yet powerful tool to reach a lot of people. Its marketing features will now be discussed.

57 Ferguson, Douglas A. and Robert A. Klein, “Media Promotion and Marketing,” *Media Promotion and Marketing for Broadcasting Cable and the Internet*. Boston: Focal Press, 2006, 214.

58 Daly, Charles P., Patrick Henry, and Ellen Ryder. *The Magazine Publishing Industry*. Needham Heights, MA: Allyn & Bacon, 1997.

59 Smith, F. Leslie, John W. Wright II, David H. Ostroff. *Perspectives on Radio and Television*, 4th ed. New York: Taylor & Francis, 1998.

60 Blumenthal, Howard J. and Oliver R. Goodenough. *This Business of Television*, 4th ed. New York: Billboard Books, 2006, 421.

61 Woodard, Cheryl. “Advertising Sales Process for Magazine Publishers...in a Nutshell.” ► MagazineLaunch.com. February 14, 2005. Last accessed July 16, 2012. ► <http://www.magazinelaunch.com/article/articles/49/1/The-Advertising-Sales-Process-for-Magazine-Publishers...in-a-Nutshell>.

62 Waters, Shari. “Understanding Advertising Rate Cards.” *About.com*. Last accessed July 16, 2012. ► http://retail.about.com/od/marketing-salespromotion/ss/ad_rate_card.htm.

63 New York Times. “2016 Advertising Rates.” Last accessed July 12, 2017. ► http://nytmidiakit.com/uploads/rates/Current-Rates/CRS-9040_2016_Rate_Cards_Business_SSF_copy.pdf.

64 Ember, Sydney. “New York Times Co. Reports Loss as Digital Subscriptions Grow.” *New York Times*. May 3, 2016. Accessed July 7, 2017. ► <https://www.nytimes.com/2016/05/04/business/media/new-york-times-co-q1-earnings.html>.

65 Waters, Shari. “Understanding Advertising Rate Cards.” *The Balance*. Last updated March 9, 2017. ► <https://www.thebalance.com/understanding-advertising-rate-cards-2890304>.

66 Lacy, Stephen et al. *Media Management: A Casebook Approach*. Mahwah: Lawrence Erlbaum Associates, Publishers, 1993.

67 Daly, Charles P., Patrick Henry, and Ellen Ryder. *The Magazine Publishing Industry*. Needham Heights, MA: Allyn & Bacon, 1997.

10.9.1 Customization, Targeting, and Individualization

Information technology gives companies the ability to transform classic mass marketing to one of many more micro-targeted approaches. This is known under various names such as “mass customization,” “1:1 marketing,” “individualization,” “niche marketing,” or “long tail marketing.” The basic idea is to form a more direct relationship with a customer or customer group to customize marketing efforts.

The problem with traditional marketing is inefficiency due to difficulties in accounting for impact. In contrast, customized advertising such as interactive TV ads can link expenditures directly to results. Marketers can know whether an individual received a communication and how he or she responded. They can therefore identify the most effective marketing strategies, and analyze specific customers’ preferences. Companies then engage in product differentiation in their advertising by highlighting the unique characteristics of their product that are consistent with the target’s preferences.

The Internet accelerates individualization. Online media can differentiate much better. First, the variety of ads provided to the user can be infinite. Second, the differentiations of audiences can be large. Third, there is vastly more known about the viewer. And fourth, the effectiveness of the ad can be observed. The selection of advertisement is supported by algorithms that consider the viewer’s demonstrated interests and needs, demographics, and personal tastes exhibited in previous program choices.

Behavioral targeting uses prior behavior and reactions by the viewer to determine the ad with the greatest receptivity.⁶⁸ It picks out advertisements based on past specific behaviors such as surfing the web in a particular way, searching for certain terms, making a purchase, and watching a video program.⁶⁹ Example of behavioral targeting are Google AdWords and AdSense which brought customized advertising into the online mainstream. Google uses automated technology to analyze the meaning of the content of a web

page and serve relevant ads based on the meaning of such content. For example, a web page on an aviation blog that contains an entry about vintage planes might display ads for air shows featuring World War II “warbird” planes.⁷⁰ Similarly, a search request leads to the serving of ads that are relevant. Google can aggregate such user behavior and interests over time.

Once user characteristics are identified, the marketing responses can go beyond the choice of products and advertising clips that get pitched. They can vary price. Or they can fine-tune product placement. These elements add to the marketing effectiveness, and they also engender customer loyalty. But they are also expensive to operate. Thus, the question for the IT-based next generation of individualization is not whether or not it will work, but rather its cost-effectiveness. For mass products the end of mass advertising is not near, even as automatized approaches of individualization will create new ways to reach niches of potential customers.

10.9.2 New Tools for Creating Marketing Impressions

Consumers react to well-delivered marketing pitches, but that reaction declines over time as they are being inundated by similar messages. To remain effective it is therefore necessary to raise the sensory intensity of such pitches. Online media create the tools for doing so. For example, it can create an immersive experience through “Virtual Reality” in which the user experiences new worlds, new activities, and new products. In VR the intensity of the marketing experience can be enormous. Similarly, users can be familiarized with the product in a convenient way. They can “test drive” a car online, try on an overcoat, explore travel routes, or furnish a home.

Another way for a company to raise its profile is to participate in new and “cool” online activities. Some companies use virtual worlds such as Second Life as a marketing tool, where they created a presence. The actual resultant sales might not be high but it helps a company to generate an image of innovation and youth orientation.

68 Wikipedia. “Ad Serving.” Last accessed July 7, 2017. ► http://en.wikipedia.org/wiki/Ad_serving#Ad_targeting_and_optimization.

69 Palmer, Shelly. *Television Disrupted: The Transition from Network to Networked TV*, 2nd ed. New York: York House Press, 2006.

70 Securities and Exchange Commission. “Form 10-K Google Inc.” 2011. Last accessed July 12, 2017. ► <https://www.sec.gov/Archives/edgar/data/1288776/000119312511032930/d10k.htm>.

10.9.3 New Types of Reach

E-mail e-marketing, mobile marketing, or social media, are potentially powerful tools, and they are inexpensive. However, their effectiveness is undermined by at least two factors: because everybody uses them for the same reasons, there is an overload, which cuts on the attention they receive. And because there are so many such messages—“spam”—they may actually generate a negative backlash rather than positive promotion.

10.9.4 Tracking Customers

Online marketing gives companies the ability to track and measure what types of consumer are being reached and how they respond. Cookies and other software help online advertisers track user activity, including viewing, viewing time, pages visited, and return visits. Ad serving companies use cookies to keep track of ads which the users have been exposed to. Advertisers can then deliver ads tailored to their browsing habits and track the effectiveness of campaigns.⁷¹ The main metric for determining the success of online advertising has been the click through rate (CTR) or how often the advertisement is clicked on. As the Internet evolves, it becomes increasingly difficult to entice viewers to click on an ad. A typical CTR has dropped from 0.5% in the 1990s to as low as 0.2% by 2017.

10.9.5 Location-Based Marketing

More generally, mobile communications create new opportunities to link up with consumers. Such ads can be: text messages; location-based messages; app based ads; and the regular Internet, using smartphones and tablets as terminal devices. However, consumer resistance is high to advertisements on mobile devices, especially if they are an intrusive “push.” Smaller screens and data caps of wireless service contracts also make mobile advertising more difficult.

71 Berke, Adam. “How Do Cookies Work?” *AdRoll Blog*. May 4, 2010. Last accessed July 12, 2017. ► <https://blog.adroll.com/product/how-do-advertising-cookies-work>.

10.9.6 Dynamic Pricing and Auctions

Prices can be varied in real time, based on supply/demand conditions, and on the characteristics of the potential buyer. It is also convenient and easy to set up auction arrangements for the sale of products. This means that one can leave the pricing of a product—one of the important aspects of marketing—to an automatic market clearing mechanism. This is discussed in ► Chap. 11 Pricing of Media and Information.

10.9.7 Social Marketing

Social media have created new marketing tools. They help engage consumers with each other and with the brand.⁷²

- Strengthen brand image and brand awareness.
- Gain a better understanding of consumer needs and how they feel about a product or rival products.
- Allow the consumers to design their products.
- Integrate ads into communication. Ads on Facebook and Digg are intended to blend seamlessly into the conversational nature of the site. These ads appear as stories posted to the site and are identified by a tag.
- Use the community to generate buzz and viral marketing.
- Use the community to generate advice to customers. An example is Amazon.com which suggests books to the customer based on what other people have liked in the past who seem to share interests.

There are also drawbacks. Online social interactions are difficult to control. Negative feedback can escalate to nastiness⁷³ and the buzz then becomes negative. In some cases this is justified, as when the pricey Kryptonite lock was shown to be vulnerable to being opened by the deft use of just a ballpoint pen. In other cases, the negatives are exceptional cases blown out of proportion, or outright fabrications by rivals or people with a grudge.

72 Bradshaw, Tim. “The fickle value of friendship.” *The Financial Times*. March 30, 2011. Last accessed July 7, 2017. ► <http://www.ft.com/cms/s/0/240f19d4-5afc-11e0-a290-00144feab49a.html#axzz1JspQCry>.

73 Leimkuehler, Katie. “Startup Social Media: Why Relationship Marketing is Essential for Growing Your User Base.” *Technori*. February 5, 2013. Last accessed July 7, 2017. ► <http://technori.com/2013/02/3118-startup-social-media-why-relationship-marketing-is-essential-for-growing-your-user-base/>.

10.9.8 Payments and Micropayments

Internet-based transactions permit instantaneous payment, including for very small amounts and internationally. This opens up new market segments to marketers and helps in promoting and “closing” a deal almost immediately. It also reduces the risk element on the seller, especially once payment mechanisms have become secure from fraud.⁷⁴

10.9.9 Data Mining and Online Market Research

The Internet is also an inexpensive, fast-turnaround medium for conducting marketing research in advance, and sales analysis in real time. In contrast with traditional advertising, it gives real-time results about effectiveness of attention, of reach, and of sales. Promotional offerings and ads themselves can be tested in real time as to effectiveness, using tools such as A/B testing.

10.9.10 Relationship Building

Building and maintaining of customer relationships becomes possible online, through blogs, social media/social networks, e-mail newsletters, and more.⁷⁵ Strong online relationships also help with feedback and direct communication with customers. They also enable users’ participation in the creation of the product through their input.⁷⁶

Another advantage is the potential to personalize a large company by having its people engage. If done honestly this can create trust. This means that company people must identify themselves as such, be willing to admit problems and faults, and do not attempt to discredit critics personally.

10.9.11 Creating a Marketplace for Online Advertising

There are four major ways for an advertiser to buy online ad space:

1. *Websites*. Ads are bought directly from a website, publisher, or portal.
2. *Ad Networks*. These are “supply-side networks” and are intermediaries such as those of Google Adwords, which offer ad space by numerous publishers/websites.
3. *Demand side platforms (DSPs)*. These came into being as a counter-move to powerful supply-side platforms such as Google Adwords, that act as agents of the websites that seek advertisers. These supply platforms provide advertisers access only to their own system and their website partners. And because of Google’s strong position, the advertising space it provided on website was costlier than that offered through other suppliers. To generate price competition, DSPs emerged. They provide advertisers with access to several supply side platforms and their websites,⁷⁷ and the resultant competition exerted a pressure on advertising prices.⁷⁸
4. *Ad exchanges*. These bridge the supply-side ad networks and the demand side platforms. They connect multiple online publishers, advertisers, ad networks, and third-party DSPs. These parties can buy and sell ad inventory through algorithmic trading. Ad impressions are auctioned off on a global basis in real time to the highest bidder.^{79,80}

10.10 The Promotion of Media Products

10.10.1 Film

In the film business until the mid-1980s, the marketing of films used to be mostly publicity-driven

74 The emerging blockchain technology of transfer of documents and payments is one way to do so, at least for larger transactions.

75 Search Engine Land. “What is SEO/Search Engine Optimization?” Last accessed July 7 2017. ► <http://searchengineland.com/guide/what-is-seo>.

76 Muscio, Christopher. “The 7 Benefits of Online Customer Service Communities.” July 11, 2009. ► <http://www.destinationcrm.com/Articles/CRM-News/Daily-News/The-7-Benefits-of-Online-Customer-Service-Communities-55084.aspx>.

77 Marketing Land. “Beyond AdWords: Demand Side Platforms Explained.” April 6, 2016. Last accessed July 10, 2017. ► <http://marketingland.com/beyond-adwords-an-intro-to-demand-side-platforms-44139>.

78 However, Google countered by acquiring the DSP Invite Media.

79 WhatRunsWhere. “Media Buying 101: Ad Networks & Ad Exchange.” August 2015. Last accessed June 11, 2016. ► <http://blog.wharunswhere.com/media-buying-101-ad-networks-ad-exchanges/>.

80 OpenX. “Ad Networks vs. Ad Exchanges: How They Stack Up.” July 2010. Last accessed February 6, 2017. ► https://www.cs.princeton.edu/courses/archive/spring13/cos448/web/docs/adnets_vs_exchanges.pdf.

and newspaper-oriented rather than based on advertising. This symbiotic relationship worked well for both sides. Starting in the 1980s, film marketing shifted to television ads and then cable, which was much more costly.⁸¹ Around 2000 the Internet became a major platform for promotion. The shift by film distributors to an advertising model was based on the release strategy that had moved from a gradual ramp-up to a simultaneous national opening in thousands of theaters. This required short nationwide bursts of TV advertising whose cost added up to about half of the production costs. That ratio is even higher for small independent firms. Opening an independent film in the USA requires a marketing budget that is rarely under \$1 million. Many such films do not even cost \$1 million to produce and will not earn that much at the box office.⁸²

Online marketing of films has grown enormously in importance. Advantages are relatively low cost for the basics, the ability to measure clicks and the viewing of trailers, the ability to observe (and generate) buzz and word-of-mouth in a viral marketing approach, and the ability to target audience segments. Studios release appealing clips on popular websites such as YouTube or Yahoo Movies. Social media sites increasingly influence moviegoers' choices. A study showed that 62% of moviegoers used the Internet or mobile apps to learn about films.⁸³

10.10.2 TV and Cable Channels

TV networks promote their programs and themselves in a variety of ways.

On-channel promotion. This is self-promotion on a channel that encourages viewers to stay tuned or come back later for a particular program.

Cross-channel promotion. Promotions on sister channels which are owned by the same company, or advertising time traded with outside channels.

Publicity. The use of other media to report on a new show and its stars as news. This is discussed elsewhere in this chapter.

10.10.3 Music

For music, print reviews and promotions have only a limited influence on sales. Airplay on radio and then on cable music channels were the key, with the Internet rapidly gaining the control role. Record companies have traditionally focused on promotion to radio broadcasters. This is a major effort since there are so many radio stations (12,000 commercial radio stations in the USA alone.)⁸⁴ There is a strong incentive for influential stations or their disk jockeys to sell airplay to music companies. Even though such “payola” is illegal in the USA, promoters have found other ways to reward disc-jockeys and others who make decisions, such as hospitality and gifts.

Of great importance has been the creation of a music video of a song, coupled with hoopla about the video itself. The promoters hope that this will create buzz and drive traffic to the video. This leads to strategies of “YouTube optimization” to steer traffic to the video. YouTube and Vevo have become important platforms and measures of audience interest.

The artists themselves play an increasing role in the marketing of their music. A major way to promote is by music tours. Beyond the direct revenues of ticket sales, studies show a measurable sales increase of recordings where a tour has taken place.⁸⁵ The Internet has also enabled self-promotion, marketing, and sales of music by the artists themselves. They can use email and social networks for marketing to their fan base, and sell on their own website. Major stars such as Kanye West and Justin Bieber created their own high end merchandise, unconnected to a tour.

10.10.4 Books

The basic problem for the promotion of books is that there are so many of them each year relative to the number of buyers. How then to differentiate a title? The easiest segment to manage is the educational market. The K-12 (Kindergarten through 12th grade) textbook market is essentially one of B2B marketing in which large purchases are made

81 Epstein, Edward Jay. *The Big Picture, the New Logic of Money and Power in Hollywood*. New York: Random House, 2005.

82 Martin, Reed. *The Reel Truth: Everything You Didn't Know You Need to Know About Making an Independent Film*. New York: Faber and Faber, Inc., 2009.

83 McClintock, Pamela. “\$200 Million and Rising: Hollywood Struggles With Soaring Marketing Costs.” *The Hollywood Reporter*. July 31, 2014. Last Accessed July 10, 2017. ▶ <http://www.hollywoodreporter.com/news/200-million-rising-hollywood-struggles-721818>.

84 Krasilovsky, William M. and Sidney Shemel. *This Business of Music*. New York: Billboard Books, 2000, 24.

85 Krasilovsky, M. William, and Sidney Shemel. *This Business of Music*. New York: Billboard Books, 2000, 26.

by school districts or even states. For public primary and secondary schools, education departments typically screen textbooks and determine which books will be approved for purchase and which should be replaced. Buying many books at the same time according to a schedule tends to lower the price. Books are then marketed to the decision makers by specialized sales personnel. The books themselves require a substantial upfront investment, followed by extensive direct sales efforts. Partly as a result, the number of publishers is relatively small.

For publishers, successful college texts are the most profitable business. There is less price sensitivity (the cost of a textbook is typically small relative to tuition) and books are assigned by intermediaries, namely teachers and professors, who are readily identifiable and then targeted. Competition, however, is high. In consequence, marketing costs are major expenses for the textbooks and account for 25% of publisher revenues.

When it comes to college texts, one of the aims of publishers is to prevent the resale of a pricey book by a student who has just completed a course to another one who starts it. Counter-efforts take various forms, in particular the rapid turnover of editions, typically every three years. This makes academic sense in fields where knowledge is added rapidly, such as in biomedical studies but less so in fields where the basics remain steady. Another technique is to offer the book online, as well as to create online services such as quizzes, workbooks, reviews, exercises, and supplementary materials and to tie access to them to a purchase.

Books for the consumer market, are called a “trade books” and are mostly sold by intermediary book stores and online sites.

To deal with retailers and bulk buyers, publishers display and present at trade shows and book fairs. Of these, the largest is the annual fair at Frankfurt, Germany. Closer to the retailers, sales reps also keep in with stores and chains. These reps receive training in the details of the titles they will promote.⁸⁶ To be effective they must focus on pushing only a few of the books of their publisher’s list. But which ones? Some are obvious choices such as new books by a best-selling author or a celebrity. Books whose

authors receive a high advance (upfront payment) require more marketing push since the downside to failure is greater. Most books, however, do not fit these criteria. Therefore, it often makes sense to delay promotional efforts until information comes in about the reactions of relevant audiences and only then to invest more heavily in promotion.⁸⁷ This approach means that publishers are often fairly passive, at least at first. They wait for the market’s reaction. (“throw it against the wall and see what sticks”). This disappoints authors, many of whom sincerely believe that their book would be a best seller if only it received appropriate marketing efforts. The conclusion they should draw is that they themselves must be engaged in the marketing of their book and often execute it on their own. For example, authors may create a website for the book, and also send out information to their professional and personal circle. Authors may get enlisted in the publisher’s publicity campaign. For trade books, there are book tours with signings at book stores and media interviews.

10.10.5 Newspapers

Newspapers have been hard hit by the shift to online digital. They are being deserted both by paying readers and by advertisers. In the past, printed ad space was priced at a significant premium (on a per-impression basis) over other kinds of advertising. Newspapers enjoyed market power by often being the only daily news medium in a local community that could deliver detailed local information. But online ads have cut into that market. Marketers have been more reluctant to cut broadcast and cable TV ad spending so print newspapers have taken the major hit. On top of that, newspapers also face a decline in demand for their product itself.

As a result of this decline, newspaper publishers have tried to engage in new ways of marketing their product,⁸⁸ but also to change it and to create more audience-oriented stories and styles. In other words, to help in the marketing the product

87 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce*. Cambridge: Harvard University Press, 2000.

88 Lloyd, John. “How to Effectively Market your Newspaper.” Last accessed July 10, 2017. ► <http://www.aip.org.za/wp-content/uploads/2015/07/Quick-Guide-How-to-Effectively-Market-your-Newspaper-John-Lloyd.pdf>.

86 Greco, Albert N. “Market Practices and Procedure.” In *The Book Publishing Industry*. Viacom Publishing, 1997, 173–215.

itself should be modified. This has led to a push-back by journalists who find that such an orientation was unhealthy for a newspaper's integrity.⁸⁹

10.10.6 Magazines

There are thousands of magazine titles but a few account for most of the circulation and advertising. In the USA, 160 titles account for 85% of consumer magazines' total revenues. 75% of magazine revenues is generated by advertising, 18% by subscriptions, and 7% by newsstand sales.

Tools for marketing to consumers to solicit subscriptions include list brokers and subscription agencies (such as the Publishers Clearing House). Promotion tactics for magazines include a catchy and descriptive title, a logo that is frequently displayed, and attractive covers. Even if most magazines are received by subscription, being displayed at a newsstand or drugstore generates attention.

Another trend has been to make the marketing effort more efficient by creating economies of scale and scope. This has led to the emergence of magazine groups, with a magazine company owning dozens of titles, often related to each other, especially for trade magazines. Such a structure enables the common use of data bases, central services, and marketing organizations. There is also more stability: as one industry struggles and its advertising lags, other industries may be doing well. A publishers rule-of-thumb is that it takes about 12 magazine titles to establish such efficiencies.

10.10.7 Video Games

Video games have become a major media business, along with marketing strategies that borrow from film, publishing, and software releases.⁹⁰ Whereas in the past, games were sold by "push" to the potential user, the relationship has become much more of a two-way interaction, as well as one of peer-to-peer and social media marketing through the generation of word-of-mouth.

Marketers have been pushing in particular games for females. Women make up half of the population but account for a much smaller share of gaming participants.

Live broadcasting of video games online have added buzz. Platforms like Twitch.tv (acquired by Amazon) allow gamers to stream their gaming activities and let people follow and comment. Video game publishers advertise on these channels and sponsor competitions or players in order to raise awareness for their game titles.

Popular users like the commentator known as PewDiePie, who has 38.8 million YouTube subscribers and 9.8 billion total views, and plays games in order to entertain the audience by testing and recommending games. Game publishers sponsor these YouTube influencers in order to promote games and increase awareness for new releases.⁹¹ They aim to create buzz before a launch by sending out beta versions to selected users. Traditional marketing channels, too, are intensively used before the launch such as display advertisement, TV (advertising and game shows), and print (advertisement and advertorials, that is, ads that appear to be objective editorial content).⁹²

10.11 The Marketing of Technology

Marketing is often the costliest stage for high-tech products.⁹³ There are several dimensions to this: marketing to consumers, to retailers, to business customers, and to providers of complementary services. Consumer Electronics (CE) product lines typically are quite large and fast changing. Marketing is therefore heavily dependent on the brand reputation and visibility. The emphasis is therefore often on promoting the corporate brand rather than the specific product.⁹⁴

89 Underwood, Doug. *When MBAs Rule the Newsroom*. New York: Columbia University Press, 1995.

90 Bachelor, James. "The New Rules of Video Games Marketing." *MCVUK*. Last accessed July 10, 2017. ► <http://www.mcvuk.com/news/read/the-new-rules-of-games-marketing/0111541>.

91 Kain, Erik. "YouTuber 'PewDiePie' Is Making \$4 Million A Year." *Forbes*. June 18, 2014. Last accessed July 10, 2017. ► <https://www.forbes.com/sites/erikkain/2014/06/18/youtuber-pewdiepie-is-making-4-million-a-year/#29a9dbd65b25>.

92 Zackariasson, Peter and Timothy L. Wilson. "Basics In The Marketing Of Video Games – The Nature Of The Offering, Internal Marketing Of Projects, And A Product Manager's View Of The Overall Process." Paper prepared for 2009 NFF Conference, Turku, Finland. Last accessed July 12, 2017. ► https://www.academia.edu/766246/BASICS_IN_THE_MARKETING_OF_VIDEO_GAMES_THE_NATURE_OF_THE_OFFERING_INTERNAL_MARKETING_OF_PROJECTS_AND_A_PRODUCT_MANAGER_S_VIEW_OF_THE_OVERALL_PROCESS.

93 Easingwood, Chris and Anthony Koustelos. "Marketing High Technology: Preparation, Targeting, Positioning, Execution." *Business Horizons* 43, no. 3 (October 2004): 27–34.

94 P-O-P Times. "Who Needs Friends? Study finds P-O-P stronger influence than word-of-mouth." December 2005, 78.

When it comes to consumers of tech products, different types respond differently to innovations and must be approached differently. “Innovative adopters” love to acquire advanced devices and content, and the marketing approach has to be to let them stay “the first on their block to get XYZ.” “Pragmatists” or the “early majority” are the large group that follows the early adopters. They are nervous about state-of-the-art and like to join an industry standard.⁹⁵ Such users get confused by choice and opt for the safe one and the market leader. These consumers (and businesses) must be approached in a reassuring way.

Last are the “conservatives” or “late adopters.” They join reluctantly, when they have no choice. They are best dealt with by offers of easy returns, free service for a period, smooth transitions, and customer support options.

A related question is that of which technology customers to target with priority. One approach is to focus on one’s own existing customers for upgrade, especially where technology is rapidly changing. The advantages are that there is already an established relationship, and that consumer anxieties are lower. Another strategy is to target competitors’ customers. This is helped by the fact that longer term brand loyalty has declined and there are more “butterfly consumers.”

A technology firm will try to get the person who interacts with buyers to be on its side. Companies therefore try to influence retail sales people at big stores. This includes information and training so that they can knowledgeably explain features to customers. It also means financial incentives such as bonuses and discounts. And it calls for the creation of positive relations by sponsoring events, gifts, and so on.

Techniques for CE marketing include:

- Endorsements: Sony, for example, used golf star Michelle Wie.
- In-store live demonstrations: customers first have to get to know and understand new technologies; 28% of respondents say seeing products in-store had most influence on their purchasing decisions and had more impact than traditional media.
- Industry-wide promotion and education.

- Building “experience centers” in big cities.
- Event marketing, such as with consumer electronics, using mobile trailers that tour around the country, allowing people to experience the product.
- Train retail sales people to master and explain features to customers and recommend products, and give them special incentives through bonuses.
- Invite celebrities and trend setters to events and get them to try new devices.
- Generate press coverage.
- Guerrilla marketing: send street teams to trendy clubs and so on.
- Product placement on films and TV shows.
- Generate word-of-mouth: consumers are reluctant to trust electronics manufacturers. They tend to turn to friends and relatives for information before making purchase decisions.
- Concentrate on developing trusted relationships with previous customers to maximize brand loyalty and referrals.

10.12 The Regulation of Marketing

10.12.1 Self-Regulation

The promoters of a product can easily overpromise. Even conscientious marketers will face moral dilemmas about how strongly to word or depict a product in which they truly believe⁹⁶ or on whose success their job depends. To prevent the worst of marketing abuses, reputable companies tend to support some types of regulatory schemes, either by the industry itself or by government.

Several of the regulation issues have been discussed more generally in ► Chap. 8, Managing Law and Regulation. The US advertising industry’s primary control mechanism⁹⁷ is the Advertising Self-Regulation Council (ASRC). Several of the regulatory uses have been discussed more generally in ► Chap. 8 Managing Law and Regulation. It reviews complaints from consumers and consumer groups, local “better business bureaus” and competitors. The ASRC has no power to order an

⁹⁵ Newton, Gregory, D. “Marketing Radio.” In *Media Promotion and Marketing For Broadcast Cable and the Internet*, 5th ed. Eds. Susan Eastman, Douglas Ferguson, and Robert Klein. New York: Focal Press, 2006, 35.

⁹⁶ Kotler, Phillip. *Marketing Essentials*. Upper Saddle River, NJ: Prentice Hall, 1984.

⁹⁷ Belch, George E. and Michael A. Belch. *Advertising and Promotion: An Integrated Marketing Communications Perspective*, 4th ed. New York: Irwin/McGraw-Hill, 1998.

advertiser to modify or stop running an ad and cannot impose any sanctions, but advertisers who participate in an investigation rarely refuse to abide by the panel's decision.

Another self-regulatory approach is that of the media companies themselves. Many media outlets check and review advertisements before airing or publication to ensure that they are not deceptive or offensive. Some of that is based on self-protection. While media companies need not verify the claims made by advertisers, they can be held responsible if they should have known better or if they acted negligently. To avoid legal problems, media advertisers and agencies tend to check the ads for misstatements. There are also industry-wide codes of practice, such as among television broadcasters. Such industry-wide agreements reduce the ability of a large advertiser to pressure a TV outlet to accept its ads or lose them to a competitor. Such agreements are close to the line of anti-competitive practices, however, and have been disfavored by anti-trust authorities.

The effectiveness of self-regulation goes only so far, because it is often hard for companies to inflict painful restrictions on themselves, or to police “free-riders” who will try to profit from other firms’ self-restraint on advertising. In other cases, self-regulation often becomes a mechanism by which established firms limit outsiders. Lastly, self-regulation operates as a private system and hence does not have the same protections of due process that exist in a public system of regulation.

10.12.2 Government Regulation of Advertising

Consumer protection agencies exist in most countries and in lower levels of government, such as states, cities and provinces. In the USA, on the federal level, the Federal Trade Commission (FTC) is in charge of complaints of unfair competition and false advertisements.⁹⁸ In the EU, The Directorate-General for Health and Consumers focuses mainly on claims in the food and medical arena. It provides guidelines to the national regu-

latory bodies on the truth of advertising.⁹⁹ The EU Commission enforces its decisions through the European court system and has an investigative arm of 300 local offices.¹⁰⁰

The FTC may issue cease-and-desist orders on marketing practices and fine violators. It may require corrective advertising. The FTC also has jurisdiction over false advertising of foods, drugs, cosmetics, and therapeutic devices.¹⁰¹ There are triple damages for false advertising. Damages also include profits from the offending ad and attorneys’ fees. The FTC may require advertisers to include certain types of information in their ads so that consumers will be aware of all the performance issues and risks of the product or service. Fuel mileage claims in car ads are an example. Cigarette ads must contain a warning about the health risks associated with smoking. For ads using the Internet, too, disclosures must be conspicuous and understandable by the intended audience. In the USA, there are also 51 State Attorney Generals, and numerous state, county, and local consumer protection agencies.

10.12.3 False Advertising

Advertisers must have a reasonable basis for ad claims and possess substantiation of any claims made in them before dissemination. False advertising includes misrepresentation, bait and switch (advertising a product with no intention of selling, then switching to a higher priced item), and false price comparison. But “puffery” is permitted: advertisers can make exaggerated, boastful, and subjective claims, provided that no reasonable buyer would rely on them, such as “the World’s Best Hot Dog.”

10.12.4 Privacy Regulation

The growth of online media transactions and consumption poses challenges to individual privacy. But a ban on data collection and individualization

98 Additional US regulatory agencies involved in marketing practices are the Federal Communications Commission, for the misuse of broadcasting and other licenses; the US Postal Service, for the use of the mails for fraudulent marketing; and 51 state attorney generals, and numerous state, county, and local consumer protection agencies.

99 Directorate-General for Health and Consumers (European Commission). “About Us.” Last accessed May 18, 2011. ► http://ec.europa.eu/dgs/health_consumer/about_us/our_vision_en.htm.

100 Molnár, Tamas. “Law Enforcement In the E.U.” Presented at *Pace University Law School ODR Conference*. Pace University Law School, White Plains, NY, March 30, 2010.

101 Belch, George E. and Michael A. Belch. *Advertising and Promotion: An Integrated Marketing Communications Perspective*, 4th ed. New York: Irwin/McGraw-Hill, 1998.

has its cost, too. It may prevent positive aspects of customization, such as providing suggestions to viewers based on their past preferences, or those of others who viewed the same content. Giving users options on their willingness to have their data used encounters several issues. First, should there be an “opt-in” or an “opt-out”? Meaning, is the default a user’s approval of a provider’s activities, or is the default non-approval? Because of consumer inertia, people tend to stick with the defaults, so this makes a big difference on the outcomes. Where companies must induce consumer approval, they typically will need to provide some reward, such as a discount or an outright payment. Thus, the default system greatly affects the costs to the provider. A second issue is whether in fact a marketer should be able to buy a consumer’s right to privacy, or whether such privacy should be outside the marketplace. Even where a country has not enacted strict rules of protecting individual data privacy, marketers in their activities should keep certain principles in mind if they wish to avoid having governmental rules enacted, or where they transact business with countries that have such rules. Companies must find ways to protect their customers’ privacy, or they will face a backlash.¹⁰² People do not want to find themselves targeted by ads for liquor, nightclubs, or escort services if they are using an online dating website.

The legal and public image pressures lead forward-looking marketers toward certain data policies:

1. *Transparency*: users should be clearly told what their transaction data will be used for, and by whom.
2. *Access*: users should be able to review the data collected on them, with the option of deleting or correcting it.
3. *Collection limitation*: companies should only collect personal data that is needed, and any such data should be obtained by lawful and fair means with the knowledge/consent of the user.
4. *User participation*: users should have the right to amend or remove the information if it is inaccurate or incomplete.
5. *Security safeguards*: personal data should be protected by reasonable security safeguards from unauthorized access and use.
6. *Use limitation*: companies should share personal data with third parties only with consent. Personal data should be kept for longer than is necessary for the purpose for which it was collected.
7. *Technical and organizational protections*: measures should be implemented to protect the data against unauthorized use and against accidental damage.
8. Data collection must be limited to lawful and fair means of collection.

10.13 Analyzing Marketing Performance

To run an efficient marketing operation requires an effective feedback loop. There are several dimensions of performance analysis.

10.13.1 Advertising Analysis

This type of evaluation aims to observe the impact of marketing activities, in particular of advertising, on the target market’s attitude toward and awareness of the product. In advance of creating a full-fledged ad, an advertising agency may organize a focus group or a theater test audience to observe participants’ reactions to a cheaply produced preliminary version of it.¹⁰³ After the ad has been shown widely the advertiser can test its effects on:

- Awareness of the brand;
- Awareness of the ad;
- Recall;
- Willingness to purchase the product;
- Purchase activity.

Part of advertising analysis is to identify whether the ads reach the target audience.

10.13.2 Sales Analysis

Sales analysis evaluates measures and actual sales in relation to sales goals. It looks at changes in sales volume and in market share. The methods of sales analysis are:¹⁰⁴

¹⁰² Steinbock, Dan. *The Birth of Internet Marketing Communications*. Westport, CT: Praeger Books, 2000.

¹⁰³ Poltrack, David. “Measuring Television Advertising Effectiveness.” *Television Marketing*. New York: McGraw-Hill, June 1983, 331–357.

¹⁰⁴ Kotler, Phillip. *Marketing Management: Analysis, Planning, and Control*. Hoboken: Prentice Hall, 2015.

- *Sales variance analysis.* This identifies gaps in actual performance over forecasts, and the relative contributions of different factors to that gap, for example the product's price or the advertising budget.
- *Micro-sales analysis.* This looks at specific products, territories, and so on, which did not reach the expected sales targets.
- *Market share analysis.* This identifies the sales results of a company relative to its competitors.

10.13.3 Marketing Cost Analysis

Marketing cost analysis measures the efficiency of the firm's marketing mix. It measures advertising costs, test market expenses, and sales force expenses. Marketing expenses can be broken down, by the cost of sales force, promotion, advertising, market research, sales administration, and so on. This cost can then be checked in relation to sales, in terms of various performance ratios. For example:

- Sales force cost/sales;
- Advertising cost/sales;
- Market research expenses/sales.

10.13.4 Marketing Audit Tools

A *marketing audit* is a comprehensive review of a company's marketing activities, putting together the various types of analysis discussed, and studying the performance over time. The profusion of marketing data can also easily create information overload for managers. To alleviate this problem, marketing performance "dashboards" have been introduced that present data and metrics as graphic and useful information.¹⁰⁵ A gauge might show performance of actual outcomes against objectives, or the performance of core marketing strategies and processes.

Figure 10.3¹⁰⁶ depicts a marketing dashboard with needles that show where the company stands compared to a target goal (identified a round targets). The graph breaks down the different areas of marketing into business outcomes, marketing objectives, and strategy and programs. Within each of these areas, several measures are displayed.

Another dashboard may segment marketing performed by brand metrics (e.g. brand awareness), advertising metrics (e.g. advertising awareness), and purchase metrics (e.g. market share). A third dashboard may present the effectiveness of marketing techniques on online websites by showing visitors, cost of advertisements, and the websites that led most viewers to the target website. Still another dashboard might show the effectiveness of different marketing types (e.g. ROI on website, direct mail, and conferences). These techniques and approaches are only in their infancy.

10.14 Outlook

In this chapter we learned what marketing is: the 4 Ps of marketing (product, pricing, placement, and promotion); community-based marketing; and online tools. We saw how to set the advertising budget, how to allocate among media types, how to promote to advertisers, how to use the Internet for marketing, and how to analyze marketing performance.

The abundance of products and services enhances a market. When food ceased to be scarce, its quality, variety, and consumption increased. The same is true for media information. How should a company compete in an abundant and over-supplied market? Price competition is not a strong option, since if one company lowers its price, so will the others, given the cost characteristics of information and services with their low marginal cost. Therefore, product differentiation is the prime competitive strategy. But it is expensive and difficult for a media firm to differentiate itself by consistent and long term originality and quality. A similar approach, customization, moves products out of industrial-style mass production

105 Wikipedia. "Marketing Performance Measurement and Management." Last accessed July 7, 2017. ► https://en.wikipedia.org/wiki/Marketing_performance_measurement.

106 Source: ©1999-2017, VisionEdge Marketing, Inc. All rights reserved. Illustration of Actionable Marketing Dashboard based on Accelance® Connecting Marketing to Business Results™, patent-pending Marketing alignment and accountability methodology and application. Accelance is a registered trademark of VisionEdge Marketing, Inc.



• Fig. 10.3 Marketing dashboard

and mass media and in the direction of individualization. But this, too, is expensive and difficult. New technologies provide an edge for early adopters among marketers, but soon will be used by most competitors, too, and the advantages of innovation are often temporary.

This leaves marketing as a major competitive approach. Marketing activities will therefore be even more important, more complex, more expensive, and require more creativity than ever. Marketing efforts and the associated costs will have to expand greatly. Thus, in the information economy marketers are even more central. The new generation of media marketers will play a major role in shaping the product, refining techniques of getting attention, analyzing data on users, customizing the offerings, and creating better links with the behavioral sciences to make marketing efforts more effective. Much of the responsibility for success or failure of media products will rest on their shoulders, keyboards, and creative abilities.

10.15 Review Materials

Issues Covered

- How the marketing function is organized;
- What the special aspects of media marketing are;
- How firms integrate marketing and product design;
- How firms position products;
- What the advantages of Internet brands are;
- What the pricing strategies for media firms are;
- How marketers gain peoples attention with word-of-mouth, buzz, and viral marketing;
- What the implications of limited attention span are;
- What the role of advertising agencies is;
- How to choose the most effective advertising platform;

- How to determine an advertising budget;
- How to allocate within a media and marketing category;
- What the pros and cons of product placement are;
- What the problems in e-marketing and m-marketing are;
- What the types of online marketing approaches are;
- What demand-side and supply-side advertising platforms do;
- How media forms promote their products to advertisers;
- How influencers help with promotion;
- What the challenges in the marketing of high-tech products are;
- How marketing is regulated;
- How to manage the self-regulation of marketing;
- What the privacy issues and laws affecting marketing are;
- How to analyze marketing performance.
- How to customize through consumer-generated information;
- What the constraints on marketing through privacy protections are;
- What types of pricing approaches marketers use.

Tools Covered

- Customer lifetime valuation;
- Conjoint analysis;
- Positioning analysis;
- Bass model of diffusion;
- Determination of overall advertising budget;
- Optimal advertising mix;
- Allocation of advertising within a medium;
- Ratings, shares, and CPM analysis;
- Behavioral targeting;
- Sales analysis;
- Marketing cost analysis;
- Marketing dashboards.

10.15.1 Questions for Discussion

1. What are the budget considerations when promoting a film in global markets?

2. How can one generate free promotion for a new novel?
3. The Internet has made it possible to practice interactive one-to-one marketing. For which media products and services would it work best?
4. How can a consumer magazine assess the effectiveness of a campaign?
5. How does the advent of the Internet and interactive marketing alter the role of traditional media outlets in the marketing of media products?
6. How is marketing research implemented for magazines to increase marketing efficacy? And for blogs, in comparison?
7. In which ways, if any, does the marketing of media products and services differ from the marketing of other consumer goods?
8. What kinds of new Internet tools do media companies have at their disposal to promote their product? What are the strengths and weaknesses of these tools over traditional methods?
9. Describe the various ways Google is involved in online advertising.
10. Is product placement an effective means of marketing a product? How can firms track the effectiveness of their product placement?

10.15.2 Quiz

1. What is the customer lifetime value?
 - A. The present value of all future profits that a company can potentially generate from a customer.
 - B. The future value of all the profits that a company can generate from its present customer.
 - C. Customer retention and loyalty is incorporated into LV.
 - D. Both A and C.

E. Both B and C.

2. Which of the following is a fundamental challenge to media marketing?
- Price deflation.
 - Slow growth and cost inflation of gaining attention.
 - Increased creation and production.
 - A and C.
 - All of the above.
 - None of the above.
3. Which of the following is a forecasting tool for customer demand?
- Focus groups.
 - Test marketing.
 - Computer models and simulation.
 - Historical analogy.
 - Expert survey.
 - All of the above.
4. Price difference between hardback and paperback books is much larger than the cost difference between the two. This is an example of:
- Market pricing.
 - Penetration pricing.
 - Flat rate pricing.
 - Value based discriminatory pricing.
 - Cost-plus pricing.
 - Value Pricing based on customer's willingness to pay.
 - None of the above.
5. In which advertising budgeting method does a company establish budgeting amounts by matching a competitor's percentage-of-sales marketing expenditures?
- Marginal analysis approach.
 - Return on investment (ROI).
 - Competitive parity approach.
 - Objectives approach.
 - Quantitative model approach.
 - None of the above.
6. Which formula approximates the life time value of a customer?
- LV: Lifetime value
 M = margin
 I = Discount rate
 R = Retention rate
 AC = Acquisition cost
 g = Growth rate

$$A. LV = \frac{M \cdot R}{(1+I) - R} - AC$$

$$B. LV = \frac{M \cdot R}{(1+I) + R(1-g)} - AC$$

$$C. LV = \frac{M + R}{(1-I) - R} - AC$$

$$D. LV = \frac{M \cdot R}{(1+I) + R} - AC$$

E. None of the above.

7. True or false: repeating a television ad more frequently than the competition affects brand preference in a mature market?
- True.
 - False.
8. A Warner Brothers' movie is discussed on CNN.com. What is this an example of?
- Zone targeting.
 - Media globalization.
 - Database marketing.
 - Cross media marketing.
 - All of the above.
9. Which of the following can influence the effectiveness of an ad?
- Length and frequency of exposure.
 - Ancillary costs of production.
 - Customer "reach."
 - A and C.
 - All of the above.
10. An artist's album sales increase in the regions toured after a concert.
- True.
 - False.
11. What is the most influential advertising platform for theatrical musical shows?
- Radio.
 - Magazines.
 - Television.
 - Newspapers.
 - None of the above.
12. What is the most influential advertising method for video games?
- Movie-like trailers.
 - Movie websites.
 - Both.
 - None.

13. Which of the following is a method for marketing books?
- Get the title mentioned in magazines and newspapers.
 - Book fairs.
 - Talk shows.
 - B and C.
 - All of the above.
14. Which of the following tools can be used to enhance magazine subscription sales?
- Rate cards.
 - List brokers.
 - Third party partnerships.
 - B and C.
 - All of the above.
15. Future magazine pricing strategies will shift from massive advertising discounts to:
- Consolidating titles for advertising purposes.
 - Offering more package deals to advertisers.
 - Increasing circulation revenues.
 - A and C.
 - None of the above.
 - All of the above.
16. Which of the following is a reason to use telemarketing?
- An active marketing strategy.
 - Can reach a specific audience.
 - Allows for customer feedback.
 - Allows for differentiation of pitch.
 - A and D.
 - All of the above.
17. Which of the following is *not* an advantage of Internet marketing?
- Powerful in collecting useful data for targeting individuals.
 - Internet is interactive.
 - It can reveal whether an ad is working or not.
 - Very effective in persuading indifferent customers.
 - Most households are not connected to the Internet.
 - D and E.
 - C, D, and E.
18. Sequential movie distribution is based on:
- Releasing the movie to all markets and submarkets at once.
 - Releasing the movie to the markets that make the most revenue per unit time first, and then cascade to the other markets by revenue/time decreasing order.
 - Releasing the movie to American markets first and then to foreign markets.
 - None of the above.
19. Which of the following statements about the marketing of media products and services is incorrect?
- Media products have low marginal costs and high fixed costs that provide strong economics of scale.
 - It is difficult to exclude unauthorized consumption and compete with “free” products as a marketer.
 - There is often a short product cycle and a short marketing window.
 - The product must be strongly differentiated from those of rivals.
 - There is a normal distribution of success in the media industry.
20. Which of the following statements is correct?
- Product placement is not an effective way to advertise without being obtrusive.
 - Product placement is not a major way to overcome the trend of consumers skipping advertising commercials.
 - Product placement is not a way of advertising that informs the audience in detail about a product.
 - Product placement is not increasingly used in videogames, as a new way to reach young males.

Quiz Answers

- ✓ 1. D
- ✓ 2. E
- ✓ 3. F
- ✓ 4. D
- ✓ 5. C
- ✓ 6. A
- ✓ 7. A
- ✓ 8. D
- ✓ 9. D
- ✓ 10. A
- ✓ 11. C
- ✓ 12. A
- ✓ 13. E
- ✓ 14. D
- ✓ 15. F
- ✓ 16. F
- ✓ 17. F
- ✓ 18. A
- ✓ 19. E
- ✓ 20. C



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11.1 Setting a Price

11.1.1 Introduction

When a firm plans and produces a good or service, it does so with the intention of selling it to generate a profit. But at what price? “Pricing” is a critical part of business strategy and marketing because it translates a product into a revenue stream. As Thomas Nagle and Reed Holden observe, pricing tries to capture the value created by the design, production, and marketing efforts of the firm.¹ Where pricing is done in an ineffective way it offsets the company’s other efforts. To analyze the pricing issues in the media, communications, and information sector, this chapter will cover:

- How to set a price based on cost and profit margins;
- How to use auctions;
- How to set the price dynamically and instantly;
- How to engage in price differentiation;
- How to measure price sensitivity;
- How to charge a price above cost;
- How to set prices strategically;
- How to set intra-company prices;
- How to hedge against price risks;
- How to stay inside the law in pricing;
- How to use technology for micro-pricing.

Setting a price is more complex than one would think. Many factors have an impact. They include, most obviously, cost, but also strategic objectives, customer perceptions,² competitors, marketing positioning, general economic price trends, and expectations.

This chapter will examine how prices for information products are, or should be, set. Unique pricing difficulties exist within the information and media industries, and this chapter discusses them. Pricing requires good judgment and experience, but it is also an application of the analytical approaches of micro-economics and marketing. Quantitative and analytical reasoning

and good judgment must be based on a solid understanding of why some pricing strategies succeed and others fail.

Historically, price setting was never just a simple economic transaction. In medieval society, merchants were, at least in theory, obligated to charge a price close to cost, and prices were often closely regulated by guilds or by law.³ More recently, price constraints exist in many countries and for many products. Even in the USA under a Republican President, Richard Nixon, temporary price freezes were imposed by government to mitigate inflation. In the Soviet Union, charging a price higher than the official price was a criminal offense. In severe cases, such “profiteering” was punishable by death.

To many economists and financial practitioners, the prices of stocks that are traded in stock exchange markets have achieved the status of distilled collective wisdom. They believe that these prices summarize all the information and expectations about the prospects of a company, of a bad harvest, or of a political event. The efficient market hypothesis (introduced by Eugene Fama, a 2013 Nobel laureate) argues that it is impossible to “beat the market” because stock market efficiency causes existing share prices to incorporate all relevant information. This process becomes ever-more efficient and rapid as technology progresses and spreads information more quickly and widely.

11.1.2 Special Problems in the Pricing of Information Products

11.1.2.1 High Fixed Cost, Low Marginal Cost

As discussed repeatedly, high fixed costs and low marginal costs prevail in most media activities. In the case of software, it may cost over \$10 million to write a computer program but less than \$2.50 to produce and distribute a CD-ROM, and almost nothing to copy and distribute it online. These cost characteristics mean substantial economies of scale, which create incentives for each competitor to expand in order to obtain them. It also results in prices dropping toward the low mar-

1 A source that has been invaluable to this chapter and deserves much credit is the excellent book by Nagle, Thomas T. and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. Saddle River, NJ: Prentice Hall, 2002. Nagle’s subsequent editions were with John E. Hogan, Joseph Zale, and Georg Müller.

2 Warner, Ala, and Chris Goodwin. *Pricing for Long-Term Profitability*. London: Prentice Hall Financial Times, 2002.

3 Heilbroner, Robert. *The Making of Economic Society*. Englewood Cliffs, NJ: Prentice-Hall, 1962.

ginal cost, since under competitive pressures, the price for the content or service is the marginal cost, which is close to zero. Most likely, prices will eventually be below average cost, meaning that they will not cover the fixed cost of initial development. With newspapers, for example, retail prices barely cover the basic costs of paper and delivery (i.e. the marginal cost) and do not cover the substantial cost of content creation. If advertising revenues drop—as they did with the advent of online media as vehicles for local ads—the fixed cost becomes higher than revenues, and the newspaper runs a deficit.

11.1.2.2 Price Deflation

Information has become cheaper for many decades, and it is becoming difficult to charge anything for it. This is demonstrated by the proliferation of free online music, publishers, and newspapers.

The implication is that the entire information sector is subject to a gigantic downward price spiral. Examples are long-distance phone calls, cell phone services, online advertising, semiconductors, and consumer electronics hardware. This downward price spiral in the information sector represents one of the fundamental economic trends of our time.

Consider the price of telephony. The price of international telephone calls has dropped dramatically. In terms of hours of work equivalents, a three-minute call from New York to London took, in 1927,⁴ 200 hours of work; in 1936, 56 hours; in 1945, 20 hours; in 1970, 5 hours; in 1995, 0.2 hours; and by 2003 with Internet telephone service, virtually zero.⁵ Similarly, the average monthly price paid by users per minute for a mobile service (including the various miscellaneous charges and basic subscription) in the USA dropped from 1994 with an average revenue per minute of 47 cents to 7 cents in 2004.⁶ A similar price drop has characterized electronic hardware, whether laptop computers, TV

sets, video players, or mobile phones. Prices on all of these devices have dropped and/or performance has been rising.

At its basic level, these price changes are due to the rise in performance per dollar—known as “Moore’s law,” which observes a doubling of performance of semiconductor microprocessors every two or so years, that is, an increase of about 40% compounded annually. This law can be phrased differently in terms of price for the same performance. That price decline, with performance held constant, proceeds at a similar rate.

Thus, storage, transmission bandwidth, processing power, content, and applications have been moving to a zero price. It seems that nearly anything associated with competitive online technology moves down the path to being free.⁷

Even when price is not literally zero, as is the case for a transistor in a microprocessor, it becomes so cheap that their price is not a major factor. Furthermore, for information products price arbitrage becomes fairly easy, and it is difficult to charge some people—or local markets—a hefty price while giving it to others for free.

Prices may drop, but they are also volatile. As prices decline companies cannot cover costs, and entire industries go through crises. Eventually some competitors fail and go out of business, companies consolidate, price competition moderates, and companies become profitable again. This attracts new entrants, and competition re-emerges. A new cycle of investment, overproduction, competition, and price collapse appears again.

Thus price deflation leads to cyclical volatility of prices, instability in the entire information sector, and difficulty in price setting. This economic situation is beneficial for consumers yet can be disastrous for producers and their employees.

11.1.2.3 Intangible Products and Public Goods

Intangible assets such as information, data, entertainment content, software, scripts, and technology innovations are difficult to value and price. Additionally, many of these intangible information products can be consumed by multiple people in a “non-rival” fashion. One person’s consumption of the product does not diminish it for another, as would be the case with, for example, an automobile.

4 Odlyzko, Andrew. “Internet pricing and the history of communications.” February 8, 2001. *AT&T Labs – Research*. Last accessed August 2, 2011. ► <http://www.dtc.umn.edu/~odlyzko/doc/history.communications1b.pdf>.

5 Prices fell, in particular, after competition was introduced in the 1980s. Before that, international calls were run cooperatively by an international cartel of national monopolies, which kept prices at a fairly high level. Once competition was introduced, prices dropped dramatically.

6 Calculated using average local monthly bill and average minutes of user per subscriber per month from the Cellular Telecommunications & Internet Association, October 2004.

7 Anderson, Chris. “Why \$0.00 is the Future of Business.” *Wired*. February 25, 2008. Last accessed June 17, 2017. ► http://www.wired.com/techbiz/it/magazine/16-03/ff_free.

11.1 · Setting a Price

Also, potential users are hard to exclude from consuming the product. Broadcast television is a good example. Unless one can encrypt the signals, nobody can be excluded from watching. Non-excludability and non-rival consumption are the characteristics of “public goods”—products and services outside a market or pricing system, such as national defense or the environment. The existence of public good characteristics leads to “market failure”: customers have no incentive to pay the price at all, and the market will hence be unstable.⁸ Market prices become extremely low, with no firm recovering its cost, or there is no equilibrium market price at all. Examples include natural resources such as fish in the ocean, broadcast “over-the-air” radio/TV broadcasting, street lights, and national defense. Possible responses to market failure are:

- Governmental intervention to control resources, to require broadcast licenses, operate street lights, and provide national defense;
- Cooperation of providers of this good to form a cartel and only offer the good at a certain price;
- Find technical methods to make the good excludable (e.g. encrypt TV broadcast signal);
- Find ways to monetize the consumption of the good in ways other than by charging a price for it (e.g. include advertisements on over-the-air radio/TV).

11.1.2.4 Presence of Non-maximizers of Profit

Normally, economic analysis assumes the presence of rational actors who maximize profits. But in the media industry this is frequently not the case. Many creators of media content do not seek to maximize profit. They seek status and

influence, or simply enjoy the creative process. For these producers of content, the setting of optimal prices to compensate them for their efforts is secondary. As an example, many performers provide free music as a means of self-marketing and of gaining the attention of record labels.

11.1.2.5 Role of Government

Another factor that poses a special problem for the pricing of information products is the typically active role of government in the information sector. Protection of access to information and networks leads to frequent government controls over retail and wholesale prices in some information sector markets. There exists a special sensitivity for monopolistic pricing within the media and information industries, and strong policies to make access to information and media services afford to all. That is why throughout the world there exist free public libraries, subsidized phone or Internet service, “free TV” in even remote corners of a country, as well as uniform pricing across cable TV users, regulated interconnection prices for networks, and non-discriminatory prices for content providers over Internet Service Providers (ISPs).

To conclude, the pricing of information products is subject to long-term pressures and short-term shocks. An information economy is a boom–bust economy, with unstable prices, and a general downward price trend. Pricing strategies in the media and information sector are both difficult and critical.

The problems of the pricing of media and information products can be seen in the following case, the rise and fall of *Encyclopaedia Britannica*.

11.1.2.6 Case Discussion

Encyclopaedia Britannica—Overview

The *Encyclopaedia Britannica* (EB)⁹ was first published in Scotland in 1768, but it has been American-owned since 1901. By 1929, EB was mainly operating from the USA,

with a permanent editorial team located in Chicago. In 2009, a poll in the UK named EB one of Britain’s top consumer brands (10th place) in terms of reputation and reliability.

EB used to be one of the world’s largest publishing firms. It featured highly respected contributors, such as Sigmund Freud, Albert Einstein, Henry Ford, W. E.

8 Groves, Theodore and John Ledyard. “Optimal allocation of public goods: A solution to the “free rider” problem.” *Econometrica* 45, no. 4 (May 1977): 783–809; Bergstrom, Theodore, Lawrence Blume and Hal Varian. “On the private provision of public goods.” *Journal of Public Economics* 29, no. 1 (1986): 25–49.

9 A note on spelling: in American usage, the books are known as an “encyclopedia.” The British usage is “encyclopaedia” or “encyclopædia.” EB seems to be using all three spellings.

B. Du Bois, Leon Trotsky, Marie Curie, Milton Friedman, Carl Sagan, and many others. EB was a profitable market leader. In 1988, the encyclopedia was priced at \$1200, a leather-bound embodiment of humanity's accumulated knowledge. Libraries around the world were renewing their subscriptions at a rate of 98%. Doting parents and grandparents treated children with the gift of a brand new set for a birthday or other important occasion. In 1990, EB sold 120,000 sets of encyclopedias in the USA alone.

But then the electronic onslaught began. In 1989, *Compton's Encyclopedia* was the first to issue a CD-ROM version. Another encyclopedia, *Funk & Wagnalls*, soon acquired by Microsoft, sold its product as *Encarta* for \$49.95 on a CD-ROM. Consumers stopped buying the costly leather-bound print version, revenues plummeted, and by 1996 EB was near bankruptcy. The company was then bought by financier Jacob Safra, a Geneva-based banker and encyclopedia fan. In 1999, EB put basic content on a website, entirely for free, with revenue expected to come through e-commerce transaction.

The number of users increased but advertising and transaction revenues were tiny.¹⁰

But this was just the beginning of the crisis. EB was still the premium product; the problem was how to monetize it. However, a challenge soon emerged for the content itself. After 2005, the free website Wikipedia emerged as a serious threat. Launched in the USA in 2001 by Jimmy Wales and Larry Sanger, Wikipedia presented a free online encyclopedia written by volunteers. It operates with an open community model. Access is free and anyone can make edits to an article. There is no formal editing process, at least in theory, and the hope is that a large community of volunteer editors will quickly detect and correct any mistakes. In contrast, EB had 4500 expert contributors worldwide, many of whom received honoraria for their articles, and contributions went through a team of 100 paid editors before approval. In 2015, there were almost five million articles in the English language version of Wikipedia while EB had "only" 120,000. There are numerous other language editions of Wikipedia, and translation programs make them partly available in English, too.

Was there a quality differential, given that Wikipedia is edited by volunteers? In 2006, the science journal *Nature* compared scientific entries and found that EB was only 30% more accurate than Wikipedia.¹¹ Thus, without much more credibility, yet with a much smaller number of entries and a much higher price, EB's business kept dropping, from \$586 million in 1992 to \$50 million in 2008. In 2009, 60% of its revenues came from online operations. Its print sales were primarily to libraries, where subscription renewal rates were still about 98%.¹²

So the question is, what should EB's pricing strategy have been, in such an environment? A price of zero to match Wikipedia's? Or hold it at \$1200? Or somewhere in between? Or a higher price than \$1200, and focus on libraries and the prestige market, and give up on the consumer market? Different prices for different customers? Pay-per-use? Freemium? Basic subscription fee plus usage-based fees? Individualized price, or single price with lots of discount categories? These are some of the options we will explore in this chapter.

11.2 Pricing Strategies

Firms normally have several basic options for setting prices. They can:

- Be based on the *cost* of production;
- Be determined by the *market*;
- Be based on the *value* of the product to the customer;
- Reflect a firm's *market power*;

- Pursue a company's *strategic* objectives;
- Be *regulated* by government.

We will analyze these options and how they relate to media and communication.

11.2.1 Pricing by Cost

11.2.1.1 Cost-Plus

Companies often set prices by calculating the cost of producing the good or service and adding a percentage of profit on top of it. This is known as "cost-plus" pricing, or as "mark-up" pricing. This is a straightforward and widely used process.

It is often thought that one advantage of cost-plus pricing is its simplicity. Actually, however,

10 Boudreau, John W., Benjamin Dunford, and Peter M. Ramstad. "The Human Capital Impact on E-Business: The Case of Encyclopedia Britannica." In *Pushing the Digital Frontier*. Eds. Nirmal Pal and Judith M. Ray. New York: Amacom, 2001.

11 The Economist. "Encyclopedias: Battle of Britannica." March 30, 2006. Last accessed July 28, 2011. ▶ <http://www.economist.com/node/6739977>.

12 Charlton, Graham. "Q&A: Ian Grant of Encyclopaedia Britannica UK." February 10, 2009. *Econsultancy Digital Marketers United*. Last accessed August 2, 2011. ▶ <http://econsultancy.com/blog/3268-q-a-ian-grant-of-encyclopaedia-britannica-uk>.

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cost is difficult to determine.¹³ The first problem is to determine which type of cost should be used. It could be either incremental cost (marginal cost) or average cost. Typically, what is meant by “cost-plus” is average cost. The difference in pricing between the two types of costs is often significant and will be explored later in this chapter. Average cost could be much higher than incremental cost, especially where fixed (upfront) costs are high and incremental costs are low.

Another problem is that what gets included in the term “costs” can be subjective and strategic. Cost definition can vary greatly, depending on the business purpose. Firms have incentives to show high costs for a number of reasons, such as to lower income tax, or to reduce the sharing of profits with investors or licensors, or to show low profits to regulators. Conversely, firms have incentives to show lower costs (and thus higher profits) if they aim to impress investors or gain bonuses for managers. There are many ways to structure and allocate costs, as cost figures can be affected by factors like the expensing versus capitalization of

investments, the depreciation rates chosen, or the timing of the cost. They can also be affected by the allocation of overhead and other expenses, the reserves for potential risk, the valuation of inventory, and the allocation of costs among different projects. This is discussed in ► Chap. 13 Accounting in Media and Information Firms.

The third problem regarding cost-plus pricing is that cost actually depends on the scale of production, but also, vice versa, the production volume depends on price. Cost depends on price, just as price depends on cost. Unit costs (both average and marginal) change with volume.¹⁴

But perhaps the main problem with cost-plus pricing is that it is not based on market conditions. Whether demand is high or low, cost-driven pricing leads to the same price, thus being too high in weak markets and too low in strong ones.

Despite these challenges, cost-plus pricing is used, for example in certain procurement contracts with governments. It is also used in price regulation, for example of telecom prices or of compulsory licenses for music.

11.2.1.2 Case Discussion

Cost-plus Pricing

Should EB price its product using a cost-plus approach? What kind of costs would it have to consider?

The actual EB prices were as follows:

- Online: \$65;
- Print: \$1200.

What do these prices suggest about the use of cost-plus pricing

by EB? For the online version, cost-plus is close to actuality (► Table 11.1). But for the print version, cost-plus is about 50% lower than actuality. In the online case, competition must have brought down prices to a level of slim profits (\$10 per unit, about 18%). For the print version, profits

were \$500 per unit, or 71.4%. Such a high level is possible only where there is market power or significant product differentiation.

Why would EB take such different pricing approaches to the print and the CD-ROM version? We will discuss this in other segments of the case.

11.2.1.3 Marginal Cost Pricing

Economists favor marginal cost pricing since they consider it to be efficient in sending correct signals to the market. They argue that fixed cost is typically “sunk” and therefore no longer relevant to a firm’s pricing decision, at least not in the short run. If the price is set at a level below marginal cost (MC) the firm will spend more on producing

the extra unit than it will gain by selling it. Ideally it would set a price above MC so that it would profit for the sale. However, where markets are competitive, the presence of a profit that is “above normal” would attract similarly situated competitors to underprice the firm, and thus drive prices down to MC, which would be the floor. Thus, setting price equal to MC is not the price point a firm

13 Nagle, Thomas T. and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. London: Prentice Hall, 2002.

14 Nagle, Thomas T. and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. London: Prentice Hall, 2002.

Table 11.1 Cost characteristics of *Encyclopaedia Britannica*

	Online version	Print version
Marginal costs	\$5	\$500
Fixed costs allocated (per unit):	\$50	\$200
Average Total cost	\$55	\$700
Cost-plus price (adding a 15% profit margin)	\$63.25	\$805

would choose voluntarily; rather, it is the level the firm would be forced to set if subject to competitive pressures.

But more of a problem than these conceptual and measurement problems is the economic issue that marginal pricing may lead to prices at a level too low to cover the fixed costs. At that level the firm will lose money.¹⁵ But raising the price above short-run MC is difficult in competition because it will lose sales to competitors.

11.2.2 Market-Based Pricing

11.2.2.1 Commodity Pricing

In many situations of active and competitive markets, firms cannot set a price at a level they like but must follow market prices. For example, for products such as memory chips or for services such as telecom transmission, conditions of supply and demand determine prices. A firm can lower prices to gain a sales volume. But the price cut would often be matched by competitors. This is in particular the case where products are similar and where the initiating firm has no efficiency advantage. The result would be a lower market price equilibrium with lower profits for every firm.

The Internet raises the use of competitive pricing. Companies' prices are usually easily available. Search engines, shopping "bots," and shopping sites make it easy for customers to compare prices. This is particularly true for standardized products. The result is the occurrence of "price wars."

15 To deal with that problem, economists tend to postulate that prices will come down only to long-run marginal costs, which include the elements of fixed costs that are variable in the long run.

11.2.2.2 Market Price Determination Through Auctions

Auctions and competitive bidding are processes that help find a market price for a good or service.¹⁶ Such an auction price then may set the reference price for similar products. There are several main types of auctions. In open-outcry auctions, bids are public at the time of bidding, which gives the various bidders the opportunity of observing each other. In contrast, in a sealed-bid auction, no party knows the other's bid and it may therefore overbid to be on the safe side. The primary purpose of a sealed-bid auction is to prevent collusion. The "sealed first-price auction" is a simultaneous, secret, and one-bid process often used in government contracts.¹⁷

In "English auctions," prices are ascending, meaning that bids start at a low price and bidders keep increasing the amount. The problem with ascending auctions is that when competition for bids is weak, winners can get a real bargain. For that reason, a minimum "reservation price" might be specified. Bidders can gain advantage by "bid-rigging," that is agreeing not to bid against each other, thus unfairly reducing the price. From the seller's perspective, an English auction reveals the willingness-to-pay of every bidder, except that of the most important one, the last bidder, who in fact might have been willing to bid higher.

Unlike English auctions, "Dutch auctions" start at a high price, and decrease until it is accepted by one bidder. The winner thus reveals his or her willingness-to-pay. This type of descending-price auction incentivizes bidders to act quickly as they do not know when the auction will end. The first bidder gets the deal, whereas in an English auction it is the last bidder. An example of this type of auction is Google's 2004 IPO (initial public offering of stock), in which the company sold 19.6 million shares using a modified Dutch auction.¹⁸ In a "Japanese auction," no new bidder may join and no non-bidders can rejoin. In a "reverse auction" a buyer seeks the lowest bids by sellers. Examples

16 Bichler, et al., "Applications of flexible pricing in business-to-business electronic commerce." *IBM Systems Journal* 41, no. 2 (2002) 287–302.

17 Shor, Mikhael. "Second Price Auction." *GameTheory.net*. August 12, 2005. Last accessed June 12, 2012. ▶ <http://www.gametheory.net/dictionary/Auctions/SecondPriceAuction.html>.

18 Hodrick, Laurie Simon. "Google's IPO: A Dutch Auction Works, If You Let It." *Columbia Business School: Hermes*. October 1, 2004. Last accessed August 2, 2011. ▶ <http://www7.gsb.columbia.edu/alumni/news/Googles-IPO>.

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are “requests for proposals” that solicit the cheapest offers by vendors.

In a “first-price” auction the top bidder pays the amount of the bid. But in a “second-price” auction, the top bidder pays the amount of the second highest bid. William Vickery, a Columbia professor and Nobel Prize winner, designed sealed-bid, second-price auction, known as a Vickery auction. Vickery showed that a second-price auction does not bring in less money than a first-price auction, and possibly more, even if the payment is that of the second-highest bid, because bidding would be encouraged and under-bidding discouraged. The second price auction is hence more efficient than a first-price auction.¹⁹

Today, Google and Yahoo use a variation of a second-price auction for the sale of search engine advertising. The potential advertiser bids for top placement on specific keywords associated with their product, for example “Venice” for travel agencies.²⁰ For such a placement, the winning advertiser (based on bid offered plus several other factors) pays the bid amount of the next-highest bidder.

Auctions are also used for spectrum licenses for mobile phone companies, utilizing highly complex auction designs. In the publishing industry, if there is great interest in a project, the book’s agent typically organizes a formal or informal auction for it, and publishers bid on the project.²¹ A so-called “winner’s curse” frequently occurs, with publishers at times getting carried away by wanting to prevail and get publicity, but do so at a price beyond a reasonable chance of profitability.

In the past, auctions had high transaction costs, and this meant that they were limited to high-volume sectors such as finance, commodities, and art. Subsequently, electronic platforms made it much easier to use auctions also for consumers, as typified by the online auction firm eBay, which has created a large-scale auction-style marketplace. In China, Taobao, part of the Alibaba Group, has a strong presence in consumer online auctions.

Another approach is a “name your own price” auction. The basic idea is for a consumer to state his or her price for a hotel, or for a TV set, with conditions on brand or location, by entering a bid (legally binding and backed by a credit card), where the highest bids might be accepted by the seller. The website Priceline used auction pricing first in 1998 for the sale of airline tickets.

Auctions make sense for business-to-business transactions where deals are relatively big and vary, or for special and valuable objects where it is difficult to determine “market prices.” But for the consumer market, the main problem, even with the introduction of e-auctions, is that most consumers do not want to negotiate for their goods, preferring simplicity over transacting for a potentially lower price.²² In the case of hotels, consumers want to know exactly what they are getting. A hotel on the beach is a very different product from one across the highway. Thus, after an initial euphoric embrace of auctions, many economists have concluded that it is often preferable to put a price tag on an item because it reduces transaction costs.

11.2.3 Dynamic Pricing and Peak-Load Pricing

“Dynamic pricing” is a price mechanism that adjusts to short-term changes in demand and supply in a pre-defined fashion.²³ Dynamic pricing is often used by airlines. “Yield management” helps some sellers to vary prices both upward and downward when demand varies and the product cannot be stored. Examples are airline seats, hotel rooms, rental cars, and telecom network capacity. An airline or resort hotel will have a historical booking path for a route or location and a specific date. As the day comes closer it must fill its seats rooms or be stuck with unsold capacity. By comparing its “yield” to previous years it can observe whether tickets sales

19 It is claimed that already in 1797, the author and statesman Johann Wolfgang von Goethe sold a manuscript through what we call today a second-price auction. Moldovanu, Benny and Manfred Tietzel. “Goethe’s Second-Price Auction.” *Journal of Political Economy* 106, no. 4 (August 1998): 854–859.

20 Varian, Hal R. “Position Auctions.” *International Journal of Industrial Organization* 25 (2007): 1163–1178.

21 The Doris S. Michaels Literary Agency. “Outline of the Publication Process.” Last accessed July 28, 2011. ► <http://www.dsmagency.com/published.html>.

22 Bodow, Steve. “Is That Your Final Offer?” *New York*. January 10, 2000. Last accessed July 28, 2011. ► <http://nymag.com/nymetro/news/bizfinance/columns/bottomline/1778/>.

23 Bodow, Steve. “Is That Your Final Offer?” *New York*. January 10, 2000. Last accessed July 28, 2011. ► <http://nymag.com/nymetro/news/bizfinance/columns/bottomline/1778/>.

are ahead or behind, and whether to discount prices or raise them.²⁴

Broadway theaters use a similar approach in selling their tickets. The online box office agency Ticket.com Inc. claims improved revenue per event of 45% by modifying the price on the basis of supply and demand.²⁵ However, yield management and dynamic pricing are not used by movie theaters, and movie tickets are sold, for a given time slot, at the same price, whether the particular theater is half-empty or overflowing. The movie theater industry explains the absence of such dynamic and differentiated pricing by several factors: the negative message that it sends out if one prices some films more cheaply; that theatergoers are not price elastic in their choice of a particular film; that the long lines for tickets generate valuable publicity for the film; and that, at a multiplex, people who could not get a ticket to their favored film might settle for another film, so these are not lost sales and might even raise them. Other factors are administrative complexity and unpredictability.²⁶

In contrast to film theaters, sports teams have been actively adopting dynamic pricing. Many teams already offer preplanned tickets at prices that use several variables that historically draw larger crowds, such as the date or the opponent. The San Francisco Giants baseball team went one step further by changing prices on a daily basis. The team had experienced a 20% increase in sales when it started the star pitcher Tim Lincecum.²⁷ The Giants therefore adopted a pricing system and made several million extra dollars each year by charging a higher price whenever Lincecum pitched.

Flexible pricing (i.e. variable by consumer characteristics or demand) becomes easy with online platforms. Prices can change daily, and be different for different types of customers and market conditions. Yet short-term gains might conflict with long-term goodwill. Consumers often react negatively to aggressively differenti-

ated pricing,²⁸ such as a vending machine that increases prices on hot days. The Coca-Cola Co. got bad publicity when its CEO discussed a machine that would do just that. The company dumped the idea as well as its CEO.

Also problematic was Amazon's use of dynamic pricing, where it quietly charged higher prices to buyers who bought many books and thus appeared to be less price-sensitive. These frequent customers were being charged up to 5% more than the regular price. They were outraged to learn that Amazon charged them higher prices because they were taken for granted, instead of getting a discount for being loyal customers. Amazon denied such a policy and explained it as merely a test-marketing, but observers were skeptical.

Price negotiations based on better information works both ways. Consumers, too, are using the Internet to engage easily in price comparisons. They can then cherry-pick the best offers, with little loyalty to a retailer. This limits the bargaining position of any one website or store to price discriminate.²⁹

A sub-category of dynamic pricing is "peak-load pricing" where price variations are already pre-set. For example, electric companies charge more during high usage periods, thus moving some consumption such as running washers and dryers toward periods of lower demand and making more efficient use of capacity.

11.2.4 Indexed Pricing

Prices are affected by the more general developments in the overall economy, in particular by inflation—the rate at which the general level of prices for goods and services is rising. One type of pricing is to adjust regularly the price upward by an index of inflation. Inflation can get out of control and spiral to hyper-inflation. Examples are: Germany in 1923, when inflation reached rates of more than 30,000% per month, with prices doubling every few days; Israel in 1984, with an

24 Nagle, Thomas T. and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. London: Prentice Hall, 2002.

25 Fleischmann, Moritz, Joseph M. Hall and David F. Pyke. "Smart Pricing." *MIT Sloan Management Review* 45, no. 2 (Winter 2004): 9–13.

26 Orbach, Barak Y. "Antitrust and Pricing in the Motion Picture Industry." *Yale Journal On Regulation* 21, no. 2 (Summer 2004): 317.

27 Fisher, Eric. "Ticketing's Changeup." *Sports Business Journal*, May 31, 2012. Last accessed July 7, 2012. ► <http://www.sportsbusinessdaily.com/Journal/Issues/2010/05/20100531/SBJ-In-Depth/Ticketings-Changeup.aspx>.

28 Kemp, Ted. "The road to one-to-one pricing; retailers are becoming more customer-centric, and that's driving them toward dynamic pricing to foster customer loyalty and maximize revenues and margins." *Fairchild's Executive Technology* 6, no. 5 (May 2004): 36.

29 Weiss, Robert M., and Ajay K. Mehrotra. "Online Dynamic Pricing: Efficiency, Equity and the Future of E-commerce." *Virginia Journal of Law and Technology* 6, no. 2 (2001). Last accessed July 28, 2011. ► <http://www.vjolt.net/vol6/issue2/v6i2-a11-Weiss.html>.

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annual inflation rate of 445%; or Argentina, when the annual inflation rate reached 12,000% in 1989, and Venezuela's with 13,000% in 2018.³⁰

What then are companies to do in their pricing when high inflation hits? They may index their prices to an inflation measure such as the consumer price index. Contract prices, bank debts, or wages would then increase automatically in every period (e.g. quarterly) by the same factor as the price index increases. A variant of this system is for all transactions to be denominated in a relatively stable foreign currency, such as the US dollar or the Euro.

11.2.5 Value Pricing

11.2.5.1 Economic Theories of Value

So far, we discussed pricing based on variations of cost and market conditions. A third approach is to set price based on “value,” which can be both objective and subjective. To a firm, the value of an asset can be measured objectively by the net present value of future income streams. But to a consumer, value is more subjective. Price does not mean value. These are two different concepts. To a worried parent of a gravely ill child curable by penicillin, the value of the drug might be almost infinite. But the price in the drug store is only \$5.95. The difference is known as the consumer surplus. Conversely, the price of a fashionable handbag may be high, but for consumers who do not care or know about fashion its value would not be higher than that of a regular handbag.

Early economists tried to determine “objective” rules for a product's value. In the eighteenth century, French economic thinkers related value to the cost of production. The classical economists Adam Smith and David Ricardo similarly held that the value of a good is closely related to its cost of production.³¹ Karl Marx also followed this line, except that his cost-based value theory recognized only labor inputs. In his 1867 work with Friedrich Engels, *Capital*, he wrote: “the value of

a commodity can be objectively measured by the average amount of labor hours that are required to produce that commodity.”³² Thus, if shoes take twice as much labor to make than a TV set, the long run price of shoes would be twice that of a TV set. This labor theory of value ignores several factors, including the contributions of raw materials, production machinery, supply and demand, and risk.

In the second half of the nineteenth century, the “neoclassical” theory of value began to be defined not from the perspective of production but that of user satisfaction. Economists promoted the concept of “utility,” which depends on individual taste, needs, and preferences. Utility is varied for individuals, but consumers' incremental utility declines with consumption. This means that the more one has of a good, the less extra satisfaction is gained from an additional unit of that good. The assumption of diminishing marginal utility was important in terms of mathematical and analytical properties of neoclassical economists. The underlying principle is that buyers increase their purchase of a good until their marginal utility (the satisfaction gained from buying that extra unit) balances what they have to give up to get the unit (the item's price).

A newer way to look at prices based on psychology emerged more recently from “behavioral” economists who observe that people's valuations are not necessarily rational or analytical but based on rules of thumb, or “heuristics,” Daniel Kahneman was awarded the 2002 Nobel Prize in Economics for his application, with the late Amos Tversky, of such heuristics. They included asymmetries in valuation, where adding a unit provides a lesser extra satisfaction than does subtracting that same unit.³³

Value pricing is important for information products. But to engage in value-based pricing requires some uniqueness of the product or market power, since competition would otherwise push prices down toward the very low marginal cost.

30 Badkar, Mamta. “10 Hyperinflation Horror Stories of the 20th Century.” *Business Insider*. March 19, 2011. Last accessed June 17, 2017. ► <http://www.businessinsider.com/10-hyperinflation-stories-of-the-20th-century-2011-3>.

31 Rhoads, Steven. “Marginalism.” *The Concise Encyclopedia of Economics*. Last accessed August 2, 2011. ► <http://www.econlib.org/library/Enc/Marginalism.html>.

32 Pryohitko, David. “Marxism.” *The Concise Encyclopedia of Economics*. Last accessed August 2, 2011. ► <http://www.econlib.org/library/Enc/Marxism.html>.

33 Nobelprize.org. “Daniel Kahneman-Autobiography.” Last accessed August 3, 2011. ► http://nobelprize.org/nobel_prizes/economics/laureates/2002/kahneman.html.

11.2.5.2 Willingness to Pay

If value pricing is a good method of pricing information products, what, then, would be the optimal price for sellers? The simple answer is this: the seller's optimum price is at each individual buyer's willingness-to-pay (WTP) price,³⁴ which is the maximum the buyer would pay. Any higher price and the potential buyer will obtain less in added utility than the payment for such utility. Any price that is lower, on the other hand, is a bargain to a consumer and provides a "consumer surplus." But to charge such a WTP price requires a seller's knowledge of what the buyer's WTP is, and also the absence of a price competitor and the absence of arbitrage among buyers.

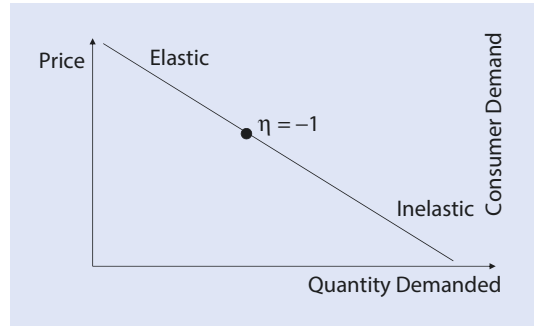
How does the seller identify the WTP of a customer? One could ask them, of course. But the fundamental problem with measuring WTP through surveys is that buyers are rarely truly forthright, or conscious, about their WTP and instead engage in a "strategic" response that lowballs their actual WTP.

One method for measuring aggregate WTP is by estimating the elasticity of demand with respect to price. Estimating this price elasticity is the basic question for any pricing strategy. The price elasticity of demand is the percentage change in quantity divided by the percentage change in price.

$$\frac{\Delta Q / Q}{\Delta P / P}$$

This measure is used to determine how responsive customers are to price changes for a given good.³⁵ With minor exceptions, the elasticity will be negative, because an increase in price will reduce demand. Exceptions are where a higher price may lead customers to consider the products as having higher quality or prestige, making it hence actually more desirable.

Although price elasticities are mostly negative, analysts (including this book) ignore the negative sign and just talk about "high price elasticities" when they mean "more highly negative elasticities." If elasticity is 1 or greater, then demand is sensitive to price. Lowering the price of an item will result, through the greater quantity sold, in higher revenue. On the other hand, if elasticity is lower than 1, (e.g. 0.5), then demand is relatively



■ Fig. 11.1 Price elasticity of demand

$$\eta = \frac{\Delta \text{Quantity}}{\text{Quantity}} \bigg/ \frac{\Delta \text{Price}}{\text{Price}}$$

insensitive to the price. In this circumstance, a *higher* price, though it would reduce the quantity sold somewhat, still raises overall revenue. At the midpoint, where the elasticity $\eta = 1$ (actually, minus 1), the revenue will be maximized. As seen in ■ Fig. 11.1, elasticity values higher than 1 are elastic, and values smaller than 1 are inelastic.

Factors Affecting Price Elasticity

A number of factors affect an individual's price sensitivity for a product, including:

- How proximate is the product to substitute and rival products?
- How high is the prestige of the product?
- How expensive is it to switch to another product?
- How difficult is it to compare prices?
- How big is the purchase?
- Is the product a necessity or a luxury?

What is the impact of advertising on product prices? On the one hand, advertising allows better product comparison and reduces prices. But advertising also creates brands and barriers to entry, which generates higher prices. Price elasticities are affected by advertising. In formal terms, advertising is paid by the sellers of a product. But it may well end up being paid by the product's buyers if the price increases when the advertising increases demand and makes demand for the product less elastic. From the company's perspective, the most successful advertising is paid for by buyers through higher prices that become possible due to the effectiveness of the advertising.

Price sensitivity for a product is bad news for a company. It can be dealt with by some of the following stratagems:

³⁴ More precisely, where the WTP is above the long-run marginal cost.

³⁵ Montgomery, Stephen L. *Profitable Pricing Strategies*. New York: McGraw-Hill, 1988.

11.3 · Measuring Price Sensitivity

- Differentiate the product from competing options;
- Raise the costs of out-switching, and lower the cost of in-switching;
- Make comparisons with rival products difficult;
- Promote the product's prestige;
- Strengthen applications and interoperabilities with other products and services, and hence the centrality of the product.

Looking to the future, a relevant question to consider is this: Is the demand for media entertainment getting more elastic (i.e., more price-sensitive)? This question has two answers. Demand for “commodity” entertainment and information, such as news, is getting more elastic, to the point of great resistance to pay anything at all. On the other hand, for *unique* entertainment products and services, demand is not becoming more elastic, or at least not by much. And for essential services, such as broadband and mobile connectivities, price elasticities are declining as customers get more dependent on them. In a competitive market for such services, prices would not rise up to users' WTP. They would therefore enjoy a significant consumer surplus. But in a monopolistic or oligopolistic market, the companies would reap a considerable benefit from reducing this consumer surplus. Hence, the incentives clearly exist for companies in these essential services to reduce price competition.

11.3 Measuring Price Sensitivity

Measuring price sensitivity is part of demand analysis. For the details, see ► Chap. 9 Demand and Market Research for Media and Information Products.

11.3.1 Econometric Estimation of Price Elasticities and Hedonic Prices

With enough data one can use statistical methods to estimate variables that explain prices. This is known as “econometrics.” It is discussed in ► Chap. 9 Demand and Market Research for Media and Information Products. Econometrics generally relies on a number of techniques of “regression analysis,” which is basically the determination of

a line that best fits the direction of a scatter of data points, with a certain statistical significance, and in multiple dimensions. Such an analysis shows, for example, the contribution of price to sales, and can isolate and separate the impact of other factors. But it must be noted that, since it draws on past data, it makes the implicit assumption that future consumers will keep behaving today and tomorrow like they did yesterday, or follow the same trend as before.

There are two main ways of applying econometrics to pricing analysis. In the first, price is the “explained” variable (also known as the left-hand variable). The task is to determine the factors that seem to explain a price, such as the season, the number of competitors, and the age of the product design. The second type of estimation has price as the “explanatory” variable (or the right-hand variable), which affects a left-hand variable, such as sales or demand. Variations in price affect demand, and hence enable us to estimate demand elasticities with respect to price.

Sometimes price is both the explained and the explanatory variable. For example, price is explained by demand conditions, but it also determines that demand. This is a case for simultaneous equations, and it calls for more complex forms of econometric estimation.

The following equation describes the variable “sales” as a value dependent on three factors: price, advertising, and a set of “other variables.”

$$\text{Sales} = b_0 (\text{price})^{b_1} (\text{advertising})^{b_2} (\text{other variables})^{b_3}$$

If we take the natural logarithm this equation becomes:

$$\ln \text{sales} = \ln b_0 + b_1 \ln \text{price} + b_2 \ln \text{advertising} + b_3 \ln \text{other} + e$$

This can be estimated as a simple linear regression. The coefficients of these logarithmic models are the elasticities (b_1 is the elasticity of sales with respect to price, b_2 is the elasticity of sales with respect to advertising expenditures, etc.).

As mentioned, in most examples, price is a variable explaining sales. But another approach has prices as the explained variable. This approach is known as that of “hedonic” prices, in which several factors explain the value (as expressed in the price) of a product. The hedonic approach

assumes that a price P a consumer is willing to pay is based on the sum of the value of several characteristics β , at a quantity x .

This can be written as
$$P = \beta_0 + \sum_{k=1}^K \beta_k x_k.$$

For example, factors in the price of a laptop computer would be its weight, processing speed, and battery life. These are the factors k of the equation, and each has a certain weight β that indicates how much the factor affects the price. When we plug in the actual values for that factor (i.e. x), such as two pounds of weight, 3.6 GHz of processing speed, and six hours of battery, we could estimate the likely price. The impacts of the characteristics are assumed to be additive.³⁶

11.4 Strategies to Keep Prices Above Cost

The fundamental struggle in most pricing of information products and services is to maintain prices above the very low marginal cost. This is perhaps the most critical task of media managers when it comes to pricing. There are several basic options and they are discussed in the following.

11.4.1 Integrate Information with Hardware

When information is bundled with a unique hardware device, one can charge for it because it would not be easily available to users who do not buy or subscribe to the device. By creating a mechanism for exclusion and access, it becomes possible to charge a price above marginal cost. When the devices are registered to specific individuals it also becomes possible to price discriminate among them.

11.4.2 Create a “Lock-in” of Customers

Making it difficult for customers to switch to another provider enables a provider to charge a higher price. A customer lock-in can be created

by contractual commitments, loyalty programs, or brand specific training. Another way to create a lock-in is to get customers to invest in the supplier’s technology by their participation in customization. Customers would thereby raise their own switching costs if they wanted to get out. In order for a seller to lock in customers successfully, the customers will require concessions to agree to be locked in, and the seller must invest in lock-in through upfront discounts.

11.4.3 Bundling

Often, a product is only offered as part of a bundle of several products and services, and the price of the bundle is usually lower than the sum of the individual prices.³⁷ In 1963, George Stigler (later a Nobel Prize winner in economics) observed that selling products in bundles without the option of purchasing the components separately was actually a way to allow the seller to price discriminate and to reduce consumer surplus.

11.4.4 Establish Market Power Through Monopoly

In a monopoly market, one firm dominates the industry. This firm has a strong influence over the market price. To gain market share, the firm might engage in mergers. It might try to drive out rivals through superior price, product, and marketing. It might have a legal monopoly through a unique patent or an exclusive license.

The constraints on a monopolist’s pricing power are market demand conditions and legal rules. Even a monopolist cannot make people shell out more than their WTP, which is defined by the utility of the product to them. How would such a monopolist set prices? If there are legal constraints against price discrimination or arbitrage (reselling) among customers is possible, then the monopolist would charge the same high price to each customer.

But if the price is too high, there will be fewer buyers. If the price is too low, the firm leaves money on the table. The monopolist maximizes

36 The hedonic model can also be written as an exponential equation, with the beta coefficients as elasticities. Brachinger, Hans Wolfgang. “Statistical Theory of Hedonic Price Indices.” *DQE Working Papers*. August 2002. Last accessed June 17, 2017. ▶ <http://www.unifr.ch/dqe/papers/files/wp0001.pdf>.

37 Noble, Peter M., and Thomas S. Gruca. “Industrial Pricing: Theory and Managerial Practice.” *Marketing Science* 18, no. 3 (1999): 435–454.

profit when marginal revenue equals marginal cost: $MR = MC$. The point defines a quantity sold and a price. In contrast, the pricing for a competitive firm would be $P = MC$, which is normally much lower. The difference in the price creates a “supernormal profit,” also known as the monopoly “rent.” The situation where a monopolist can engage in price discrimination is discussed further below.

11.4.5 Participate in an Oligopoly

In an oligopoly, an industry has only a few producers. They each recognize that their price depends on their own actions and those of their rivals. They are not merely “price takers” of a market-determined price. In an oligopoly, companies tend to be rivals but not price competitors. Non-price competition focuses other strategies for increasing market share, such as advertising, innovation, and marketing. Each firm must consider the likely reactions of other firms when making its own pricing decisions. This can quite possibly lead to a cooperation. The price interdependence between the major firms leads them to act jointly by agreement, or to do so tacitly. For the reasons we discussed earlier, the economic characteristics of media and communications often lead to oligopoly.

In contrast to the situations of either competition or monopoly where an analysis of optimal prices is relatively straightforward, the intermediate situation of oligopoly pricing is much harder to analyze.

Game theory is often applied to the analysis of oligopoly pricing. Game theory models look at oligopolistic behavior as strategic moves and counter-moves. A firm in an oligopoly uses the analysis in order to take into account the reasoning of other firms and analyze their strategic behavior. From a management perspective, game theory forces a firm to analyze its own strategic alternatives and to assess how each competitor will respond. We discuss game theory in ► Chaps. 8 Managing Law and Regulation and 14 Strategy Planning in Media and Information Firms.

Cooperative games are those in which the participants coordinate their pricing strategies. In non-cooperative games they do not coordinate formally, but each firm takes the other firm’s likely response into account. However, price collusion, whether cooperative or tacit, is difficult if there

are many firms in the industry or if the product is not standardized. It is easier if there are only a few firms. But even then it pays for each firm to “cheat” on its partner in collusion, lowering its price, quietly granting discounts to gain market share, and increasing profits. To enforce collusion, the other companies, especially through a “price leader” firm, will threaten retaliatory pricing to hurt the maverick. Entry deterrence also needs to be maintained in order to keep out potential new rivals.

11.5 Price Discrimination

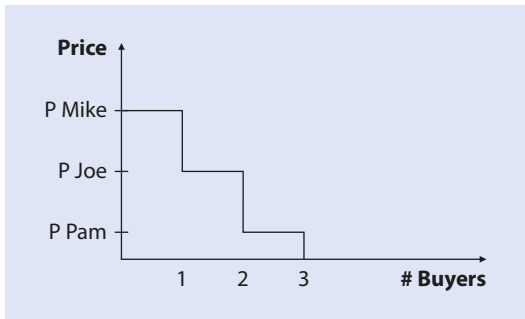
For information and digital products, being adept in price discrimination is perhaps the most important skill in pricing. As we have seen, a single price may well be too low to cover overall costs. It will lead to an under-charging of some users below their WTP, while overcharging others and thus losing them as customers. Since different consumers value a product differently, a firm will try to charge them different prices accordingly. “Price discrimination” means to consider pricing via assessing value to different users and charging each of them based on that value.

There are multiple price discount structures such as:

- Trade discounts to favored retailers;
- Quantity discounts;
- Promotional allowances;
- Locational discounts;
- Loyalty programs;³⁸
- Price reductions to seniors or students.

Generally, to charge different prices to different customers requires their segmentation from each other. Preventing resale (“arbitrage”) is essential for price discrimination. Discounts can be given to categories of potential buyers whose ability to pay is generally lower, such as seniors. Airlines are masterful in price differentiation because they have an effective enforcement mechanism for segmentation. Tickets are tied to an individual, partly for security reasons but also, conveniently, for the purpose of price differentiation. The personal resale of discounted tickets is rarely possible.

³⁸ Montgomery, Stephen L. *Profitable Pricing Strategies*. New York: McGraw-Hill, 1988.



■ Fig. 11.2 Willingness to Pay

Economists speak of three types of such differentiation. “First degree price discrimination” is selling the same product and same quantity to each user at a different price. “Second degree price discrimination” means offering different prices to users based on the quantity they purchased. And “third degree discrimination” is to change different prices to different categories of consumers, such as students.

While the term “price discrimination” has an odious sound, it has also positive aspects. For example, it may provide the products to people who would otherwise not be able to afford it at the higher uniform price. It also enables production which otherwise would not occur. Suppose a symphony orchestra was in deficit at the uniform ticket price of \$30, and even more so when the price was raised or lowered. Instead, it decided to charge students a lower price and engage in price discrimination. Similarly, many of the audience who bought \$30 tickets would have been willing to pay more. This is their “consumer surplus.” If part of such consumer surplus could be collected through charging them a higher price, the show could go on.³⁹

■ Figure 11.2 shows differentiated WTP. It is a graphical representation of three customers and three prices. If we set a single price (P_{JOE}), it would be too high for Pam but a bargain for Mike. Differentiated prices would eliminate both discrepancies.

For the seller, there are several negatives of price differentiation. They include the cost of maintaining different prices and of segmenting markets to prevent reselling by the low-price cus-

tomers selling the product to high price customers. There is also a likelihood of consumer resentment. Plus, it may well be a violation of consumer protection and competition laws.

Another problem is that, if customers get used to a discount, they will resist the regular price next time. Some furniture stores, for example, have year-round “sales” because buyers expect a discounted price and will wait for them. Cable TV companies will offer a broadband service at a low introductory price. But when later confronting a subscriber with a low offer from a telecom company, they will prolong the introductory price to “match the competitor.” Price differentiation hence may invite bargaining behavior. When price discounts are given freely, they can transform a regular customer into a difficult customer.⁴⁰

But in doing so it is easy to offend loyal customers by taking them for granted while enticing fickle customers.

11.5.1 Optimal Price Discrimination

Given the information sector’s fundamental characteristics of high fixed costs and low marginal costs, price discrimination is the key to media profitability.

Assuming that a firm could legally engage in price differentiation, how should it optimally set the different prices? If there is a different price elasticity among different consumer groups, it would charge a higher price to the group with the more inelastic demand and a lower price to the group with a more elastic demand.

The basic rule is known as “Ramsey pricing,” which states that optimal price discrimination follows the inverse elasticity rule. The price given to a consumer would be the price average divided by the price elasticity of demand of that consumer or consumer group:

$$P_i = P_{\text{average}} / \eta_i$$

Users with a more inelastic demand would be charged a price above the MC and those with a more elastic demand would receive a price closer to the MC.

39 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce*. Cambridge, MA: Harvard University Press, 2000.

40 Nagle, Thomas T. and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. London: Prentice Hall, 2002.

Table 11.2 Price elasticity and price

Customers	Price Elasticity	Price
Average Joe	-1.0	50
Must Have Mike	-0.1	500
Pennysaver Pam	-10	5

In this example (Table 11.2), we see three consumers and their respective price elasticity of demand. They will each be charged different prices for the same good. Average Joe has a price elasticity of 1.0. Suppose he is charged a price of 50. Must Have Mike desperately wants the good and so his demand is inelastic. He would be charged with the highest price at 500 since he really needs the good. Pennysaver Pam is frugal and price sensitive. She would only be charged a price of 5 (50/50) as long as it covers the marginal cost.

11.5.2 Versioning

First-degree price discrimination is difficult to implement because sellers typically do not have information on the preferences of individual users, so they must try to get consumers to “self-select” themselves by purchasing different quality “versions.”⁴¹

An example of this could be found in the sale of books. A book can be published as a hardback or a paperback. Usually, the hardback will be published first, and then the paperback will follow. That price difference is much larger than the cost difference.

Another way to let consumers self-select is through offering discounts that require some effort to collect. Price-sensitive customers might be offered a discount coupon that must be sent in.⁴² However, only about 2% of all coupons are redeemed, presumably, by the most price sensitive consumers.⁴³

Another example would be movie release sequences. Movies are first released in theaters and seeing a film on the big screen has the highest perceived value. The cost of seeing a movie in the theater ranges from \$10 to \$20. With each subsequent release, the price of seeing the movie drops. Discount theaters would price it at \$8 per person, pay-per-view would price it at \$4, and video rentals would cost \$3.

The practical number of versions is often three. Sometimes this is called “Goldilocks pricing,” that is, not too hot and not too cold. It utilizes people’s aversion to extremes. By having three different versions at a low, medium, and high price, low-end buyers may trade up to a higher priced model. People often avoid the cheapest option or the most expensive option thus making them inclined to pick the medium priced option. Adding an expensive version raises the demand for the medium priced one because it looks like a good deal in comparison with the expensive one. Behavioral economists call this the “isolation effect.”⁴⁴ A choice looks more attractive next to a costly alternative than it does in isolation.

The price difference of versions are only loosely related to the actual difference in the cost of producing them. An example is the provision of stock market information. A subscription of \$50 per month might get real time quotes. For \$8.95 per month the user gets stock information with a slight delay. The cost of production and distribution are near identical. Similarly, airlines reduce the attractiveness of a low-price option by placing otherwise unnecessary restrictions on economy class tickets. IBM placed a chip in its cheaper printers to actually slow them down. Federal Express sometimes plans routes to avoid delivering standard packages before 10 a.m. Software packages may come in three types, professional edition (higher priced), consumer-oriented regular edition (lower priced), and student edition (lowest price). In all cases, the companies degrade the quality of the service or product⁴⁵ so that they can charge more for a premium version.

41 Shapiro, Carl and Hal R. Varian. *Information Goods*. Boston: Harvard Business School Press, 1999.

42 Nagle, Thomas T. and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. London: Prentice Hall, 2002.

43 Consumers that are even more price-sensitive will not even utilize the coupons.

44 Tellis, Gerard J. “Beyond the Many Faces of Price: An Integration of Pricing Strategies.” *Journal of Marketing* 50, no. 4 (October 1986): 146–160.

45 Varian, Hal. “Versioning Information Goods.” *Digital Information and Intellectual Property*. January 23, 1997. Last accessed June 17, 2017. [▶ http://people.ischool.berkeley.edu/~hal/Papers/version.pdf](http://people.ischool.berkeley.edu/~hal/Papers/version.pdf).

11.5.2.1 Case Discussion

Versioning

EB offered distinctly different versions of its product, each with a very different pricing. Its versions were:

- *Encyclopaedia Britannica Ultimate*. This combined the three full encyclopedias (the 32-volume regular EB, the 16-volume *Student Encyclopedia*, and the 16-volume *Elementary Encyclopedia*). The edition offers both collegiate and student editions of the *Merriam-Webster Dictionary and Thesaurus*, as well as collegiate, student, and Britannica editions of the EB atlas and timelines. The bundle was available in a print version or a DVD version. The price of the bundles was significantly below the sum of the separate elements. The print version was priced at \$2500.
- The “Deluxe Edition” was a package that included the entire 32 set of books together with other reference sources such as the *Year in Review*, *Merriam-Webster’s Collegiate Dictionary*, a thesaurus, and a world atlas. The print version cost \$1600.
- The regular “Britannica Print Edition” was a leather-bound 32 volume set priced at the premium level of \$1400.
- EB’s *Compton’s Encyclopedia*, with 26 volumes aimed at high-school students of ages 10–17, was priced at \$899.
- The DVD version of the *Britannica Ultimate Edition* described above, cost \$450.
- The *Britannica Student Encyclopedia* (aimed at ages 8–12) of 16 volumes was priced at \$449.
- The *Britannica Elementary Encyclopedia* (ages 5–8), aimed at entry-level students learning to read and developing life-long study habits, consisted of 16 volumes priced at \$440.
- The DVD version of the “Deluxe Edition” described above, cost \$350.
- A student-oriented “online learning bundle” was available at \$130 a year which included the main encyclopedia online along with a children’s version of the content.
- Subscription to full online access was priced at \$75 a year.
- DVDs were sold at the low price of \$40, given its inconvenience of use.
- Mobile app access cost \$15/year.
- A per-student per-year access price for school districts was priced at \$0.25, consisting of short summary articles (60,000) available online and on a mobile app for free.

11.5.3 Second Degree Price Discrimination

Second degree price differentiation means different prices based on the quantity consumed. Customers with big orders get a lower price as a quantity discount. The better deal is not necessarily based on efficiencies and lower cost. Similarly, repeat customers are given the incentive to return for a benefit that is a kind of discount, for example an airline’s “frequent flyer” program. Large-scale buyers are typically more price sensitive than small ones, because even minor price differences add up to more money.⁴⁶ At the same time, servicing a larger account costs less on a unit basis.

Thus, the cost difference justifies a price discount. The quantity price discount also encourages buyers to make larger purchases rather than smaller and more frequent purchases, shifting some of the cost holding inventory to the buyer.

Conversely, high usage suggests a greater dependency on the product and hence a lower price elasticity. Such a customer could therefore be charged more rather than less. Thus companies such as IBM or Xerox have tied ancillary products or services to the hardware device, in order to charge high-volume users more on a per-unit basis, since they are dependent on the product. It’s like charging only a little for the razor and a lot for the razor blades. Heavy shavers end up paying more.

One way to accomplish such price discrimination is a two-part pricing. There is one flat fee plus another fee based on usage. The user

⁴⁶ Nagle, Thomas T. and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. London: Prentice Hall, 2002.

pays two separate charges for one service or product, one as a flat rate for participation, the other one for actual usage. Phone companies have a fixed basic charge plus added fees based on how many minutes (or buckets of minutes) are used, and the charges have little to do with added cost.

11.5.4 Third Degree Price Discrimination: Differentiation by User Category

In a third degree price discrimination scenario, different customer categories are charged different prices based on observed characteristics of their demand elasticity. Third degree price discrimination can be applied to different geographic markets, product use markets, and customer types. For example, a student or an older person will have a different WTP than a middle-aged consumer because of budget constraints and lower time constraints. Prices increase for consumer categories with a more inelastic demand and decrease for consumers with a more elastic demand. Consumer categories with a more elastic demand are better off with price discrimination.

There are several ways to segment a market. One is location. Grocery chains rank their locations by the intensity of competition. They charge more in rich areas (higher WTP) but often also in poor areas (lower competition). Selective pricing is frequent in international markets; Deutsche Grammophon, for example, sold its records in Europe at a price 50% higher than in America, where competition was higher. Japanese auto-makers did the same with their cars. To find profitable geographic market segments, companies must look at the relative competition in those sub-markets. It is often better to be a big fish in a small pond than a small fish in a big and crowded pond.

In price discrimination, the key question is what the price elasticity of different consumers or consumer categories are. However, few customers would volunteer to give up information on their willingness to pay if it is used to raise prices on them.

11.6 Strategic Pricing

Strategic pricing is the use of a product's price as part of a broader and long-term company strategy to position itself in the market. There are several major types of strategic pricing.

11.6.1 Skim ("Premium") Pricing

"Skim pricing" refers to using high prices in order to "skim the cream." It works when the revenue from high end clients exceeds the revenue from the middle or lower end buyers. It means that the demand is inelastic. Skim pricing may be used for luxury items to build a premium reputation brand. Premium products do not compete on price. They aim to create a high-quality image for the firm. Examples are Godiva chocolates or Rolex watches. This must be distinguished from a monopolist's high price. Skim pricing is a policy by a competitive company, as a way to differentiate itself.

A second scenario is to charge a premium price during the initial period after the product's introduction to customers who want the new product first. This is known as "sequential skimming," starting with a high price and gradually lowering it. We discussed this earlier as a time-sequencing strategy to price discriminate. It is also known as "slide-down pricing." Some users have a high need to get the product early and are willing to pay more. Savvy buyers will wait for the price to drop. The company can time-sequence its marketing focus, too, concentrating on the different buyer groups with their different price elasticities, one at a time. The sequential approach enables it also to ramp up production gradually and move down the learning curve and scale to lower cost. It is often used for electronic devices, where cost (and price) decline at a rapid rate.

For skim pricing to work, several conditions are required: customers are not highly price sensitive, economies of scale are moderate, and competition is low.⁴⁷

⁴⁷ Spann, Martin, March Fischer, and Gerard J. Tellis. "Skimming or Penetration? Strategic Dynamic Pricing for New Products." *Marketing Science* 34, no. 2 (2015): 235–249.

11.6.1.1 Case Discussion

Premium Pricing

EB practices premium (skim) pricing with its print edition. It provides a high-quality product priced substantially above its rivals. EB sold its print edition for \$1400 in 2008,⁴⁸ a higher price even than it had been 2000, despite the competition from CD-ROMs and by Wikipedia. Parents are eager to provide a quality education to their children. EB grasped this and convinced parents that their product was an “investment” in their children’s future opportunities. Similarly, EB also persuaded relatives and others that its encyclopedia was a worthy and classy present for special occasions. EB’s value proposition relied on two key factors: content and look. The content was of high quality: its authors were authoritative. The “look” of the product was distinguished. Whether actually

used or not, it visibly proclaimed “only the best for my child.”⁴⁹

In 1994, EB’s competitor, Microsoft, priced its *Encarta* CD-ROM at \$120. EB, in contrast, introduced its CD-ROM to the market at the price of \$1200, the same as its print edition. But this “skim pricing” proved far too high. In 1995, the price of EB’s CD-ROM was lowered to \$200, in 2000 to \$90, in 2007 to \$50, and in 2008 to \$40.

Thus, the premium pricing strategy did not pan out for EB for its CD-ROM edition because there it faced competition, an elastic consumer base that switched to cheaper products, and a product with substantial economies of scale—not meeting any of the three conditions for a potentially successful skim pricing strategy.

For the print version, EB similarly engaged in skim pricing. It charged \$1200, while its competitors charged a much lower \$300 to \$500. Its price did not drop, in fact it was raised to \$1400. EB’s perspective was that if it priced the encyclopedia lower, it would cheapen the brand. Here, the skim pricing strategy worked. There was a market with price insensitivity for a product that proclaimed “only the best,” whether for a child or for a college library, and whose quality was not matched by a print competitor. The economies of scale in print runs are not particularly high. Thus, EB could maintain a premium price, but the submarket was not large enough to sustain the organization’s large overhead.

11.6.2 Penetration (“Value”) Pricing

A second major price strategy is “penetration pricing,” which means setting a low price used in order to gain market or to discourage new competitive entry by others. An example was satellite radio, where each of the two US competitors, XM and Sirius, tried to drive its rival out of business by charging a low price. But neither of them succeeded. Their costs escalated, as did their losses. Both companies faced bankruptcy. Finally, they merged and then raised the price.

Penetration pricing is favored in the following circumstances, which are the mirror images of the conditions for skim pricing. First, customers are price sensitive. Second, economies of scale are large. A low price can build volume and reduce cost through scale and accumulated experience (the “learning curve”). Third, there are positive externalities (network effects) that raise the value

of the service as its user base grows. This creates a snowball effect as consumers’ benefit increases while cost declines.⁵⁰

There are downsides to penetration pricing. It may be expensive in terms of foregone revenues. Thus, the firm must balance its desire for high short-run profit based on a relatively high price with long-term profits based on market share.⁵¹ A second problem may be image. Prices tend to signal a quality level. Therefore low priced products can often be viewed as low quality which deters potential customers. Third, the success of penetration price strategy depends on rivals not lowering their own prices. For example, penetration pricing will not be followed by an incumbent where the new rival is only a minor threat.

A step beyond penetration pricing is “loss leader pricing.” A company prices a product very low in order to attract buyers for its other products

48 Melcher, Richard. “Dusting Off The Britannica.” *Bloomberg*. October 20, 1997. Last accessed June 17, 2017. ► <https://www.bloomberg.com/news/articles/1997-10-19/dusting-off-the-britannica>.

49 Boudreau, John W., Benjamin Dunford, and Peter M. Ramstad. “The Human Capital Impact on E-Business: The Case of Encyclopedia Britannica.” In *Pushing the digital frontier*. Eds. Nirmal Pal and Judith M. Ray. New York: Amacom, 2001.

50 Dewatripont, Mathias and Patrick Legros. “Mergers in Emerging Markets with Network Externalities: The Case of Telecoms.” In *Le Nouveau Modèle Européen*. Eds. P. Magnette and E. Remacle. Brussels: Editions de l’université de Bruxelles, 2000.

51 Farrell, Joe and Paul Klemperer. “Coordination and Lock-In: Competition with Switching Costs and Network Effects” In *Handbook of Industrial Organization*, Vol. 3. Eds. Mark Armstrong and Robert H. Porter. Amsterdam: North-Holland, 2007.

or services. The seller uses this method to build customer traffic. Free software and apps (“free-ware”) to consumers is used in order to increase sales by commercial providers of services to those consumers.⁵²

Another reason is to get consumers to sample a product and then hopefully engage them so they keep buying at a higher level of price for the same product. For example, a free three-month subscription is offered to get the user to sample the service. This often requires action to cancel, otherwise subscriptions are maintained.

In 2007, Amazon started selling its most popular titles as e-books on its Kindle tablet device for \$10, which was significantly lower than the prices charged by traditional bookstores⁵³ and even below the cost that Amazon paid the publishers for the license. In other words, Amazon lost money on each sale. Why would it do this? It tried to drive traffic to its site, and to sell its Kindle tablets, of course. But it also wanted to create a standard for e-books and to promote e-book reading more generally. Giving consumers a simple and uniform price would make the e-book experience user-friendly and eliminate reader anxiety.⁵⁴

Another variation of penetration pricing is “complementary product pricing.” In this method, the core product is priced low when complementary items such as accessories, supplies, and services can be priced with a higher premium. The classic example is selling a cheap razor and an expensive razor blade or selling a cheap camera and expensive film, as Polaroid does.⁵⁵ Amazon’s Kindle followed the same model. In the case of early radio or today’s iPhone, the opposite tack was taken: the content is free, in order to induce a purchase of hardware.

11.7 Other Types of Pricing

11.7.1 Flat Rate vs Usage-Based Pricing

Flat-rate pricing—“all-you-can-eat”—is the predominant form of pricing on the Internet. In economic terms such pricing is often inefficient since it encourages wasteful over-usage, and because it discriminates against low-usage customers by charging them a high price relative to usage. This can lead to the 20% of heavy users who account for 80% of traffic being subsidized by the others, while clogging up the network for everyone, lowering quality, and raising uncertainty.

But flat rate pricing is easier to administer than usage-based charges. And many users tend to prefer flat rate prices because it removes the need to keep track of their consumption and to ration it. For Internet access, in 1996, AOL was the first to switch to an affordable flat rate pricing. Over the next year, usage per person tripled and demand surged ahead of supply. AOL was barely able to expand fast enough to keep up.⁵⁶ Another consideration in evaluating the efficiency argument is whether the payments based on usage are in fact cost-related or a way to price discriminate. If the incremental cost imposed by a user doubling his or her consumption is miniscule because the last mile and network core connection are under-utilized yet the user is charged double the price, then the economic arguments invoking marginal cost pricing are flawed.

It should be noted, furthermore, that a flat rate does not necessarily mean a low rate, except for heavy users. If an airline offered unlimited flying on its routes for \$20,000 a year, few consumers would be interested, but some business travelers would jump at the option.

Flat rate pricing makes billing predictable and it provides protection against unexpected large bills. For the same reason, many providers offer complex pricing, so as to make the real price less transparent. But this can backfire once users have experienced unexpectedly high bills. One study of cellphone consumers in Canada shows that proactively matching customers’ usage patterns with the rate plans that are optimal for their needs

52 Huber, Peter. “Two Cheers for Price Discrimination.” *Forbes*. September 27, 1993, 142.

53 Amazon found that a book that would sell 100,000 copies at \$14.99 would sell 174,000 copies at \$9.99. Amazon says the lower price (\$10) was justified because consumers expect a significant discount relative to a print copy because there is no printing. Also, there are no over-printing issues, no lost sales due to being out of stock, no storage fees, and no secondary market (i.e. no opportunity to resell). Francis, Diane. “Amazon’s tactics not novel.” *National Post*. August 5, 2010. Last accessed June 17, 2017. ▶ <http://www.pressreader.com/canada/national-post-latest-edition/20100805/282368330937114>.

54 Bishop, Todd. “Amazon: Why \$9.99 e-books are better for everyone, including Hachette.” *GeekWire*. July 30, 2014. Last accessed June 17, 2017. ▶ <http://www.geekwire.com/2014/amazon-9-99-e-books-better-everyone-including-hachette/>.

55 Noble, Peter M. and Thomas S. Gruca. “Industrial Pricing: Theory and Managerial Practice.” *Marketing Science* 18, no. 3 (1999): 435–454.

56 Odlyzko, Andrew. “Internet pricing and the history of communications.” February 8, 2001. *AT&T Labs – Research*. Last accessed August 2, 2011. ▶ <http://www.dtc.umn.edu/~odlyzko/doc/history.communications1b.pdf>.

reduces customer churn, even if short-term profitability is lower in terms of revenues. Loyal customers are also important by making positive referrals to others.

The economics of efficient resource allocation conflict with strong consumer preferences for simplicity, and the value to them to avoid transaction costs. Because of the advantages on both sides, intermediate arrangements are often offered such as flat rate plans with various caps, baskets, buckets, and tiers, which are flat up to their ceiling and then cost more for the overage.

11.7.2 Regulated Pricing

In many cases media pricing is regulated by government, especially for telecommunications and cable TV service. Wireline telecommunications frequently has a *retail* consumer price regulation, including the requirement to offer services in rural, low-density, high-cost areas at the same price as in metropolitan areas. In European countries and Japan, government sets a monthly TV viewing charge payable by viewers, called a “license fee” or “viewing charge.” In India, the Telecom Regulatory Authority TRAI also sets the prices of cable, pay-TV, and satellite broadcasting.⁵⁷

Also often regulated are *wholesale* prices charged by network providers with market power over essential network elements to competitors that must use them. This is particularly the case for telecom and ISP wholesale prices. But it can also affect the price of content.

In various countries, including the USA, there are also “compulsory licenses” where music performers or channels may perform the music or create variations, but must give notice and make payments to the rights holders, to songwriters, and often to artists. This relates to recordings, radio stations, and online music channels. The price of the compulsory license is set by a government agency, in the USA the Copyright Royalty Board. For recordings, this license fee was 9.1 cents per song, or 1.75 cents per minute of playing time. For commercial online music channels, it is 0.19 cents per unique listener per song.

At what level should one set such a regulated price? One governmental approach to setting prices is so they will enable the company to earn a “fair profit” and not more, but also not less. This is the “rate-of-return system.” Prices are set at a level that permits the provider of the service to achieve a reasonable return on its invested capital, plus compensation for legitimate operating expenses and for the depreciation of its assets.

An alternative is price regulation. This method became popular in telecoms around the world when state-owned operators were privatized in the 1980s but maintained market power to set monopoly prices.

Another alternative for setting prices by regulation is called yardstick pricing. In the cable TV industry, prices for the monopoly franchise territories had to be similar to those prevailing for the cable franchises that had more than one provider and were thus competitive.

11.7.3 Transfer Pricing

In big firms, various divisions of the same company buy and sell from each other. For example, Disney-produced films are bought by Disney’s ABC TV broadcast network. Films by Warner Brothers have been using Warner Music’s songs. How do these various divisions of the same company “pay” each other? These payments are known as “transfer prices.”

Why does the transfer pricing method matter? Is it not simply shifting money from one pocket to the other? Internally, an efficient transfer pricing can create better operational efficiency by providing a clearer picture of costs and profits of the various activities and corporate divisions.⁵⁸ Externally, transfer prices can be motivated by a desire to understate reported profits. The incentive is to manipulate transfer prices in order to shift profits away from projects where they must be shared. In the film industry, there has been historically the incentive to overload transfer payments in order to reduce a profit that would have to be shared. A still more preva-

57 Kohli-Khandekar, Vanita. “Why price regulation for TV?” *Business Standard*. August 17, 2010. Last accessed June 17, 2017. ► <http://www.business-standard.com/india/news/vanita-kohli-khandekarprice-regulation-for-tv/404713/>.

58 KPMG. “Transfer Pricing for the Telecommunications Industry.” 2006. Last accessed June 20, 2007. ► <http://www.kpmg.ca/en/industries/ice/documents/TransferPricingForTelecomIndustry.pdf>.

lent incentive exists to use transfer prices to shift profits to low-tax jurisdictions. A company would do so by having an input from the low-tax jurisdiction internally priced very high, thus lowering the profit achieved in the high-tax jurisdiction. Because such transfer prices could otherwise be set arbitrarily, tax laws often limit how transfer prices can be set.⁵⁹ Most countries' tax systems require the trading between two associated companies to be conducted on an "arm's-length" basis.⁶⁰ However, the reality is another matter. How would one determine the arm's length price unless it is a commodity that is widely traded?

How would a firm determine its internal transfer prices? The options are for such transfers to be free, or to be cost-based, or to be market-based, or to be set by upper management in a quasi-regulatory way.

The market price is often the starting point from which the internal transfer price is calculated, followed by a variety of adjustments.⁶¹ For example, if NBC charges the unrelated cable company Charter \$1.50 per subscriber per month for the channels NBC, MSNBC, and CNBC, then this would be the arms length price that it would charge its own sister-company, Comcast.

Another option is a discounted or adjusted market rate price. This method discounts the market price by eliminating certain costs that exist for external deals but not for internal ones, such as the cost of negotiation or the cost of risk for uncollectable debt. NBC might then discount the Charter price of \$1.50 by, say, one-third of an internal transfer, if it can justify the difference.

A third major option is a cost-based transfer price where one division pays the other based on the cost of producing the product, but below the market price.⁶²

11.7.4 Protection from Price Variations: Hedging

Often, buyers or sellers would want to protect themselves from the risk of changing prices. Such protection is called "hedging." Some tools for hedging are options, futures, forwards, swaps, or derivatives.⁶³

A futures contract is for buying a commodity or security on a future date at a price fixed today. Forward contracts are custom-made contracts, and unlike futures are not traded in a market. Forward contracts are most commonly done with currency; for example, if a company's chief financial officer (CFO) believes interest rates will rise, he or she could make a forward rate agreement with a bank. A company that plans to buy another firm but soon expects that interest rates will rise between now and then could purchase a futures contract to lock in today's interest rate.

A TV network firm might consider forward contracts if it knows that it will require significant transatlantic transmission capacity in September, due to a major sports event such as the Olympics. Similarly, a telecom firm might fear that prices will fall in the near future. By selling a "telecom capacity future" at today's price, rather than at a possibly lower price in the fall, it can protect its downside.

A "short hedge" is hedging risk by selling futures. This is what the telecom company is doing. A "long hedge" is hedging risk by buying futures, which is the TV network's strategy. Those who believe the price will rise in the future will buy it at today's lower price. A "call option" gives its owner the right to *purchase* an underlying asset at a set price within a set period of time. A "put option" gives the owner the right to *sell* an underlying asset at a set price within a set period of time. The "striking price" or "exercise price" is the price at which one has the right to buy or sell the asset.⁶⁴

11.8 Legal Aspects of Pricing

11.8.1 Ethics of Pricing

Companies are not entirely free in choosing their pricing since government and society also play a role in the price setting beyond direct regulation.

59 Montgomery, Stephen L. *Profitable Pricing Strategies*. New York: McGraw-Hill, 1988.

60 KPMG. "Transfer Pricing for the Telecommunications Industry." 2006. Last accessed on 20 June 2007. ► <http://www.kpmg.ca/en/industries/ice/documents/TransferPricingForTelecomIndustry.pdf>.

61 Baldenius, Tim, Stefan Reichelstein, and Savita Sahay. "Negotiated versus Cost-Based Transfer Pricing." *Review of Accounting Studies* 4, no. 2 (June 1999): 67–91.

62 ACCA. "Transfer Pricing." Last accessed June 17, 2017. ► <http://www.accaglobal.com/us/en/student/exam-support-resources/fundamentals-exams-study-resources/f5/technical-articles/trans-pricing.html>.

63 Brealey, Richard A. and Stewart C. Myers. *Principles of Corporate Finance*. New York: McGraw-Hill/Irwin, 2003, 758.

64 Rendleman, Jr., Richard J. *Applied Derivatives, Options, Futures and Swaps*. Malden, MA: Blackwell Publishing, 2002.

In the first instance, transactions must be voluntary and not forced on a desperate party by another, such as on a man dying of thirst. Laws restrict the exploitation of duress, or of dependency in the cases of medical drugs, or of pay-phones in emergencies.

The second level of ethical and legal constraints deal with transactions with unequal information about the exchange. An example is the selling of a product with a hidden defect unknown to the seller. Laws and liability rules lead to disclosure which affects price.

The third level of ethical constraint states is more complex. It deals with the limits of profits. Under a notion of moral constraints, a seller, it has been argued historically, should take only a “fair” profit from the sale of “necessities.” In medieval society profiteering was considered a mortal sin. Traders were morally obligated to charge a price close to the cost. But this admonition was not matched by reality. Sellers and traders often priced substantially above cost, which explains the wealth of some families and cities. Under Soviet Communism, charging a price higher than the official price was a criminal act, even if the state did not supply the good. In some cases, profiteers were put to death.

The notion of the “just price” is hard to define, still harder to operationalize, and even harder to enforce.⁶⁵ The concept depends on many variables that change over time.^{66,67} Psychological experiments survey people’s reception of “fairness” in changing prices. The results show an asymmetry. It is generally considered “fair” for a firm to raise prices or cut wages when its profits are declining. It is also considered fair to maintain prices at the same level even though production costs were falling. But it is considered “unfair” to take advantage of rising demand by raising prices.⁶⁸ Raising prices on necessities such as housing rents or medical drugs is considered “profiteering.” For that reason they are sometimes controlled by price regulation.⁶⁹

65 Davidson, Kirk. “In search of fair prices.” *Marketing News* 31, no. 12 (1997): 4.

66 de Roover, Raymond. “The Concept of the Just Price: Theory and Economic Policy.” *The Journal of Economic History* 18, no. 4 (December 1958): 418–434.

67 Gielissen, Robert. “Perceptions of Price Fairness: An Empirical Research.” *Business & Society* 47, no. 3 (2008): 370–389.

68 Kahneman, Daniel, Jack L. Knetsch, and Richard Thaler. “Fairness as a Constraint in Profit Seeking: Entitlements in the Market.” *The American Economic Review* 76, no. 4 (September 1986): 728–741.

69 Heilbroner, Robert. *The Making of Economic Society*. Upper Saddle River, NJ: Prentice-Hall, 1962.

11.8.2 Legal Constraints

In Western liberal democracies and market-based economies, legal constraints on pricing include:

- Antitrust laws prohibiting price fixing and discrimination;
- International trade laws;
- Laws about vertical price fixing (resale price maintenance, RPM);
- Anti-predatory pricing laws and anti-dumping trade laws.

11.8.2.1 Price Fixing

In the USA, the Clayton Act of 1914 prohibits agreement among firms aimed at price fixing and its close cousins, restriction of output and market division of territories or customers. Similar prohibition are set in the UK Competition Act 1998. Article 101 of the EC Treaty⁷⁰ prohibits agreements among firms to fix prices or share markets. Article 102 prohibits firms in a dominant market position from abusing their power (e.g. predatory pricing aimed at removing competition). The Japanese Antimonopoly Law was enacted in 1947 as part of the Economic Democratization Policy introduced by the occupation forces. Originally based on US antitrust laws, in time it acquired features unique to Japan. China’s Antimonopoly Law came into force in 2008.

In the USA, there are several ways for harmed competitors, customers, or suppliers to seek remedies, including:

- A court order such as a cease-and-desist order of pricing practices by the relevant government agency or court;
- In private antitrust lawsuits, a winning complainant can get three times the actual damages plus attorney fees;
- Rivals can be forced to collaborate with competitors or suppliers by granting patent licenses, or by stopping certain marketing tactics;⁷¹
- Rivals that have a chronic history of violations might be broken up to enhance a competitive market structure.

Some pricing practices are banned outright. For example, in the USA, price agreements among

70 European Commission. “Antitrust Overview.” Last accessed June 17, 2017. [▶ http://ec.europa.eu/competition/antitrust/overview_en.html](http://ec.europa.eu/competition/antitrust/overview_en.html).

71 Nagle, Thomas T. and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. London: Prentice Hall, 2002.

competitors are not allowed. Price discrimination, RPM, below-cost pricing, dumping, or price fixing are also mostly prohibited.⁷² Under the antitrust laws (governed mostly by the Sherman Act of 1895) a firm could be split up if it engages in unfair pricing practices. In the past, firms that were split up included the Hollywood studios from their film theaters; the telecom giant AT&T; and the dominant NBC radio company. Microsoft and IBM narrowly escaped. The Sherman Act states that a firm can be fined up to \$10 million and individuals can be fined up to \$350,000. There is also a possible prison sentence of up to three years.

The general problem is that uniform prices across competitors can mean two radically different things: either harmful collusion or the opposite, perfect competition. Rivals can reach the exact same price in order to stay competitive. In the USA, courts held that “parallel behavior” by competitors itself is insufficient to prove a price fixing conspiracy. One must find evidence for secret meetings, calls, letters, or other direction coordination to find a conspiracy. Parallel market behavior that cannot be explained except as the product of concerted action can also be a factor.

11.8.2.2 Resale Price Maintenance

For much of a century, any agreement by which a supplier set the prices at which retailers could resell their products to consumers has been “per se” illegal in the USA. More recently, in the case of *Leegin Leather Goods*, the US Supreme Court eliminated the automatic ban on RPM for maximum prices in favor of a case-by-case approach.

According to the European Commission’s Guidelines, RPM falls under a “hardcore restriction” and is therefore illegal. In 2010, the Commission softened this stance: it might be possible for RPM to be exempted through efficiency arguments.⁷³ In practice, RPM is present and legal for most book sales, where it is known as the Fixed Book Pricing Agreement. These exist in

most EU countries,⁷⁴ as well as in Japan, South Korea, Argentina, and Mexico. The public policy rationale is to protect small book stores from large chains which compete against them through price discounts to consumers but do not offer the same level of service and variety.

11.8.2.3 The Law on Price Discrimination

In the USA, price discrimination is not permitted for commodities of similar “grade and quality.” (Only products are covered but not services.) It is also illegal to provide indirect price rebates through differentiated fees for handling, processing, and so on. There are two legal defenses against charges of price discrimination: (a) cost justification, that is the lower price is based on actual cost reductions due to volume; and (b) to meet the price offered by a competitor.

Price discrimination by dominant manufacturers is prohibited in Europe by a “hardcore provision” as an abuse of market power (if market power is present) for which no exception or justification is possible. Examples of EU price discrimination cases include the 2015 Disneyland Paris case, where the theme-park had to stop charging different online prices to different nationalities.⁷⁵

11.8.2.4 Predatory Pricing and Dumping

Predatory pricing means selling below cost in order to eliminate a competitor. The basic elements of predation are prices set below marginal cost and a subsequent recoupment, of the losses by raising prices.⁷⁶ Yet an anti-predation rule that is too strict might ban favorable price reductions that are not actually predatory, and which benefit consumers. Conversely, anti-predation rules that are too lax might allow monopolists to emerge and protect their turf.⁷⁷ Because price cutting is typically a benefit to consumers, and because

74 Except for the UK, Sweden, Ireland, Czech Republic, and Poland.

75 Brunnsden, Jim and Duncan Robinson. “Disneyland Paris ditching pricing policy.” *Financial Times*. April 15, 2016. Last accessed June 17, 2017. ► <http://www.ft.com/cms/s/0/e472e2c-031b-11e6-af1d-c47326021344.html#axzz41kcDRxz3>.

76 Hemphill, C. Scott. “The Role of Recoupment in Predatory Pricing Analyses.” *Stanford Law Review* 53, no. 6 (July 2001): 1581–1612.

77 Edlin, Aaron S. and Joseph Farrell. “The American Airlines Case: A Chance to Clarify Predation Policy.” *IDEAS*. January 9, 2004. Last accessed August

72 Montgomery, Stephen L. *Profitable Pricing Strategies*. New York: McGraw-Hill, 1988.

73 Bottonan, Yves. “(Minimum) Resale Price Maintenance Under the New Guidelines: A Critique and a Suggestion.” *Competition Policy International*. June 14, 2010. Last accessed June 17, 2017. ► <https://www.competitionpolicyinternational.com/minimum-resale-price-maintenance-under-the-new-guidelines-a-critique-and-a-suggestion/>.

there is a fine line between predatory pricing and promoting a business, courts have been reluctant to rule against companies lowering prices accused of predatory pricing.⁷⁸

It is not easy to apply predatory pricing laws to information sector companies, because it is difficult to determine what “below cost” is when marginal costs are naturally very low. If the requirement for predatory pricing is “below marginal cost pricing,” it will rarely be met. An international example is the French ISP Wanadoo. From 1999 to 2002, this subsidiary of the national telecom incumbent France Telecom (now Orange) priced its broadband service at a loss, allegedly to drive out competition. Its market share peaked at 72% of broadband and 90% of digital subscriber (DSL) lines. In 2003, Wanadoo was fined €10.35 million by the European Commission for predatory pricing, and the judgment was upheld by the European Court of Justice.⁷⁹ However, the tiny size of the fine relative to the company’s revenues (~0.25% of just one year’s revenues) is not exactly a strong deterrent.

Dumping is a method similar to predatory pricing. It occurs when a foreign manufacturer undercuts domestic prices below its costs or below its price in the foreign market in order to gain a share in the domestic market.⁸⁰ Remedies for international predatory pricing are to impose tariffs on violating firms equal to the difference in their price and a “fair price” plus damages. Unlike predatory pricing laws, US anti-dumping laws are aimed at protecting US businesses rather than the consumers. The standard for dumping is much less rigorous than US laws on predatory pricing. They only need to show that low pricing is harming domestic businesses. Economists have argued that this is detrimental to the economy as a whole since low prices are beneficial to domestic consumers. The World Trade Organization determines what remedies are available to countries

and it handles disputes over the legality of anti-dumping laws.⁸¹

11.9 The Futures of Pricing

11.9.1 “Free”?

Online guru Steward Brand popularized the idea that “information wants to be free.” Free in content, and free in price. But on the other side of the equation, media and digital companies as well as many creators want information to be relatively expensive so that it can pay for its often costly creation. This is a key tension in the media environment.

Many information products move to a free model, that is, to a zero price. This has been called “freeconomics.”⁸² The “free” but advertising-supported model, however, is often not enough to support a service. Many media firms found that paid subscriptions, in addition to advertising, are needed. It was also observed that giving away content for free works best for big firms with a larger user base for advertisers⁸³ or where the firm offers complementary services to commercial customers, who then pay in order to be able to reach the consumer user base clustered around the free service. Their model can be described as a “three-party system”: a third party pays to be a part of a free exchange market set in place between the first two.⁸⁴ This has been the arrangement in commercial radio and television for a long time.

Newspapers have struggled to find pricing models for their survival. The *New York Times* established a “paywall” for content in 2011, after see-sawing from free to pay to free and then pay again. The company allowed a free article quota of 20 articles per month, subsequently reduced to 10. The paywall is fairly easily avoidable through the use of multiple browsers or email accounts, but in all such pay arrangements a company

1, 2011. ► <http://ideas.repec.org/p/wpa/wu/wu/0401003.html>.

78 Federal Trade Commission. “FTC Staff Comment to the Honorable Demetrius C. Newton Concerning the Alabama Fuels Marketing Act.” January 29, 2004. Last accessed May 29, 2007. ► <http://www.ftc.gov/be/v040005.shtm>.

79 European Commission. “Antitrust: Commission welcomes judgment of the Court of Justice in French broadband case.” April 2, 2009. Last accessed February 18, 2009. ► <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/147>.

80 Congressional Budget Office. “Antidumping Action in the United States and Around the World: An Analysis of International Data.” June 1, 1998.

Last accessed May 30, 2007. ► <https://www.cbo.gov/sites/default/files/105th-congress-1997-1998/reports/antidump.pdf>.

81 World Trade Organization. *A Handbook on Anti-Dumping Regulations*. New York: Cambridge University Press, 2003.

82 Anderson, Chris. “Why \$0.00 is the Future of Business.” *Wired*, February 25, 2008. Last accessed June 17, 2017. ► http://www.wired.com/techbiz/it/magazine/16-03/ff_free.

83 The Economist. “Media’s Two Tribes.” July 1, 2010. Last accessed June 17, 2017. ► <http://www.economist.com/node/16486717>.

84 Anderson, Chris. “Why \$0.00 is the Future of Business.” *Wired*, February 25, 2008. Last accessed June 17, 2017. ► <http://www.wired.com/>

should not let the perfect be the enemy of the merely good. The *New York Times* pricing for unlimited access to articles ranges from \$15 to 35 per month, depending on the viewing platform (for smartphones \$15 per month⁸⁵). There are substantial discounts for students, teachers, and others.

In 2015, 79% of US newspapers with a circulation of over 50,000 used a digital subscription model; 62% used a “metered” system in which some articles are free before users have to pay; 12% used “freemium” models (most articles are generally free, some premium articles need to be paid for) and only 3% require a subscription for most or all of the content.⁸⁶

Publications lose online readers when they adopt a paywall. Even the simple registration requirement reduces visitors by half.⁸⁷ But both free and pay models have their success stories. The Internet makes a variety of new approaches possible. Prices can be differentiated. Different content tiers can be created at different price lev-

els. A basic tier is free and advertising-supported. For more information or a higher grade of performance, a subscription is necessary. This model—known as “freemium”—has become popular to the point of emerging as the main way to conduct business for Internet news content companies. A major challenge then is to decide how many features of a product should be free and how many should be paid for.

For many online services, free models have emerged, helped by rapidly falling costs. Examples are email, search, maps, storage, large file transfer, video sharing, music, photo/video/document editing, games (ad-supported casual), and many more. Models co-exist. Google is offering free directory assistance. At the same time, companies such as AT&T still charge for directory assistance.⁸⁸ Google is not being altruistic. It gains valuable information from these free phone calls. It might profit more from its free service than AT&T does from its pay service.

11.9.1.1 Case Discussion

Online Models

Did advertising-based pricing work for EB? EB had tried to support its online version through advertisements, but this reduced the cachet of the brand and did not work out in terms of user demand and hence advertising revenues. Let us look at EB's potential ad revenue. In 2002, when EB tried to go down the

ad-supported route, the CPM (cost per thousand impressions) for educational/reference websites was \$15.53, and the number of unique visitors to its website was about six million per year. As a back of the envelope analysis: EB could have charged about \$93,000 per ad that was being served to each unique visitor once. Just to

cover its fixed costs of about \$10 million, the company would have needed to serve each unique visitor over 100 ads per year, while maintaining the price per ad despite the clutter, the glut of other advertising platforms, and the rivalry from advertising-free Wikipedia. Not surprisingly, the ad scheme failed.

11.9.2 Micro- and Nano-pricing

Micropayments are used for small payments where other forms of electronic payments, such as credit cards, are too expensive, or cumbersome,⁸⁹ typically transactions of less than \$10–20. An

example of a micropayment application is Apple's music store iTunes. Users can download songs with the prices set at \$0.69–1.29 per song. Users can choose to pay with a credit card, debit card, or PayPal.⁹⁰

techbiz.it/magazine/16-03/ff_free.

85 Filloux, Frederic. “NY Times ‘Fair’ Price.” *Monday Note*. March 21, 2011. Last accessed June 17, 2017. ► <https://mondaynote.com/nytimes-fair-prices-69114de00db5>.

86 Williams, Alex T. “How digital subscriptions work at newspapers today.” *American Press Institute*. February 29, 2016. Last accessed June 17, 2017. ► <https://www.americanpressinstitute.org/publications/reports/digital-subscriptions-today/>.

87 The Economist. “Media’s Two Tribes.” July 1, 2010. Last accessed June 17, 2017. ► <http://www.economist.com/node/16486717>.

88 Anderson, Chris. “Why \$0.00 is the Future of Business.” *Wired*. February 25, 2008. Last accessed June 17, 2017. ► http://www.wired.com/techbiz/it/magazine/16-03/ff_free.

89 Kniberg, Henrik. *What Makes a Micropayment Solution Succeed*. Master's Thesis KTH, Institution for Applied Information Technology, Stockholm, 2002.

The greater ease for micropayments, however, creates a backlash. Even if the payment is small, “free” and “almost free” are very different in the perception of uses.⁹¹ Consumers often have negative feelings toward micropayments. To them, it is part of a takeover of the free sphere by economic transactions. It may be economically efficient but they want to tune out of having to make decisions with a meter ticking in their head.

Blendle is a pay-per-view platform backed by Dutch and German newspaper publishers. It lets users make micropayments for articles (0.19 to 0.39 cents). But few users seem willing to do so. Micropayments force consumers to determine the value of each story before agreeing to pay for it. The *Winnipeg Free Press* was the first newspaper to try the micropayment business model in North America. Users pay 21 cents per article or a flat monthly fee. However, rarely was the reader willing to pay. The market price for articles is quite low. Given consumer resistance, micropayment systems as a whole have failed in the past.

The next step would be “nano” transactions. Today, the environment in which information exists and operates is becoming increasingly complex and decentralized. Servers and websites interact with each other. Machine-to-machine transactions accelerate, such as with automobiles transacting directly with highways, or smart appliances dealing with e-commerce and electric utilities. A “nano” payment system would charge each packet or group of packets for transmission, access, processing, and so on, and that packet would be able to pay the fee, based on an e-wallet it carries.

Some might think that all packets must be treated equally for technical reasons, but actually individual packets can be treated quite differently. With identification, information streams become much more like airline transport. The passengers can be individualized and a strong price differentiation can be maintained. Video entertainment packets could receive discounts over voice packets and streaming in real time may require a premium. There can also be differentiation according to technical quality and security.⁹² Such automa-

tized nano-payment systems are not yet operational today, but with added computing and transmission power they will emerge in the future.

11.10 How Firms Organize Their Pricing Function

11.10.1 Setting Pricing Policy

Tactical pricing is short-term oriented and based on the current market situation and customers. It must respond flexibly to competition and demand. Strategic pricing, on the other hand, is set within the perspective of overall profitability, marketing, and positioning. As Thomas Nagle points out, the problem that firms face is when tactical pricing takes over. Managers and sales people, partly motivated by sales quotas and targets, may become too flexible and offer price concessions that are customer specific. They engage in bargaining. But the result will often be, as mentioned, to transform good customers into “difficult customers.”⁹³ Pricing strategy then dissolves into a series of ad hoc deals. Instead, companies should provide options with different prices. A price-sensitive buyer can then be offered a lower-priced option that comes with a lower quantity or quality. Rather than lowering the price, the seller should provide a menu of price-feature tradeoffs. These options should be set in advance, with a clear menu of choices and prices. “Instead of flexible pricing for a fixed product the firm should offer fixed prices for flexible offerings.”⁹⁴ This also gives customers an incentive to be honest about their needs and issues rather than be strategic in their communications as part of a bargaining process. Discounts can be given to certain customer categories, but this should be set in advance, be transparent, and follow clear criteria. For example, educational institutions might get a discounted price.

What this means is that pricing should, in principle, not be done on the level of the sales force, but organized on a strategic and central level as an important management decision.

90 Apple Online Store. “iTunes Music” 2011. Last accessed on August 1, 2011 ► <http://www.apple.com/itunes/whats-on/>.

91 Anderson, Chris. “Why \$0.00 is the Future of Business.” *Wired*. February 25, 2008. Last accessed June 17, 2017. ► http://www.wired.com/techbiz/it/magazine/16-03/ff_free.

92 Noam, Eli. A General Packet-Based Payment and Transaction Method and System. US Patent 7,203,657. 2007.

93 Nagle, Thomas T. and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. London: Prentice Hall, 2002.

Companies must therefore establish pricing groups or committees—including representatives from finance, marketing, sales, and strategy—to coordinate pricing, including on a global scale. When sales run lower than expected, the commit-

tee should review the pricing policies and alter them, if necessary, rather than provide price exceptions. More fundamentally, it might also decide to modify the product and its features or to launch a new advertising campaign.⁹⁵

11.11 Conclusions

11.11.1 Case Discussion

Conclusions

It is, of course, difficult for a business to compete with a rival who sets its price at zero. Technology and community dynamics have enabled easy, cheap competition to EB's premium product. As a result, the only way for a pay service to survive in the future is by providing substantial value benefits over free alternatives. Consumers may be willing to pay for a premium quality product, or a better fit with the user's need. This might derive from the prestige of authors and from an investment in graphs, maps, and so on.

Has EB been able to compete with "free"? The answer is no. In 2012 it announced that after 244 years and seven million sets sold, it was no longer printing new editions of its flagship encyclopedias. Its focus would shift to developing more comprehensive digital content⁹⁶ (whatever that might mean). This followed a continuous decline of over two decades. In 1990, the company peaked with 120,000 sets of encyclopedias sold. By 1996, that number had dipped to 40,000 and by 2010 to 8500. The final 2010 edition (all 32 volumes) was sold on its website at a price

of \$1400 until the stock of 4000 volumes sold out.⁹⁷

How could EB have handled its dilemma? There were a number of options to consider.

Premium Strategy Technology enabled cheap and easy competition to EB's main product. The response to "free" may be "better," "easy," and "prestige." Consumers may be willing to pay for the premium image, premium quality, and convenience. Thus, one way to survive would have been to provide substantial value benefits over free alternatives. But this is difficult, and EB did not persuade enough people that it was worth the money.

Differentiating the Product One differentiation might have been quality. Another might have been a better fit to high school student needs than Wikipedia's one-size-fits-all. There might have been signed selective articles by luminary authors to raise the intellectual prestige, and an extra editorial budget for graphs, maps, and photos. This would have been in line with its traditional

premium brand strategy. One online blog observer, Andrew Haywood, wrote: "Britannica is, quite frankly, the gold standard and is universally acknowledged. In developing countries it is still the brand that people tend to go to first. Wikipedia is increasingly seen as a 'corrupt' source of information and is not totally reliable." In response, Jimmy Wales, Wikipedia's leader, scoffed that "when it comes to breadth of coverage, Britannica is a puddle to Wikipedia's sea and the web's ocean." EB generated \$11 million in revenue and featured one language. Wikipedia, on the other hand, generates \$60 million in donations, has 284 different languages, 19 million articles, and 82,000 editors.⁹⁸ EB could have turned this weakness around as a strength and presented itself as selective and careful, a gourmet meal instead of a supermarket.⁹⁹

Product Extension EB could have branded new products with the "Britannica" name. It could have expanded its product line by creating targeted editions and focusing on customization by creating supplementary materials

94 Nagle, Thomas T. and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. London: Prentice Hall, 2002.

95 Nagle, Thomas T. and Reed K. Holden. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making*, 3rd ed. London: Prentice Hall, 2002.

96 Encoh, Nick. "Your Tome is up...Encyclopedia Britannica Ends its Print Edition After 244 Years as it Fully Embraces Digital Age." *Mail Online*. March 13, 2012. Last accessed June 12, 2012. ► <http://www.dailymail.co.uk/news/article-2114646/Encyclopedia-Britannica-cut-print-edition-244-YEARS.html>.

97 Manjoo, Farhad. "Expensive, Useless, Exploitative." *Slate*. March 15, 2012. Last accessed June 17, 2017. ► http://www.slate.com/articles/technology/technology/2012/03/the_encyclopedia_britannica_was_expensive_useless_and_exploitative_i_m_glad_it_s_gone.html.

98 del Castillo, Michael. "Britannica App Can't Get No Love." *UpStart.com Business Journal*. March 26, 2012. Last accessed June 12, 2012. ► <http://upstart.bizjournals.com/companies/media/2012/03/26/encyclopaedia-britannica-wins-appy-gets-totally-overlooked.html>.

for different age groups. To some extent, it tried to go down that route. It offered a *Britannica Student Encyclopedia* which primarily targeted students in grades three through six. Similarly, there were editions for high-schoolers and college students.

Bundling EB did this with its “Deluxe Edition,” a comprehensive package that includes the entire 32 set of books together with other reference sources such as the *Year in Review*, *Merriam-Webster’s Collegiate Dictionary*, a thesaurus, and a world atlas. However, for effective bundling, at least one element of the bundle must have generated a powerful and fairly inelastic demand.

Customization Customization of its encyclopedias and content was a possible way for EB, if it could have marketed supplementary materials for different age groups and interests. It tried to do so, but the price was too high when rival information was available for free online from multiple sources.

Copy Its Rival Another strategy could have been to emulate Wikipedia’s model by allowing subscribers to contribute to and improve any article, but with quality control by editors who are identified by name. This would deal with the problems of Wikipedia by the free editing of its content.¹⁰⁰ For example, in 2011 the lawyers in a class action lawsuit were accused of editing pages on Wikipedia in order to reduce the credibility of the lawyers on the other side. To deal with ideological attacks,¹⁰¹ Wikipedia had to lock

or restrict the editing of articles on certain persons and subjects in order to prevent “editorial vandalism.”¹⁰²

Focus on niche markets EB could focus on its primary market of schools, libraries, and those users who depend on reliable information.¹⁰³ It could then target segments which would highly value a paid-for version of its content over a free alternative. Parents of second to twelfth graders are a good potential market. For their schoolwork and research projects, the EB’s level of detail would have provided an extra benefit. These strategies would have allowed for highly differentiated schemes based on demands across grade levels. They would have also catered to a very large potential market, as there are about 45 million second to twelfth grade students in the USA alone, and hundreds of millions worldwide. EB would have created a differentiation value for these products relative to the free alternatives with age appropriate information, guaranteed authenticity, fast delivery, and perhaps inclusion of online research documents that would assist students with paper formatting, writing, and organization. These strategies therefore combine versioning and third degree price discrimination (the varying of price by customer segment). EB did follow such a strategy by offering a *Britannica Student Encyclopedia* aimed at ages 7–12 (\$449), the *Compton Encyclopedia* (ages 10–17), as well as several lower-priced CD-ROM or online packages aimed at students.

Wait for Wikipedia’s own decline

Inevitably, Wikipedia’s exponential growth slowed in time.¹⁰⁴ The number of articles added daily declined from 2200 in 2007 to 1300 in 2009 to about 800 pages in 2016.¹⁰⁵ Inside Wikipedia, “deletionists” and “inclusionists” competed for control and internal fights divided the organization with the deletionists predominating. It became increasingly difficult to make a successful edit. Normal users were often excluded. Wikipedia is often in the news because of inaccuracies. Its focus consequently shifted from growing its content to ensuring its accuracy.¹⁰⁶

Adopt the advertising model

In 2008, EB put its content online for free. According to Ian Grant, its UK general manager, “the site was free at one point ... but perhaps we were too far ahead of our time then. We had no commercial model, our servers crashed with all the traffic to the site, and the changes didn’t work at all. This model was introduced by the new owner at the time, who felt we had to adapt to the internet, and it took us years to recover from this. [I am] not convinced that the free, ad-supported model for the consumer website would work. Advertising can be hard to come by and undermines the value proposition.”¹⁰⁷ In another example, the well-known German encyclopedia *Brockhaus* tried to survive with a free and advertising-based model for its encyclopedia. It, too, failed.

Merge Expansion by mergers with other traditional encyclopedias, both English language and

99 Bray, Hiawatha. “Enter Britannica.” *The Boston Globe*. March 31, 2009. Last accessed June 17, 2017. ► http://archive.boston.com/business/technology/articles/2009/03/31/enter_britannica/.

100 Tobin, Ariana. “Founder Jimmy Wales Says Wikipedia Offers Insight into Cultural Dynamics.” *St. Louis Beacon*. March 26, 2011. Last accessed April 4, 2011. ► <http://www.stlbeacon.org/arts-life/neighborhoods/out-and-about/109144-jimmy-wales-visits-wustl>.

101 Schonbrun, Lawrence W. “Wikipedia Wars.” *Huffington Post*. March 30, 2011. Last accessed April 4, 2011. ► http://www.huffingtonpost.com/lawrence-w-schonbrun/wikipedia-wars_b_842819.html.

102 Bray, Hiawatha. “Enter Britannica.” *The Boston Globe*. March 31, 2009. Last accessed June 17, 2017. ► http://archive.boston.com/business/technology/articles/2009/03/31/enter_britannica/.

103 Bray, Hiawatha. “Enter Britannica.” *The Boston Globe*. March 31, 2009. Last accessed June 17, 2017. ► http://archive.boston.com/business/technology/articles/2009/03/31/enter_britannica/.

104 Johnson, Bobbie. “Wikipedia approaches its limits.” *The Guardian*. August 12, 2009. Last accessed June 17, 2017. ► <http://www.guardian.co.uk/technology/2009/aug/12/wikipedia-deletionist-inclusionist>.

105 Wikimedia. “WMCharts.” Last accessed June 17, 2017. ► <https://tools.wmflabs.org/wmcharts/wmchart0002.php>.

106 Johnson, Bobbie. “Wikipedia approaches its limits.” *The Guardian*. August 12, 2009. Last accessed June 17, 2017. ► <http://www.guardian.co.uk/technology/2009/aug/12/wikipedia-deletionist-inclusionist>.

others, does not overcome the fundamental problems, but only enlarges them. Yet another possibility would be to merge with Wikipedia itself, probably becoming part of the latter, as its pay “Wikipedia Britannica Plus” brand. Yet this approach did not work either. Wikipedia’s had grown by 2015 to over 36 million articles, of which more than 5 million were in English. Wikipedia’s monthly visitor base was 500 million individual readers in 2014; Britannica Online had 112,000 articles and received only 2 million views.¹⁰⁸

The End Five days after the closing of the print version was announced, EB’s smartphone app, an effort to get on new platforms, won a prestigious Appz Award. However, would the 80,000 articles of the app, at \$1–2/month, be enough to compete against the free Wikipedia with its millions of entries?¹⁰⁹ Estimates for 2016 app downloads were of less than 5000. Most of the company’s revenue now comes through the institutional market such as schools and universities rather than the consumer market. Thus,

an app is not likely to be very successful.¹¹⁰

Changing its business model was not new to EB. Its business model and pricing changed several times in its history. From 1768 to 1771, for example, it consisted of weekly pamphlets bought separately. But in the current age, Encyclopaedia Britannica’s management did not exhibit the necessary foresight and determination to change course radically and to carry a venerated analog brand into the digital age.

11.11.2 Conclusions on Pricing

Pricing is one of the most important tasks for an information sector firm.

Media firms may send in their lawyers to protect their property rights from unauthorized usage. However, even if they could get rid of the pirates, competition will still drive down the price for most content that is not truly unique. Price deflation can occur due to high production and commoditization competition. Low marginal costs lead to pricing below break-even prices. Without a differentiation, a firm will not be able to sustain itself economically. Innovation in technology and content are the greatest differentiator. However, such technology or content originality are difficult to sustain for long periods. Rivals will catch up or leapfrog.

One alternative is to seek market power or organize price stability and higher prices through a cartel. This, too, is not likely to endure due to competitive and legal challenges.

Refinement of pricing offers a way out of this dilemma. There are numerous approaches to set prices, as we have seen. Some pricing policies are market-strategic—such as to gain market power. Other pricing policies deal with the problem of covering high fixed costs, such as through price

differentiation and by maintaining prices above marginal cost.

What is the impact of technology? On the positive side, we now have new technical tools of Internet connectivity, local people meters, measurement software, cookies, and wireless connectivity, which provide powerful methods of near-instant feedback. Thus, measurement of sales and the impact of prices can be increasingly real time, global, disaggregated, and with larger samples.

Technology also creates tools to identify, segment, and customize users, usages, price elasticities, and prices. It enables inserting micropayment systems into websites and apps, and instituting algorithmic hedging techniques.

In that environment, what would be the optimal pricing strategy for sellers? It would be to price at each individual buyer’s willingness to pay as long as it is above the long-term marginal cost. This requires knowledge of customers, as well as the market power to avoid competition, and control over arbitrage. Yet such ability is growing with the sophistication of data mining and e-commerce, and large media platforms.

The least desired pricing for the seller is to be in a commodity situation—a competitively set market price at a short-term marginal cost, and below average cost. With such commodity pricing

107 Charlton, Graham. “Q&A: Ian Grant of Encyclopedia Britannica UK.” *Econsultancy*. February 10, 2009. Last accessed June 17, 2017. ► <https://econsultancy.com/blog/3268-q-a-ian-grant-of-encyclopaedia-britannica-uk/>.

108 Channick, Robert. “Encyclopedia Britannica Ends Print Run.” *LA Times*. March 14, 2012. Last accessed June 12, 2012. ► <http://articles.latimes.com/2012/mar/14/business/la-fi-britannica-ends-print-20120314>.

109 Charlton, Graham. “Q&A: Ian Grant of Encyclopedia Britannica UK.” *Econsultancy*. February 10, 2009. Last accessed June 17, 2017. ► <https://econsultancy.com/blog/3268-q-a-ian-grant-of-encyclopaedia-britannica-uk/>.

110 Sword, Alexander. “Encyclopaedia Britannica: How a Print Company Embraced Disruptive Innovation in Publishing.” *Computer Business Review*. May 19, 2016. Last access June 17, 2017. ► <http://www.cbronline.com/news/cloud/encyclopaedia-britannica-how-a-print-company-embraced-disruptive-innovation-in-publishing-4898586/>.

ing, the likelihood of survival is poor. Major strategies to prevent this situation—where long-term superior cost efficiency is not available—would be consolidation and product differentiation by innovation.

Even with advanced tools of gauging consumers and markets it is harder to do pricing today, in a rapidly changing environment with fragmented buyer markets, and with much greater choice, more buyer information, and globalization of buyers and rival sellers. At the same time, the fundamental economics of information and digital products are shifting, with the trends of rising fixed costs and declining marginal costs, which make pricing more complicated and risky.

Pricing methodologies and their integration into operations, product design, and marketing are evolving and are subject to rapid innovation and flexibility. Whereas pricing used to be a fairly quiet activity, it is becoming a key competence for managers in the information economy, and one with enormous significance for firms as they translate products into profits.

- How to create customer lock-in;
- How to determine optimal price discrimination;
- What the reasons for flat rate vs usage based pricing are;
- How regulation affects pricing;
- How governments regulate interconnection prices;
- How to use hedging to avoid price variations;
- Why predatory pricing exists;
- How firm-internal transfer pricing works;
- What ethical constraints to pricing mean;
- Why resale price maintenance often exists;
- How micro- and nano-pricing have changed the industry;
- Whether the industry is moving to a model of “freeconomics” in which the content or service is free.

11.12 Review Materials

Issues Covered

- How to organize the pricing function of a company;
- Whether to implement cost-plus pricing;
- How to strategically price a product;
- How to use marginal cost analysis in pricing;
- How to use auctions for market-based pricing;
- How to use yield management and dynamic pricing when product demand varies;
- How price deflation of information products affects the industry;
- How inflation indexed pricing works;
- How value-based pricing works;
- How to measure WTP;
- What factors affect price sensitivity;
- How to determine a product’s value using the hedonic price approach;
- How to keep prices above cost when WTP decreases;

Tools Covered

- Strategies to maintain price greater than marginal cost;
- Types of auctions, including second-price Vickrey auctions;
- Determining the price elasticity of demand;
- Bundling strategy;
- Monopoly pricing;
- Oligopoly pricing and Cournot solutions;
- Game theory;
- Ramsey pricing and optimal price discrimination;
- Versioning;
- Rate of return and price-cap methodologies;
- Cost plus pricing strategy
- How to define and measure cost?
- Understanding fixed and marginal cost;
- Inelastic vs elastic demand;
- Yield management and dynamic pricing;
- Value pricing;
- Measuring price sensitivity;
- Hedonic pricing;
- Penetration pricing;
- Flat rate vs usage based pricing;
- Hedging, Options, and their pricing;

- Regulation of Pricing;
- Transfer pricing;
- Organizing the pricing function in a firm;
- Inflation-indexed pricing;
- Auction designs.

11.12.1 Questions for Discussion

1. Explain the differences between cost-plus and value-pricing. Which is more appropriate for media products? Why?
2. Discuss some determinants of price elasticity. How might a firm enhance elasticity? Decrease elasticity? And why might it want to pursue either strategy? What has been the trend in demand elasticity for consumer media products?
3. How should fixed costs figure into a media firm's pricing/output decision? What about marginal costs?
4. Under what circumstances is price fixing among competitors legal?
5. Compare and contrast controlled and uncontrolled methodologies for demand estimates. What are the strengths and weaknesses of each?
6. Why may price cutting during the product decline phase not always be appropriate? What are some alternative strategies?
7. How should marginal costs and distribution costs affect a firm's decision to bundle or unbundle goods? Why?
8. From a producer's view, what are the advantages of priority pricing for an information distribution network like a phone company? Empirically, what do we observe in the pricing structures for these networks?

9. Explain how nano-pricing will allow for highly differentiated pricing through user profile histories.
10. Explain the importance of network effects for information products. How might a firm take advantage of network effects?

11.12.2 Quiz

1. CPM is a measure of:
 - A. Cost for increasing bandwidth on a network to accommodate an extra 1000 users.
 - B. A measure of the length of the product life cycle.
 - C. A tool for calculating the switching cost a telecom provider should impose on users.
 - D. Cost for an advertiser to make 1000 customer impressions on a website.
2. First Degree Price Discrimination is:
 - A. Charging different prices for different quality levels of a product.
 - B. Charging different prices for the same product to different users.
 - C. Charging different prices for the same product depending on frequency of use.
 - D. Charging different prices to different groups of consumers (e.g. college students).
3. Which is the most frequent form of price regulation for the telecom industry around the world today?
 - A. Yardstick pricing.
 - B. Rate-of-return pricing.
 - C. Cost-plus pricing.
 - D. Price cap regulation.
4. Which is not an option for wholesale pricing?
 - A. Micro-pricing.
 - B. Negotiated pricing.
 - C. Peering.
 - D. Efficient component pricing.

- 11
5. Which is not a characteristic of an information economy?
 - A. Capacity constraints periodically bottleneck supply, which contributes to cyclical price increases.
 - B. High fixed costs and very high marginal costs.
 - C. Investment and overproduction leading to cyclical price collapses.
 - D. Substantial economies of scale in the industry.
 - E. There are no real capacity constraints for information economies.
 6. Which factor makes exchange of price information among competitors illegal?
 - A. Exchanging data on aggregated transactions.
 - B. Exchanging data concerning past pricing decisions.
 - C. When the data are publicly available.
 - D. When the industry in question is concentrated.
 7. Which of the following is a form of user aggregation?
 - A. Goldilocks pricing.
 - B. Versioning.
 - C. Site licensing.
 - D. Ramsey pricing.
 8. A flat fee is more profitable for a monopolist than a metered rate.
 - A. True.
 - B. False.
 9. The optimal number of versions for a product is usually:
 - A. Two.
 - B. Three.
 - C. Four.
 10. A competitive equilibrium typically favors the producers charging on a per use basis.
 - A. True.
 - B. False.
 11. If differential pricing were not allowed, the low end of the market might not be served.
 - A. True.
 - B. False.
 12. Problems associated with Ramsey pricing include:
 - A. Arbitrage.
 - B. High informational requirement to set different prices correctly.
 - C. Customers not volunteering their WTP if it will increase prices.
 - D. All of the above.
 13. The C4 describes:
 - A. The four principles of value pricing.
 - B. Strategies for maintaining $P > MC$.
 - C. The combined market share of the top four firms in an industry.
 - D. The four phases of the product life cycle.
 14. Flexible pricing allows companies to do all of the following except:
 - A. Hike profit margins.
 - B. Boost proficiency of managing sales transactions.
 - C. Lower marginal costs.
 - D. Lower inventory costs.
 15. An example of an endogenous characteristic of consumer valuation is:
 - A. Age.
 - B. Zip code.
 - C. Quality level purchased.
 16. Which one of the following element attempts to capture the value when bringing a product to the market?
 - A. Shaping the product.
 - B. Its promotion.
 - C. Its distribution.
 - D. Its pricing.
 17. In which type of auction does the highest bidder win, but the price paid is the second highest bid?
 - A. English auction.
 - B. Dutch auction.
 - C. First-price, sealed-bid auction.
 - D. Vickrey auction.
 - E. Spectrum auction.
 18. A “call option” gives the owner the right to sell an underlying asset at a set price within a set period of time.
 - A. True.
 - B. False.

19. Predatory pricing is:
- A. Selling below cost (marginal cost) to eliminate a competitor.
 - B. The price is raised above the competitive level once the competition is eliminated.
 - C. Fundamental elements include below marginal cost pricing and recoupment.
 - D. Eliminating competition long enough for the company to recoup its losses by charging artificially high prices.
20. Skim pricing or penetration prices are usually set in what stage of the product life cycle?
- A. Introduction stage.
 - B. Growth stage.
 - C. Mature stage.
 - D. Decline stage.
21. Which of the following is *not* an approach to set prices?
- A. Penetration.
 - B. Cost-plus.
 - C. Dumping.
 - D. MC.
 - E. Bundling.

Quiz Answers

- ✓ 1. D
- ✓ 2. B
- ✓ 3. B
- ✓ 4. A
- ✓ 5. B
- ✓ 6. A
- ✓ 7. C
- ✓ 8. B
- ✓ 9. B
- ✓ 10. B
- ✓ 11. A
- ✓ 12. C
- ✓ 13. C
- ✓ 14. C
- ✓ 15. A
- ✓ 16. D
- ✓ 17. D
- ✓ 18. B
- ✓ 19. A
- ✓ 20. B
- ✓ 21. C



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12.1 Introduction

What was the world's largest private company in the eighteenth century? As mentioned in ► Chap. 7 Intellectual Asset Management, it was the Thurn and Taxis postal firm, which ran the postal monopoly in the Habsburg territories of Central and South-Eastern Europe. And in the late nineteenth century? Western Union, with its telegraph monopoly in the USA. Similarly, for most of the twentieth century, the telecom company AT&T was the world's largest business firm, with almost two million employees. What are the common elements? These companies were distribution networks for information. It seems that this activity, through several centuries, has been big, important, and profitable.

This chapter will therefore discuss the role of such distribution as a central activity in the information sector, with its especially rapid technological innovation and change.

We will cover in this chapter:

- The architectures of distribution networks;
- The economics and analytical tools of distribution;
- Wholesale and retail distribution and their trends;
- The impact of distribution on content.

At the end of this chapter, you will have an added understanding of distribution and the managerial prowess to operate this function or to collaborate with it. This will be useful in many endeavors. There are few examples of a company or non-profit organization whose products and services do not require some form of distribution to users or other producers.

12.1.1 The Definition of “Distribution”

First, let's define the term. “Distribution” must be distinguished from “marketing,” “logistics,” or “packaging.” *Distribution* is concerned with moving the product or service to the customer, while *marketing* deals with developing a market for the product. *Logistics* is the management of the flow of products and inputs in support of distribution. And *packaging*, such as the assembly of content by a cable channel, TV network, or music label, is the creation of a branded steady flow of a media product. That content package is then distributed.

12.1.2 The Myths of Media Distribution

The three legs of media are distribution, content, and technology devices. Within media firms, the distribution function is usually considered less prestigious than content production, yet it is an essential skill in an environment of glut, globalization, and multiple platforms. Indeed, we will end up concluding that it is effective distribution that gives a media firm the edge over its competitors. To reach that conclusion requires an analysis of several prevailing myths.

12.1.2.1 Myth #1: “Content Is King”

“Content is king” is a cliché in the media sector. It is based on the belief that content is scarce and difficult to produce, while distribution is a fairly pedestrian logistics operation and business activity. But is it possible that, in actuality, “distribution is king”? The relative power of the elements in a value chain is based on the relative scarcity prevailing in that stage, and the market power of its providers. We will observe that distribution, given its fundamental economics, is typically conducted in much more concentrated markets by very large firms, compared to content production, which has much lower entry barriers and is not inherently concentrated. Distribution firms often leverage their strength in their own particular stage of distribution into a role in content creation and content aggregation.

12.1.2.2 Myth #2: Technology Breaks Up Market Power in Distribution

New technology creates new and powerful methods of distribution: broadband Internet, fiber optic networks, mobile wireless, and additional cable and satellite channels. More advanced distribution technology means indeed fewer technical bottlenecks, but not less market power by a distribution company. Technical advance is supposed to overcome traditional market power in distribution. But as we shall see, technology has raised the economies of scale of distribution networks, and hence reduces the number of players and raises their market power. Therefore, distribution markets become more rather than less concentrated.

12.1.2.3 Myth #3: E-distribution Leads to the Disintermediation of Retailing and Wholesaling

The notion of “disintermediation,” in which manufacturers can deal directly with customers and leapfrog retailers, or wholesalers, or both, has been popular. But in fact, retailers and wholesalers are needed and fulfill several essential functions. New types of distributors arise but the function itself does not disappear. On the contrary, the new distribution intermediaries are more powerful and central than ever.

12.1.2.4 Myth #4: Electronic Distribution Is Very Different from Physical Distribution, and as a Result Everything Changes

People often make a big distinction between electronic and physical distribution, between the delivery of “bits” versus that of “atoms,” but in reality, there are great conceptual, structural, and organizational similarities between these two types of distribution. In particular, both electronic and physical distribution are organized around *networks* whose “architecture” is based on similar principles even if the technical nature of their components differ. Thus, changes in the competitive position of the major distributors are usually not inherent in the technology but in the inability of existing distributors to modify and adapt.

12.1.3 Distribution Networks

To discuss the nature of distribution in the media and information sector, we will start by looking at the central structure of distribution—networks.

Networks are systems for the distribution of products, raw materials, people, energy, and information. A network is a set of nodes that are interconnected by links, among which there is a flow of products or signals.¹

Examples of *physical* distribution networks, with their key technological breakthroughs and successful commercial introduction, are:

- Ships and barges (steamships, 1807, by Robert Fulton);

- Railroads (1830, by George Stephenson);
- Pipelines (1870s, Rockefeller’s Standard Oil Co.);
- Airlines (1930s, Juan Trippe’s Pan American).

Some networks are not made up of physical infrastructure at all, but exist as “virtual” relational systems among people. “Old boy” networks, or networks of political supporters, are examples.

Before the nineteenth century, information was available mostly only as a physical product, such as letters or newspapers, and could travel no faster than people or animals (such as horses or carrier pigeons). For example, a piece of correspondence sent from New York to Chicago in 1800 took six weeks to arrive.² By 1857, with the advent of the railroad the same letter would get to Chicago in two days.³ Even this was still painfully slow, from today’s perspective.

Human beings have always searched for ways to speed up the physical delivery of information by moving to non-physical signaling. Early attempts included signals by drums, torch, or smoke. In 1810, Napoleon enlisted the inventor Claude Chappe to help run his empire and army by creating a semaphore telegraph. A message could be sent from Paris to Brussels at a peak speed of 100 miles per hour with the use of hill-top relay towers which signaled coded letters by way of changing the configuration of two long arms. However, the Chappe System had a low capacity, could only be used in good weather and daylight, and was limited to military and official use.

New technology generations of information distribution followed each other almost every decade. After a scientific and engineering phase, they spread widely.

- 1840s: telegraphy;
- 1880s: telephony;
- 1900s: wireless radio telegraphy;⁴
- 1920s: radio broadcasting;⁵
- 1940s: television broadcasting;
- 1960s: cable TV distribution;

2 Pred, Allan R. *Urban Growth and the Circulation of Information: The United States System of Cities, 1790–1840*. Cambridge, Massachusetts: Harvard University Press, 1973, 176.

3 Chandler, Alfred D. Jr. *The Visible Hand: The Managerial Revolution in American Business*. Cambridge Massachusetts: Harvard University Press, 1977, 85.

4 A World of Wireless. “Early Days of Wireless.” Last accessed July 7, 2010. ► <http://home.luna.nl/~arjan-muil/radio/history/history-frame.html>.

5 A World of Wireless. “Radio Days.” Last accessed July 7, 2010. ► <http://home.luna.nl/~arjan-muil/radio/history/history-frame.html>.

1 Castells, Manuel. *The Rise of the Network Society*. Malden: Blackwell Publishers, 2000, 470.

- 1970s: communications satellites;
- 1980s: mobile cellular wireless;
- 1980s: packet data networks;
- 1990s: the Internet;
- 2000s: fiber-based broadband networks.

What these technologies have achieved, among other impacts, is to accelerate the speed of distribution as well as its scope. Whereas in the past the range of a media activity was local or regional, it became national and increasingly global.

12.1.3.1 Case Discussion

Bertelsmann's Media Distribution

The German firm Bertelsmann is one of the world's most diversified, internationalized, and largest media companies. It is deeply rooted in several media operations whose distribution is being transformed. Adapting to these changes and formulating a fundamental strategy of moving forward will be Bertelsmann's key to success.

The Bertelsmann company was founded in 1835 as a publisher of hymn books in Germany, with an anti-liberal theological perspective. It became a medium-sized book publisher located in the small town of Gütersloh. The firm grew large, and in time became Nazi Germany's largest supplier of propaganda books. After World War II, a transfer of control was mandated to the owner's young son Reinhard Mohn, who in the 1950s and 1960s successfully took the firm into book clubs and magazines. Later, ownership was transferred to the Bertelsmann Foundation, controlled by the Mohn family. The firm moved into music, film, and TV.

In 2017, Bertelsmann had 119,000 employees (about 40,000 in Germany), and was active in 50 countries. Bertelsmann's structure is highly decentralized. In 2017 revenues amounted to approximately \$20 billion. Of this, 37.6% came from TV (the RTL Group, including its film company UFA and the British TV producer Freemantle), 28% from outsourcing business

services (Arvato), 14% from magazines (Gruener + Jahr), 13.5% from books (PenguinRandom House), and 7.3% from printing (Be and others). Penguin Random House, created by a 2013 merger of Bertelsmann's Random House and the UK publisher Pearson's Penguin Group, is the world's largest general-interest book publisher, putting out approximately 9000 new book titles per year. Random House's presence is strongest in the USA, the UK, Spain, and Germany.

BMG Music Entertainment (Bertelsmann Music Group) used to be one of the world's top five major music companies. It comprised a number of record labels, for example RCA, Arista, and Columbia. Bertelsmann was also one of Europe's largest radio companies. In 2004 it merged its music operations with those of Sony, but then sold its share to Sony several years later, and much of its music publishing to Universal Music Publishing. Its BMG Rights Management still holds the rights to about 100,000 songs, for which it handles the marketing and artist management.⁶

For many years, "media clubs" were a key sales channel for Bertelsmann's music and book publishing. Direct Group's media clubs, both general and special interest, had 32 million members in 22 countries. But this declined to 15 million customers in 16 countries. But they are still the world's largest.

Bertelsmann is a major European online video company,

through the RTL Digital Hub, which includes Broadband TV, StyleHaul, as well as the online advertising service SpotXchange.

■ Bertelsmann Physical vs Electronic Distribution

Figure 12.1 shows how dominant Bertelsmann's physical distribution was at the turn of the century—books, magazines, music CDs, films—and how rapidly it was being transformed into electronic distribution, primarily digital in nature.

■ What are Bertelsmann's main distribution challenges?

In a 2012 article, Germany's major news magazine *Der Spiegel* criticized Bertelsmann for having had "a lost decade" and for being far behind competitors in terms of online operations, including in comparison to German media firms like Axel Springer AG. *Der Spiegel* argued that Bertelsmann's problems started when it focused on the buyback of shares from the Belgian firm GBL instead of investing in future-oriented online activities.

Each medium faced its particular distribution challenges.

The questions that Bertelsmann's management thus had to face include:

- What impact has the trend to broadband communications on Bertelsmann's distribution and operations?

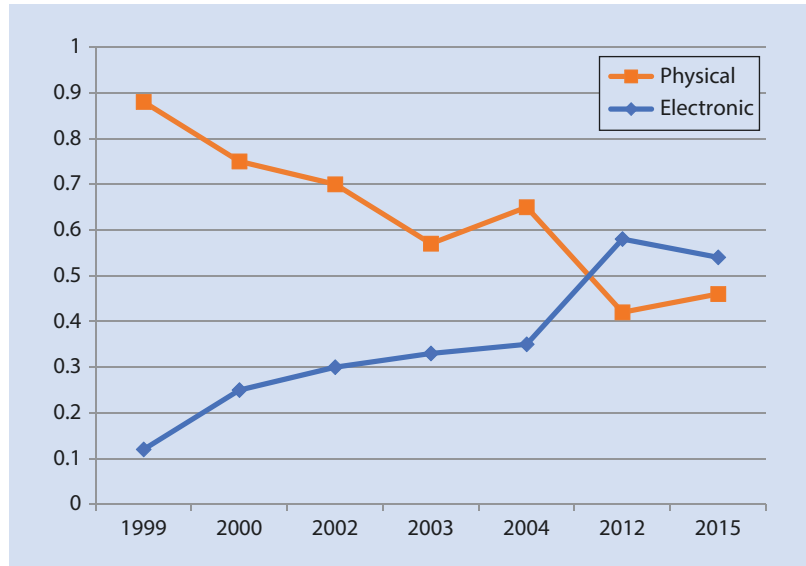
6 Sony Music. "Sony Music Entertainment." 2010. Last accessed July 7, 2010. ► <http://www.sonymusic.com>.

- How has Bertelsmann's content production benefited from its distribution activities?
- What is the impact of the move to broadband (high capacity Internet)

- communications on Bertelsmann?
- How are the supply chains of Bertelsmann's several business units being affected?
- Will the challenges of digital

- network distribution force Bertelsmann to become a partly content-based company? Will it force Bertelsmann to become much more of a technology company?

■ Fig. 12.1 Bertelsmann physical vs electronic distribution



12.2 The Economic Characteristics of Distribution Networks

How is the distribution of media and information products different from distribution more generally?

12.2.1 Economies of Scale

The design of a network will be determined by the “economies of scale” of its technology on the supply side. In addition “network effects” (discussed below) exist on the demand side and strengthen scale economies.

Of the economic factors that shape distribution in the media industry, perhaps the key factor is the characteristic of high fixed cost, low marginal cost. Studies have often shown economies of scale (cost-elasticity with respect to size) of 5–10% in the telecom industry. Similar econo-

mies of scale have also been identified in other markets for the telecom long distance⁷ and for the cable TV market.⁸

The consequences are advantages of a large size and high market share on the supply side of distribution services. There are also advantages to early entry. This explains why distribution network industries are almost always highly concentrated, meaning there are only a few companies providing distribution services in a market. For instance, in the USA, there exists four national package delivery systems: the traditional postal service USPS, as well as UPS, FedEx, and DHL. There are only three or four major national airlines left,

7 Denny, Michael, et al. “Estimating the Effects of Diffusion of Technological Innovations in Telecommunications: The Production Structure of Bell Canada.” *Canadian Journal of Economics* 14, no. 1 (1981): 24–43.

8 Noam, Eli. “Economies of Scale and Regulation in Cable Television.” In *Video Media Competition: Regulation, Economics, and Technology*. Ed. Eli Noam. New York: Columbia University Press, 1985, 93–120.

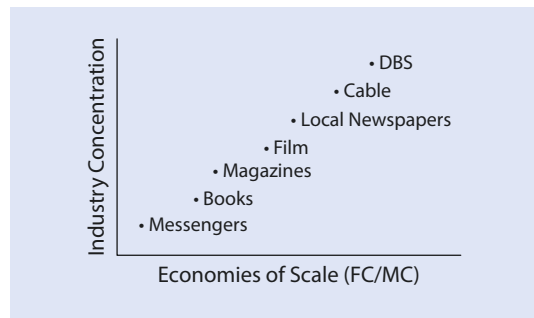
after a period of consolidation, upheavals, and bankruptcies. Most nations have only one or two national airlines.

In most countries, there is one dominant wireline telecom company, (though there may be one to two rival long-distance or business-oriented transmission networks), and three to four mobile wireless providers. There is typically one local cable provider regionally, and one or two direct broadcast satellite (DBS) providers.

The Internet, too, is becoming concentrated in its distribution role. Typically, there are only two serious infrastructure networks for broadband: incumbent wireline telecom companies, and incumbent cable providers if they exist. Mobile telecom operators may add two or three platforms but at a lower speed. In some countries, independent companies use the infrastructure of the telecom firms to provide digital subscriber lines (DSL) Internet service on top of it. This is like several bus companies using a single highway. But this competition is among bus companies, not among road systems, and if the single Highway Authority also operates its own bus service, this inevitably creates problems for the competitors and leads to some form of regulation.

Looking beyond infrastructure, we also observe that the number of distributors for content products is small. In the USA there are six main Hollywood film distributors and three music distributors. These distributors are strong in most other countries too. In Japan, there are three major Japanese film distributors, Toho, Shochiku, and Toei, plus the Hollywood firms. In India, the prominent film distribution companies are Rajshri Productions, Yash Raj, and Eros.⁹

Economies of scale do not mean that smaller firms cannot survive. The large firms often become inefficient, and their costs rise. Inefficient monopoly operations may offset the advantages of scale. The implication for a new entrant, where the incumbent's costs have crept up, is to challenge the latter on price. This was indeed how in telecoms in the 1980s, new entrants such as MCI (U.S.), Mercury (U.K.), or DDI (Japan) took on the established national monopolists AT&T, BT, or NTT. In time, however, the much larger incumbents got their costs under control and



■ Fig. 12.2 Economics of scale in media industries (schematic)

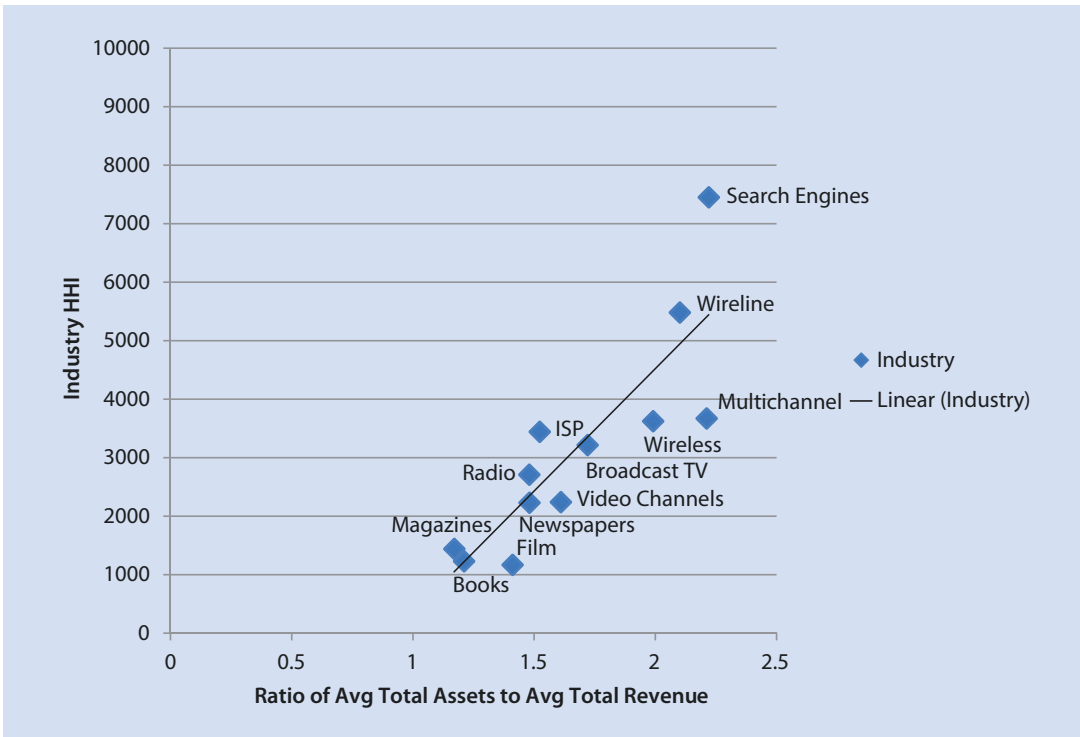
could re-asset their larger scale economies. The lesson for entrants therefore is to use price and cost advantages only as the opening wedge, and soon shift to product features and differentiation.

The design of networks (the “architecture”) is based on the relative cost of transport links vs nodes. The market structure of distribution networks is not determined by the absolute cost of distribution but by the relative cost ratio of fixed versus marginal cost (or fixed versus total cost) that determines market structure. The higher the ratio of fixed costs to marginal costs (FC/MC), the greater the economies of scale. Where that ratio is highest, economies of scale are highest, and with them the market concentration. ■ Figure 12.2 schematically illustrates this relationship. FC/MC is high for industries such as local cable TV and for broadcast satellite. FC/MC is intermediate for magazines and book distribution, and there the market concentration is intermediate. FC/MC is low for bicycle messenger services. Most of the cost is the labor of biking to the destination, not in the bike itself. Thus, entry barriers and market concentration are low.

The trend of this cost ratio is to rise. Electronic networks are becoming more expensive in their required upfront investment, and less expensive in their marginal cost of bit transport. Fiber, cable, and wireless networks have a high FC/MC ratio.

With the FC/MC ratio generally higher for electronic than for physical distribution, the implications are for higher economies of scale in e-distribution and hence of a greater market concentration of service for electronic distribution. For the physical distribution of media products, too, fixed costs rise while marginal costs decline. Companies such as FedEx and DHL create complex national and international distribution networks with higher

9 ISSUU. “Indian Film Industry: Distribution Sector.” November 2, 2008. Last accessed July 25, 2011. ▶ https://issuu.com/gbijumohan/docs/indian_film_industry_-_distribution_and_exhibition.



■ Fig. 12.3 Capital intensity and media industry concentration (Average 30 Countries)

fixed costs and relatively low marginal cost. This shift to a higher FC/MC ratio leads to national systems of physical distribution. Physical distribution by Netflix (DVDs) or by Amazon.com (packages) are other examples. The largest firms have a cost advantage when scale is high.

One can see this relation of fixed (capital) cost to operational (marginal) cost in ■ Fig. 12.3.¹⁰ Here, the average market concentration (the so called HHI concentration index) is graphed on the vertical axis for 13 media industries, averaged across 30 countries' concentration figures. The horizontal axis shows the capital intensity—the ratio of total assets to total revenues. As one can see, there is a strong correlation: industries that are capital intensive are more concentrated.

12.2.2 Network Effects

Networks tend to have a fundamental economic characteristic: the value to a user of connecting to a network depends on the number of other

people already connected to it. These interrelations are known as “network effects,” “network externalities,” “spillover effects,” or “demand-side economies of scale”. The larger the network's reach to others, the more value it provides to its users. A large size of participants encourages third parties to develop special applications. Examples are the wide range of software products for computers using the Microsoft Windows operating systems, of tools for eBay, or of apps for the Apple iPhone.¹¹

Network effects were described by the inventor of the Ethernet, Robert Metcalfe as a “law” according to which the total value (V) of the network to all users (n) increases and accelerates as the number of users increases, as defined by:

$$V = an(n-1) = a(n^2 - n)$$

a is a scaling parameter. For example, if the value of a network to a single user is \$1 ($=a$) for each other user on the network, then a network size of 10 users has a total value of \$90 ($10^2 - 10$). The

10 Noam, Eli. *Who Owns the World's Media?* New York: Oxford University Press, 2016

11 Goolsbee, Austan D. “Why the Network Effect is so Striking.” *Financial Times*. September 27, 1999, 14.

average value is then \$9. If the network grows to a size of 100 users, its total value is \$9900. The average value for a user rises from 9 to 99, about tenfold. A tenfold increase in the size of the network leads to a hundredfold increase in its value. Therefore, according to Metcalfe, the network value rises by roughly the square of the number of its terminals $V = a n^2$.

There are specific business implications to network effects:

- A small separate network is less attractive to users and hence less competitive, all other factors held equal.
- A larger network can charge a higher price since the ability to users is higher.
- Interconnectivity to large networks is important to a small network, because this raises its value to customers. Where the interconnectivity becomes essential, such as by small telecom operators into large incumbent networks, it has generally led to regulated access rights under some pricing rules.
- Correspondingly, the control to access to a large base of users can be a company's greatest asset.

12.2.3 The Role of Government

For the free flow of Information a well-functioning system of distribution without gatekeepers is essential. Government's role is to encourage the creation of distribution infrastructure and to protect against dominance by a handful of distribution companies through which commerce and information flow. Governments thus might impose anti-monopoly restrictions on distributor power and on the vertical integration of production with distribution. Or, they might establish regulatory policies such as common carriage for telecom and "net neutrality" for the Internet. Or, governments will own the distribution platforms themselves, providing affordable access to all.

Often, governments will provide subsidies to establish a widespread distribution system that reaches all parts of a country and society. This applies to railroad, highways, telecom networks, and TV. In other cases, governments seek to control information through a control over such distribution facilities.

12.2.4 Price Deflation

The prices for electronic distribution have dropped enormously. These trends create a fundamental instability in the competitive distribution of network industries. More capacity is offered at lower prices and with the equilibrium competitive price at near marginal cost, that is very low. As prices drop, many competitors fail and markets then consolidate.

12.2.5 The Vertical Integration of Distribution with Production

It can be cheaper to combine distribution with production, or of wholesaling with retailing, when there is a complementarity of the two functions in a chain. This is known as "synergies" or as "economies of scope." However, the statistical evidence for economies of scope tends to be inconclusive. Where these synergies are modest or non-existent, the purpose of vertical integration is not efficiency but market power over distribution or production.

In media, there have been many instances of vertical expansion. Hollywood studios have extended their operations into TV networks. Telecom companies have moved into video and online content. Cable companies have entered both telecom service and content production. All of them have also expanded into the Internet business. The benefits of vertical integration of production and distribution may be that integrated firms are closer to the end users. This creates a feedback loop that may strengthen the production process and lower transaction costs. Changes in consumer demand can then be dealt with faster. This can benefit companies whose product lifecycles are very short.¹²

Companies have extended this argument to distribution across multiple platforms and distribution channels. By owning several such platforms they could fine-tune the release of a media product. However, most coordination advantages of vertical integration can also be achieved by contracts among the two companies in a vertical chain

12 Madhok, Anoop and Thomas Osegowitsch. "Vertical integration is dead, or is it?" *Business Horizon* 46, no. 2 (2003): 25–34.

12.3 · Network Models

rather than in-house vertical integration. This can mean coordination with other products too.

But there are also drawbacks to vertical integration. One is the often-underestimated difficulty of integrating these very different operations and cultures. There are also costs due to being a “captive” producer or distributor. Take for example Disney, a film producer integrated vertically with one of its distribution operations, the major TV network ABC. As mentioned before, Disney TV Productions should sell its programs to the high-

est bidder rather than be locked into offering it to its own sister-company ABC. Likewise, the ABC network should aim to buy the program that best fits its needs, whether produced by Disney or not. Furthermore, synergies are not always positive but can be negative. For example, at one time traditionalist “pro-family” activist groups launched a boycott against Disney films, despite the company’s strong family-friendly brand image, as a protest against the ABC network’s allegedly pro-gay content and HR policies.

12.2.5.1 Case Discussion

Bertelsmann—Vertical Integration

Bertelsmann’s distribution has often been vertically integrated with content production:

- Music: Bertelsmann’s numerous music labels (production) were tied to “media clubs” and the major music group BMG (distribution);
- TV: RTL, UFA, Fremantle, and CLT (production) were tied to the broadcasters RTL, M6, and Antena3 (distribution);

- Film: UFA provides both production and distribution;
- Books: Penguin Random House with numerous other publishers and imprints (production/distribution); RHPS, VVA, TBS, and GBS (distribution).

Beyond its own book distribution operations, Bertelsmann offers distribution services to other book publishers. It also distributes the works of independent music labels and film producers.

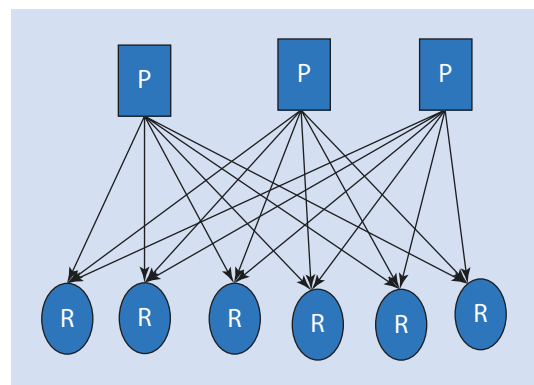
- In contrast, Bertelsmann’s role in the distribution of magazines, where its publishing house Gruner + Jahr is a major European presence, is limited.
- Bertelsmann’s various media operations—Random House, RTL, Gruner + Jahr, and the Direct Group—deploy entirely separate distribution systems.

12.3 Network Models

Distribution systems, whether physical or electronic, use similar major types of “architecture,” also known as “topology.” There are several basic models.

12.3.1 Distribution Architecture #1: The Non-sharing Network

One extreme is the “non-sharing” model. Every producer deals directly with every customer or every retailer (■ Fig. 12.4).¹³ This structure suffers from the high cost of providing all these links and connections between every participant, and



■ Fig. 12.4 Non-sharing model of producers to retailers

each of these links may well be under-utilized. For example, every producer (Level 1) is directly connected with every retailer (Level 2). If there are 10 producers and 1000 retailers, there would be 10,000 distribution links.

13 Figure based on Ross, David Frederick. *Distribution, Planning and Control*. Norwell, MA: Kluwer Academic Publishers, 2004.

12.3.2 Distribution Architecture #2: The Bus and the Ring

The other extreme is to have only one single distribution line that connects to everyone, running from one user to the next. Examples are a freight rail line that connects several towns, or an Ethernet network that links the various computer and printers in an office. If there are 100 participants strung out along that line, there would be 99 links among them. This lowers the number of links but it may also create congestion and vulnerability. If a single link fails, much of the entire system will go down. Forming a ring by connecting the two ends of the string reduces that danger somewhat since the transmission could go in the opposite direction and still function. Figure 12.5¹⁴ shows such a ring of a fiber network around the continent of Africa, with drops to various countries.

■ Fig. 12.5 Distribution model #2: The Bus or the Ring—Fiber network ring around Africa



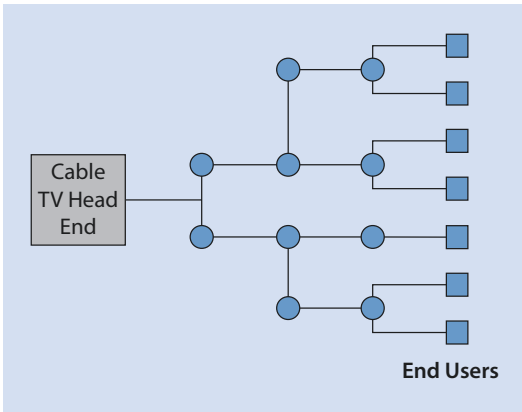
12.3.3 Distribution Architecture #3: Tree-and-Branch

This topology contains one distributor and multiple consumers (■ Fig. 12.6).¹⁵ The flow of information or of products is one-way; it starts with a wide pipe which then splits into increasingly narrower pipes. This is the fundamental architecture of broadcast TV, cable TV, or newspaper distribution, and also of consumer electronics and other physical products. It is also the basic distribution mechanism for water, gas, and electricity.

The tree-and-branch architecture does not provide horizontal connections among users. Nor can a user connect to another producer except by joining another tree-and-branch system. And each producer must create its own distribution network. Thus, this type of network is basically a one-way distribution medium.

14 OAfrica. "Looking Back: Africa ONE (intended to be Africa's first fibre ring)." May 21, 2011. Last accessed June 26, 2017. ► <http://www.oafrica.com/broadband/looking-back-africa-one-intended-as-africas-first-fibre-ring/>.

15 Graph based on Laubach, Mark. "Residential Area CATV Broadband Internet Technology." *The Internet Protocol Journal* 1, no. 3 (December 1998): 13–27.



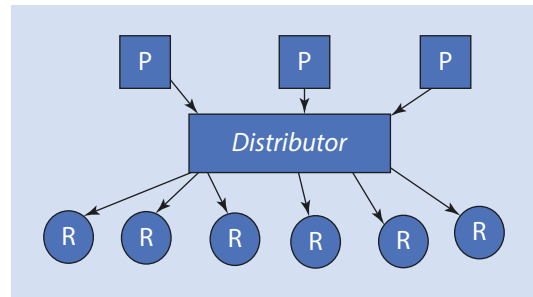
■ Fig. 12.6 Distribution model #3: tree-and-branch

12.3.4 Distribution Architecture #4: The Star

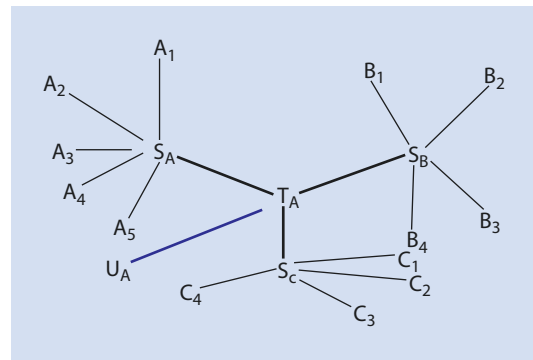
In a star distribution model, there is a “switching” node (S) (■ Fig. 12.7). Instead of every producer having an individualized distribution relation with every consumer, there is an intermediary in the middle that deals with multiple producers and serves numerous consumers.¹⁶

In a star distribution, the number of links with n participants is n . Thus, if there are 100 participants, the number of links is 100, plus an intermediary node. This is a vastly smaller number than what is required for model #1 (everyone directly connected to everyone), where it would be 4550. And an extra user is much cheaper and easier to accommodate: adding a 101th user would require in Model #1, as many as 100 new links, but with Model #4 (the star) only 1 new link. Model #1’s incremental cost for users is not only high, but also rising, whereas it is low and constant for the star architecture model. Average cost, too, is rising for Model #1 but is declining for the star, Model #4.

The star, too, has potential problems. It is not quite as vulnerable as the “party-line” shared network, which goes down for many users every time a single link fails. But the star architecture is still dependent on the reliability of the central node. Take it out and nobody connects to anybody. A second fundamental problem is that the users of the star may be widely dispersed geographically and each link to the central node would be long



■ Fig. 12.7 Star distribution



■ Fig. 12.8 Multi-star distribution

and expensive. To deal with this problem, stars are typically arranged in a multistar hierarchy, a “star of stars.” In ■ Fig. 12.8, T_A is a node of links from sub-stars S_A , S_B , etc. And T_A may be linked to a higher level node, U_A , which links the T level of nodes.

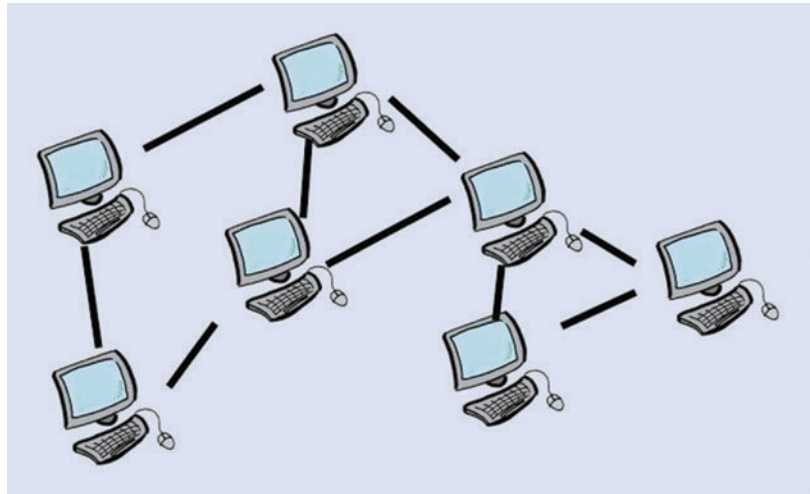
Examples of a multi-star are telecom networks. They are also common in transportation. For example, in the airline industry, several major airports are the central “hubs” and the individual routes are “spokes” to other cities. Thus, if air travelers wanted to go from Palermo, Italy to Montpellier, France, they would most likely fly first to Rome (a hub city), hence to Paris (another hub) and then to Montpellier.

Hub-and-spoke requires fewer links required to connect the same number of points. It has a higher “load factor” because flows are concentrated in fewer links. On the other hand, they require more switching (airport connections), which can be expensive and slow, and create vulnerable bottlenecks. If a snowstorm closes O’Hare airport in Chicago, dozens of other cities cannot be reached anymore.

A single level star in transportation was, in its early pure design, the Fedex package distribution

16 Ross, David Frederick. *Distribution Planning and Control*. Norwell: Kluwer Academic Publishers, 2004, 80.

■ Fig. 12.9 Distribution Model #5: Mesh network



system. Every night planes from each city served by Fedex fly to Memphis, Tennessee, arriving close to each other in time, then unload their packages which are then sorted in a central facility, reloaded into the airplanes that then fly back at dawn to their original departure cities. Hence a package would travel from Los Angeles to San Francisco via Memphis—a distance of 3500 miles instead of 350. The economic logic is that minimizing the distance traveled for a package was a secondary consideration. More important was to reduce the number of individual inter-city flights and of sorting operations (i.e. of nodes). If there were 100 cities served by Fedex, its system required 100 flight routes and one node (Memphis), whereas a system of every-city-to-every-city required 5049 flight routes (but no central node).

best example of a mesh network is the Internet itself, where information travels from one router to the next. In the physical world, mesh networks are less common. An example might be the informal system by which college students buy and re-sell textbooks for their courses or hold them for friends and siblings for future use. Electronic mesh networks became possible as transmission and storage dropped in price and enabled content distribution without the classic intermediaries.¹⁹

Applications include live streaming and video-on-demand.²⁰ Mesh P2P distribution became popular because of its technological innovativeness, partly due to its community spirit and outlaw whiff.

12.3.5 Distribution Architecture #5: The Mesh

A mesh network is a network topology in which each node relays or stores the product or data and cooperates in the distribution process (■ Fig. 12.9). The item moves (“hops”) along from node to node until it reaches its destination.^{17,18} The

12.4 Analytical Tools for Distribution Management

Managers must understand the tool kit for analyzing distribution. These tools derive from multiple research disciplines. We will discuss them now.

17 P2PFoundation. “Mesh Networks.” Last accessed June 26, 2017. ► http://wiki.p2pfoundation.net/Mesh_Networks.

18 Kay, R. “Mesh Networks.” *Computerworld*. August 10, 2009. Last accessed June 26, 2017. ► <http://www.computerworld.com/article/2550305/mobile-wireless/mesh-networks.html>.

19 Bauwens, M. “The Political Economy of Peer Production.” *CTheory*. December 1, 2005. Last accessed June 26, 2017. ► <http://www.ctheory.net/articles.aspx?id=499>.

20 Shen, Z., et al. “Peer-to-Peer Media Streaming: Insights and New Developments.” *Proceedings of the IEEE* 99, no. 12 (December 2011): 2089–2109.

12.4.1 The Network Analysis Tools of Sociologists

Sociologists have developed a “social network analysis” as the study of the structure of relationships.²¹ A social network is a type of map that illustrates how individuals (nodes) are linked to each other through relationships (links). Some nodes (people or organizations) are particularly “central,” or “influential,” with a high multiplier by connectivity to many others. “Social capital” refers to the value of one’s relationships and networks, and how one can leverage these connections to accomplish a goal.²² A business application exists when financial institutions use such network analysis to chart the interactions of a customer and trying to spot fraud when they encounter unexpected interactions. Social sites like Facebook use it to recommend potential friends. Network operators, whether electronic or physical, can use it to optimize the capacity structure of their networks. Another application is for marketers to identify “influentials” who have a multiplier effect and to target them.

12.4.2 The Network Analysis Tools of Lawyers: Essential Facilities

Lawyers focus on problems in distribution such as bottlenecks and market power. With a

bottleneck facility, one firm controls a link that is necessary to others, whether users or providers. When there is a bottleneck in an “essential facility,” it often becomes subject to regulation. An example is the regulation of the local telephone companies’ “last mile” of the network, in order to assure access to users, content providers, and rival operators.

12.4.3 Network Analysis Tools of Electrical Engineering

To electrical engineers, network analysis addresses, among other things, the question of how much information (bits) can be squeezed into a pipe, and how networks must be configured. A major building block is “Shannon’s law” (1948). Claude Shannon was a celebrated electrical engineering theorist at Bell Labs and MIT, often described as the “father of information theory.” Shannon’s law shows the theoretical capacity of a communications channel, in bits per second, to be a function of bandwidth of the channel (measured in “Hertz”), and the ratio of the power of the signal (measured in “Watts”), and the interfering “noise” that the signal must overcome. The relation of the latter two is called the “signal-to-noise ratio.”

$$\text{Capacity (bps)} = \text{bandwidth (Hz)} \log_2 \left(1 + \frac{\text{signal power}}{\text{"signal noise"}} \right)$$

For example, how many bits can be sent over a typical telephone line? Suppose it is a voice quality phone line with a bandwidth of 4 kHz and the signal’s strength is 1000 Watts (a lot) but the channel’s “noise” (unwanted hiss and hum) is 1 Watt in strength?

The equation tells us

$$\begin{aligned} C &= 4000\text{Hz} \times \log_2 \left[1 + \frac{1000\text{ Watts}}{10\text{ Watts}} \right] \\ &= 4000 \log_2 (100) \approx 4000 \cdot 4.6 = 18,400 \text{ bps} \end{aligned}$$

This translates into about 4.6 bits that could be transmitted per Hertz of bandwidth. (This, however, is the theoretical limit, under conditions of perfect engineering. The usual practical figure achieved by engineers is more around 3 bits per Hertz or less)

Looking at the Shannon equation, we can make several observations:

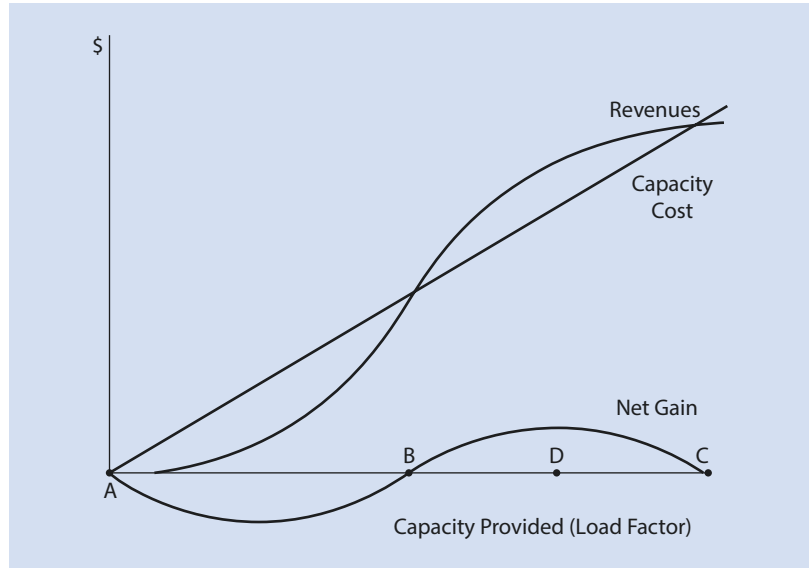
- The stronger the signal power, and the lower the interference (“noise”), the more information can be put on a transmission link.
- Bandwidth is a substitute for signal power.

One can get the same information transmitted with a less strong signal if one can use more bandwidth. This is especially important for mobile wireless applications, since lower power requirements mean a longer-lasting battery.

21 University of Twente. “Network Theory and Analysis.” Last accessed June 26, 2017. ► https://www.utwente.nl/en/bms/communication-theories/sorted-by-cluster/Communication%20Processes/Network%20Theory%20and%20analysis_also_within_organizations-1/.

22 Miller, Gray. “What Is Social Network Theory.” *LoveToKnow*. December 5, 2008. Last accessed July 7, 2010. ► http://socialnetworking.lovetoknow.com/What_is_Social_Network_Theory.

■ **Fig. 12.10** Capacity cost, revenues, and net gain



12.4.4 Network Analysis Tools of Statisticians: Operations Research

Operations research (OR) uses mathematics, statistics, and models to aid in the design of operations. OR was derived from work on logistics by the military during World War II and afterward. It includes techniques such as linear programming or queuing theory.

Examples of OR in media applications include:

- The optimal routing of distribution of newspapers to retailers;
- The design of a factory producing smart-phones with an efficient flow of components;
- The construction of a telecommunications network with low congestion;
- The planning of the production schedule for a soap opera.

12.4.5 Network Analysis Tool of Operations Research: Queuing Theory

The planning of capacity in a distribution system needs to consider congestion. Waiting lines (queues) are formed when users seek a service that has limited capacity. Waiting lines for service are formed in many operations of distribution and production:

- Customers in a movie box office lane;
- Calls to a cellphone service representative;

- Phone orders to an online merchant;
- Installation orders for cable TV;
- Packets in a transmission channel;
- Music artists time in recording studio.

In each case, reducing wait times will increase service quality but will also raise operating costs. Reducing service quality (and thus increasing waiting time) will lower operating costs but will lead to a loss of users who will go elsewhere.

Queuing models approach the behavior of “arrivals” as a probabilistic process. The firm will look at the “load factor.” The load (or traffic) factor r is the ratio of arrival rate λ to service rate μ . As the load factor rises, the wait increases at an accelerated rate.²³ This can be rephrased as the question: how much of a capacity (i.e. service level) must a firm provide optimally?

■ Figure 12.10 shows how an increased service level (added capacity) raises the cost of providing it. (The diagonal line) At the same time, the company’s revenues from serving customers as the service quality level rises, increases from zero (at Point A). At capacity level B, costs and benefits are equal, and net gains (the lower curve) move from negative to zero and beyond to positive. After a certain point, however, the impact on additional business declines because customers are satisfied enough and the extra service level makes little dif-

23 Lesso, William G. “Operations research.” *Access Science*. March 5, 2001. Last accessed June 26, 2017. ▶ <https://www.accessscience.com/content/operations-research/470410>.

ference to them. Eventually, at Point C, the added cost has eaten up all revenues. In-between B and C lies the optimal capacity D.

12.4.6 Network Management

These analytical tools and others are being used in “network management” which is a set of actions to allow a network to operate efficiently and effectively. Underlying network management is the basic fact that the capacity of a distribution network is limited and that, to assure proper operations, its use must be carefully deployed. This involves a scaling of the network, the matching of the capacities of the various elements, the prioritization of certain types of traffic, quality control, cost consideration, pricing, and profit maximization.

A major issue is the architecture of the distribution network. Balancing the mix of the nodes and transport links—the distribution network architecture—is a management decision. An airline hierarchy has two to three tiers. A railroad hierarchy has three to four tiers. TV broadcasting has three; cable TV content distribution has about six levels. If the cost of the transport links is high (relative to the cost of nodes) the manager will try to reduce them as much as possible. There will be fewer links, more nodes, and a greater hierarchy. For example, for rail networks track is very expensive to build and maintain, but switches are cheap relative to the track. There would be a high level of hierarchy. Similarly, cable TV has expensive lines but relatively cheap neighborhood and curbside splitter nodes. Thus, where links are relatively expensive, the optimal distribution system will be multi-layered and strongly hierarchical. In contrast, if the cost of transport links (per unit of traffic) is relatively cheap in comparison to the nodes, there will be fewer nodes and less of a hierarchy.

In electronic distribution, the trend of transmission has been to drop in price faster than for the switching node. In consequence, the architecture has been moving to longer electronic transport segments and to fewer and simpler nodes. The resulting network arrangement has been called the “dumb network”: a transport network of powerful pipes, but with limited nodes (intelligence) to route, steer, and control traffic.

A second task of network management is to match capacity with needs, to even out the load, and to prevent periods of substantial slack in

the system followed by periods of congestion. Responses by managers of distribution systems to even out traffic load include:

- Adding capacity by new construction or leases;
- Prioritizing certain types of traffic;
- Rerouting;
- Setting usage caps (rationing);
- Lowering the quality of service;
- Raising prices;
- Permitting inter-customer trading.

For example, as smartphone use spreads, the mobile network capacities reach bottleneck conditions, with providers running out of bandwidth at certain times and locations. This slows down (and at times blocks) usage. Networks have therefore tried to reduce the traffic of the heaviest users. Studies show that 10% of users account for 90% of traffic. Mobile carriers instituted caps for data usage, both in order to price-differentiate between light and heavy users, and to reduce the latter’s usage. The largest US telecom company, AT&T, started in 2012 to slow down the transmission speed of the top 5% of the heaviest data users (consuming more than 1.5 GB) beyond a certain point. Similarly, ISPs such as AT&T or Comcast instituted a data cap on Internet traffic. Comcast set a 250 GB monthly limit. When exceeded, the company quietly “throttled” that user’s speed.

A third issue of network management is service quality differentiation. Generally, a distribution network will offer a better service grade for a higher payment. This is true for airlines, the postal service, or Internet service. It is partly based on the higher cost of delivering the higher quality. And it is also one way to price-discriminate against users with a low price elasticity. Providers of the Internet and other data transmission services have been offering their customers different grades of quality of service (QoS) which is important to some types of users who require, and are willing to pay for, a guaranteed service grade with a certain transmission speed and reliability parameters for delay (latency), jitter, dropped packets, error rates, and so on. To assure such service level guarantees, the network providers would, for example, reserve capacity for such users. The other users would then get a service quality level based on “best effort,” which means they are served by the network resources left over after the needs of the guaranteed QoS customers have been satisfied. Unless

the network was “over-providing” by having excess capacity, those customers get a lower service grade. Of course, they also pay less.

A still more sensitive issue is whether, within a given quality and price level, some types of uses or users would get priority over others. The debate over this issue, as applied to the internet, is part of the battle over “net neutrality.” The US government adopted in 2015 net neutrality rules mandating ISPs to treat all Internet traffic the same, regardless of its origination, destination, content, or volume. In 2017, under a new FCC chairman, these regulations were abolished again. Net neutrality rules and principles will continue to be subject to tough legal and political battles.

12.5 Wholesale Distribution

The wholesale stage of distribution is arguably the central element in the distribution chain. It is the link between production and retailing. Typically, a wholesaler will distribute the goods and creations of multiple and competing producers to multiple and competing retailers. Conversely, both producers and retailers may also transact with competing wholesalers. But there are also various forms of exclusivity arrangements at each level.

Wholesalers fill numerous functions:²⁴

- Selling to retailers and promoting the product;
- Maintaining an assortment of products, often from multiple producers;
- Bulk breaking of large shipments from producers into smaller quantities;
- Value-added processing;
- Physical transportation and shipping;
- Warehousing;
- Provision of marketing information;
- Order processing;
- Logistics services;
- Assumption of ownership and risk;
- Managing the import transactions and paperwork;
- Managing exports especially for smaller producers;
- Aggregation of the flow of orders, and flow management;
- Aggregation of the flow of payments;
- Compensation of various parties;

- A role in the financing of production;
- A role in the financing of retailers.

Of course, not all wholesalers engage in all of these functions. And some of them may also be undertaken by the producers or retailers, or not at all. Different product lines have different practices. Unlike the retailing and production stages which tend to have well-defined core responsibilities, the wholesale stage is an aggregate of intermediary functions that varies greatly. Typically, too, wholesaling does not have the visibility of retailers and of brand name producers. (Media industries are an exception.) In consequence, the role of wholesaling is often under-appreciated or even denigrated as one of an unproductive “middleman” one must strive to cut out. Yet the very fact that this wholesale stage exists in almost every product line, industry, and country strongly suggests the presence of a value-added function that is economically efficient. We will now discuss wholesale distribution for several major media industries.

12.5.1 Film Wholesale Distributors

At the business end, the functions of film distributors are numerous:

- Promotion and advertising of films;
- Physical delivery of a film to theaters;
- Often, exhibition in own theaters
- Negotiations with domestic and foreign outlets such as film theaters, TV networks, and online video providers;
- Delivery of film to TV and cable networks;
- Storage of film on website for downloading and streaming;
- Transmission of film to third-party websites for downloading and streaming;
- Production of home video copies and their delivery to video stores;
- Collection of rentals and license fee payments from the various retail channels;
- Accounting for revenues and distribution of payments to the various participants;
- Licensing of related merchandise;
- Protection of the copyrights.

The major film distributors also frequently produce their own films and subsequently distribute it. They often provide financing to independent productions. As a condition to assuming part of

24 Ross, David Frederick. *Distribution Planning and Control*. Norwell, MA: Kluwer Academic Publishers, 2004, 67.

the financial risk they have a major voice in shaping of these films in terms of content and talent.

Who are those major distributors? After an early tumultuous stage in the early twentieth century, a handful of film companies emerged that still dominate the “Hollywood” distribution: Universal, Paramount, Columbia/United Artists (now Sony), Warner Brothers, and 20th Century Fox. They were joined in the 1930s by Disney. RKO and MGM fell by the wayside. This left six firms, which has been the case for over 80 years now.

Before a film opens, the distributors must create an audience for it, by marketing through advertising and other promotion. For a Hollywood movie, this averages about \$40 million per film on advertising.²⁵ Because of the financial and organizational effort, the distributors must be selective. Many filmmakers say that making a movie, hard as it is, is not nearly as difficult as getting it distributed.

Within the USA, the major distributors also handle films produced by independent and foreign filmmakers. Distribution is a major problem for independent film productions, which have grown over the years. In 2018 there were 3901 feature length submissions and 8,740 shorts to the Sundance Film Festival in Park City, Utah.²⁶ To serve independent film makers there are also independent distribution companies that concentrate on niche or low budget films. But they, too, are choosy. Independent film producers can also self-distribute their movies, but that is not easy in financial or logistic terms.²⁷

Theatrical distribution of a major Hollywood film is expensive and requires much planning. One decision is to pick the opening date. It needs to fit the season and avoid clashing with competing releases that vie for the same target audience, or with major sports events. (On the other hand, a big sports event at the weekend might fit the release of films that appeal to viewers who are uninterested in sports and seek an escape.) Advertising costs also vary.

Next, the film distributors must line up theaters for a national release. In the US, this takes about 1500–3500 theaters (and a proportionally

similar number in other countries). Films are then promoted by national advertising campaigns on TV, the Internet, and print media. The attention of critics and the word-of-mouth is at its peak.

A second major way to distribute films is through the rental or sale of physical or electronic copies for use at home. A film’s home video version is usually released four to six months after the film’s end of the theatrical run,²⁸ though that window has been shortening. The studios’ distributors spend relatively little on the marketing of most videos and the stars rarely publicize them. Most of the public awareness of such a release is the afterglow of the film’s original marketing push. And because that buzz depreciates over time there is an incentive to get movies into home video and video-on-demand distribution relatively quickly.

To export a film abroad, the distributors ship the prints or hard drives after dubbing or subtitling them with other languages, plus some editing to conform with local rules on content. For the Disney film *Gone in 60 Seconds*, for example, the cost of foreign prints, shipping, translations, and customs clearance for Disney’s distribution arm Buena Vista was \$12.7 million.²⁹

The actual physical shipment is often subcontracted to third-party providers. One company, Technicolor, beyond its role in printing and copying thousands of copies of a film, has also a major distribution role in physical delivery to over 36,000 screens in the USA and 2800 in Canada.

12.5.2 Book Distributors

The number of new book titles is staggering. In the USA alone, there were over 338,000 published in 2015. The major growth was in self-published books, where more than 700,000 were issued in the USA in 2015,³⁰ an increase of 375% in five years.³¹ At the same time, more than 13 million previously published books are still available through many sources. On the other hand, book sales peaked in

25 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

26 Carr, David. “New York ‘Little’ Films Grow Big.” *New York Times*. May 12, 2005. Last accessed June 17, 2017. ► <http://www.nytimes.com/2005/05/12/movies/new-york-little-films-grow-big.html>.

27 Marich, Robert. *Marketing to Moviegoers: Independent Distributors*. Burlington, MA: Elsevier Focal Press, 2005.

28 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

29 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

30 Bowker. “Self-Publishing in the United States, 2010–2015.” March 24, 2016. Last accessed April 5, 2017. ► <http://media.bowker.com/documents/bowker-selfpublishing-report2015.pdf>.

31 Piersanti, Steven. “The 10 Awful Truths about Book Publishing.” *Berrett-Koehler Publishers*. September 26, 2016. Last accessed February 20, 2017. ► <https://www.bkconnection.com/the-10-awful-truths-about-book-publishing>.

2007 and have either fallen or been flat in subsequent years, according to the Association of American Publishers (AAP). There are about 3000 listed publishers in the USA. By another definition there are over 30,000 entities issuing books. Few books succeed in terms of circulation. Of the numerous titles, in a recent multi-year period, about:

- 10 titles sold over 1 million copies;
- 67,000 books sold 1000–5000 copies;
- 203,000 sold 100–1000 copies;
- 948,000 titles sold less than 100 copies.³²

All of these thousands of publishers, tens of thousands of books stores and other outlets, millions of titles, and hundreds of millions of customers are linked by a very narrow distribution system. In the USA the major book wholesalers/distributors are few in number and dominated by Ingram and by Baker & Taylor. In the UK, they are Gardners and Bertrams. A wholesaler serves publishers who want to outsource warehousing and logistics. Publishers use wholesale distributors for several reasons, in particular the cost and effort of reaching thousands of retail stores. Several major publishers have distribution operations themselves, which may also serve other publishers. Such large operations

include Bertelsmann's wholesale operations in the USA, UK, and Germany. Conversely, several major large publishers have reduced their wholesale distribution operations. HarperCollins (owned by News Corp) shifted its front list distribution to R. R. Donnelley, the largest US printing company. There are also small specialized distributors.

Distribution is not just a delivery operation for packages. It means holding an inventory, which must be optimized. There are large seasonal fluctuations in book sales and hence distribution. Late summer is the peak season for textbooks. It accounts for 60% of McGraw-Hill's revenues.³³ The Christmas season is big for books suitable for gifts. Summer is the time for the sale of light reading.

With IT systems, the management of book wholesale inventory management has become more integrated with retailing. Computerized inventory control means retail stores might find a copy in another store of its chain. Or, a publisher might go to one chain and ask them to return books which they then ship to another.³⁴ Distributors can also become retailers. With print-on-demand, a distributor can offer books directly to readers. That is a delicate issue since it means competing with one's own retailer customers.

12.5.2.1 Case Discussion

Bertelsmann—Book Publishing Wholesale Distribution

Bertelsmann and Pearson establish in 2013 the world's largest consumer-oriented ("trade book") publishing company, Penguin Random House. The joint venture is based in New York and is 53% owned by Bertelsmann and 47% by Pearson. In its main three markets (the USA, the UK, and Germany) Bertelsmann relies on its own distribution operations through vertical integration. Its book distribution in Germany is often handled by its own distribution arm VVA. In the UK, Penguin Random House owns TBS and GBS, among the country's largest book distributors. In the USA, book stores and libraries can obtain Random House books

through independent distributors such as Ingram and Baker & Taylor. Taking a further step, Bertelsmann owns Random House Publisher Services (RHPS) which distributes RH books and also those of several other publishers. RHPS operates huge warehouses in Maryland and Indiana. The Maryland operation picks, packs, and ships an average of a million books a day, including many international shipments.

Random House considers distribution one of its core competencies. It was named Amazon.com's "Distributor of the Year" in 2009. It ships titles for several dozen smaller publishers to thousands of retail book stores. The company

used to distribute only its own new and backlist books (8000 new titles a year) issued by its nearly 100 imprints in North America. Most of those books were shipped as bulk ("full-pallet") orders. It then instituted changes in its business and operational model of book distribution by bringing down its price—and cost—of servicing small orders, and this required the building of an advanced picking and handling facility.

We conclude that Bertelsmann has been successful and innovative in the wholesale distribution of physical books. Online distribution activities for print and digital books will be discussed further below.

32 Donadio, Rachel. "Backlist to the Future." *The New York Times*, July 30, 2006.

33 Maloney, David. "By the Book Distribution." *Modern Materials Handling* 58, no. 4 (April 2003): 33.

34 Fiscus, James. "Changes in book distribution drive up prices, reduce sales." *Science Fiction Chronicle* 23, no. 2 (February 2002): 32–35.

12.5.3 Magazine Wholesale Distribution

Magazine publishers usually enter into multi-year contracts with third-party distributors for national, regional, or market-by-market newsstand distribution services. After leaving the printing plant, the magazine products are moved to regional national and regional wholesalers who then distribute to retailers of various sizes. But single copy sales have greatly declined in recent decades. Most magazines, especially those that are not consumer-oriented, are sent instead by mail to subscribers, with the postal service as the distribution system for the publishers.

Curtis is the largest national magazine distributor in the USA, with \$1.5 billion in revenues and a 32% share of national distribution for single-copy magazine sales.³⁵ The second largest, Source Interlink, accounts for 30% of the single-copy distribution market. Source Interlink has also acquired magazines itself. Together, the top two distributors control almost two-thirds of national distribution. There are only two or three other national magazine distributors in the USA.

Regional wholesales magazine distributors operate in their geographical markets. But within those regional markets, concentration is high.

12.5.4 Music Distributors

There are two levels of intermediaries between the music artists and the user. The first is the label, which is the creation/production level. The labels are often part of a music group that functions as the distributors, the second level. The three major music groups (Universal, Sony, and Warner) are all distributors, but smaller independent distributors also exist, such as Alliance, Passport, Independent National Distribution, and The Orchard. The distributors (the wholesale stage) market and ship worldwide to retailers. They also promote the music by sending it to DJs, clubs, television and radio stations, and special events.

Labels and distributors used to be separate entities. But in the 1980s, the largely independent system of distribution became a problem for the major labels because their nation-wide promo-

tions required full coordination of record releases, tours, and radio airplay. They therefore integrated in the 1970s vertically into national and international distribution. Today, the major music groups own many specialized labels around the world. Labels come and go³⁶ and market shares fluctuate, with the popularity of star performers. The global and regional market shares of other music companies are small. The major distributors are the core of the global music business (■ Table 12.1).

The three major music group firms are vertically integrated into “music publishing” (copyright ownership and licensing), as well as production and distribution. They are (or were in the past) also integrated into other media activities such as film and TV, consumer electronics, and print, to enable cross-promotion. Sony and Universal (UMG, owned by Vivendi) are integrated into various other media operations. This was also true in the past for CBS, RCA, Warner, and Bertelsmann.

12.5.4.1 Case Discussion

Bertelsmann—Music Distribution

BMG (Bertelsmann Music Group) used to be one of the world’s five major music companies. BMG’s global market share was 21.5%. Labels included RCA, Arista, J Records, Jive, and Zomba. Artists included Christina Aguilera, Britney Spears, Justin Timberlake, and Elvis Costello. In 2005, BMG merged with Sony’s music group to form Sony BMG Music Entertainment, the world’s largest music firm. But Bertelsmann sold in 2012 its 50% share of the joint venture to Sony.

Bertelsmann also sold its music publishing (rights licensing) business to Universal. Subsequently, however, it built up a new music rights management operation, with the PE firm KKR. It held the rights to over one million songs, and it markets them to record labels, film studios, and TV networks. Bertelsmann was thus one of the biggest music rights companies in the world.

36 *Vivendi’s Universal Music Group*: Labels include MCA, A&M, Mercury, Island, Polygram, Polydor, London, Wing, Deutsche Grammophone, Verve, Geffen, Motown, Def Jam, Decca, and BMG Music Publishing.

Sony Music Group was created out of CBS Records, RCA and the Bertelsmann Music Group (BMG). Its labels include CBS Records’ Columbia and Epic, and RCA records’ Ricordia and Ariola.

Warner Music Group has the music labels WEA, Warner, Atlantic, Reprise, Elektra, Asylum, Atco, and Maverick. In 2003 Warner Music was sold to an investor consortium including Edgar Bronfmann, and taken public in 2005. It is now owned by Access Industries (Len Blavatnik). The percentage of “other” companies is remarkably small for most of the world’s regions, typically around 25%. The exceptions are Japan and the rest of Asia. However, the music style or artists are much less global than the above share of business would suggest. Music distribution is much less diversified internationally than music content.

35 Curtis. “Overview.” Last accessed April 11, 2011. ► http://www.curtiscirc.com/1_about/index.html.

Table 12.1 Global and regional market shares of the music group majors (2013)

	Sony	Vivendi (UMG)	Warner Music	Others	Industry Concentration (HHI Index)
North America	23.6	34.9	17.6	23.9	2085
Europe	22.2	38.4	17.3	22.1	2267
Asia (excluding Japan)	18.5	22.8	13.4	45.3	1042
<i>Japan</i>	21.3	17.4	10	23.3	1162
Latin America	30	23.7	8.9	37.4	1541
Australasia	24.4	31.6	17.8	26.2	1911
Africa	24.2	36	7.9	31.9	1944
World	22.9	32.2	16.1	28.8	1820

12.5.5 Consumer Electronics Distribution

Manufacturers bring their products to ports for shipment to export markets. This initial part of the supply chain is its most inefficient part.³⁷ Once imported to their destination country, typically by huge container ships, consumer electronics shipments are put in large warehouses. These warehouses are run by a variety of operators: the manufacturing company itself, specialized wholesalers, general logistics providers, or the large retail chains. Compact high value consumer electronics are often air freighted from Asia to the USA and Europe, especially for new releases. The electronics industry accounts for around 40% of the value of the entire international air cargo industry.

12.5.6 Wholesale Distribution: Trends

12.5.6.1 Trend 1: Retail and Wholesale Functions Are Merging as Large Retail Chains Emerge

The large retail chains deal directly with manufacturers/producers, and this reduces the role of wholesalers. What seems to be emerging is a

replacement of the three-stage system by a two-stage one. The vertical convergence of retailer/wholesaler, together with the horizontal concentration in the retail level, leads to very powerful distribution intermediaries between producer and consumer.

12.5.6.2 Trend 2: Increasing Market Concentration in Wholesale Distribution

Wholesale distribution was always concentrated for film, music, books, and magazines. Online media distribution adds still further to this market concentration:

- Economies of scale are enormous;
- It is easy to expand distribution platforms and models across countries and across products.

12.5.6.3 Trend 3: Expansion into Production

Distributors of content have often extended into and dominated production, in particular in film, music, and TV. The next chapter of such expansion is being written as Netflix, Google (YouTube), Amazon, Verizon, AT&T, and Apple have entered the content production business. Already, Amazon and Apple have achieved a scale and importance in distribution that puts them into a position to dictate the pricing structure to book and music publishers.

A concluding observation: about the share that wholesalers keep of what consumers pay

37 Weaser, Mark. "New Logistics Systems Will Increase Efficiency, Boost Profits in China." *Supply Chain Brain*. September 1, 2005. Last accessed June 17, 2017. ► <http://www.supplychainbrain.com/content/logistictransportation/transportation-distribution/single-article-page/article/new-logistics-systems-will-increase-efficiency-boost-profits-in-china/>.

for the product is, on average, 18.3% after subtracting their own payments to producers and creators. It is much higher for film (39.9%), and lower for books (6.3%), magazines (3.8%), newspapers (2.2%), and online media (5.5%). It is higher for physical content media than for electronic content media (23.1% vs 14.7%). It is larger where:

- A major marketing activity is required (such as film);
- The distributor has a financial stake or an active role in the shaping of the media product (film, music), or must buy it from the producer (film);
- A large inventory must be kept (consumer electronics);
- The product's potential for success is low (music).

12.6 Retail Distribution: Physical Distribution

Retailing is the resale of a product or service to consumers. It can be done by small and specialized companies catering to a narrow or local customer base, or by large and global companies with outlets in many cities and a wide assortment of products. It also includes “e-tailers” who operate online.

12.6.1 Film

12.6.1.1 Film Retail Distribution Channel #1: Theaters

There was a big investment push into film theaters. In 1980s, multiplex and then megaplex theaters opened in the USA. Such theaters then emerged also in Europe and Japan. Economies of scale, improved sound, stadium style seating, parking, and shopping opportunities are the reasons for the rise of such theaters. In 2016, there was approximately one screen per 8000 people, or 12 screens per 100,000 people.³⁸ This is a high number. (In some countries, like France, the number was twice as high. But almost everywhere

else it was much lower.) For example, there were two competing megaplex theaters with a total of 52 screens in Ontario, California right next to each other. Why this theater glut? Shopping-mall operators encouraged theaters as “anchor” tenants to generate evening traffic. Wall Street financiers liked the theater business because of its huge free cash flow.

In consequence, capacity utilization of film theaters dropped, while they carried high debt and costly leases with mall owners. Under severe economic pressure, several major chains consolidated or declared bankruptcy to reorganize their debt and renegotiate onerous leases. As a result of consolidation, the market share in terms of box-office revenue of the top three chains (Regal, AMC, and Cinemark) rose from 29% in 1997 to 40% in 2001³⁹ and 47.7% in 2015. Such large chains use their own “buyers” to book films while small chains and independent theaters use third-party buyers.

12.6.1.2 Film Retail Distribution Channel #2: Home Video

While the home video business has been squeezed by online distribution, it is still sizeable. It benefited from the consumer's desire to liberate themselves from a set schedule of movie theaters. Large video chains supplanted the numerous mom-and-pop rental stores. But they over-expanded and got clobbered when the DVD technology enabled the more convenient mail-order rentals from Netflix. At the other end of the spectrum, large general retailers became heavily involved in the cheap sale of popular videos. They often use DVD sales as loss leaders to build traffic for their store.⁴⁰

A different approach to home video rental is the use of vending machines. In the USA, Redbox rents out movies for \$2. It has only 70–200 titles at any time, but it substitutes a low price and convenience for lack of choice. Redbox is available at more than 34,000 locations in the USA. Its rental peaked at 776 million in 2013, and then declined.⁴¹ But it accounts for 52% of the physical video rental market, and 12.5% of overall users

38 How many screens can a city support? In 2000, San Francisco was the leader in the USA among large cities with over 20 screens per 100,000 population, four times the New York figure.

39 Alderston, Derek, Jeffrey Karish and Roy Price. “Revenge of the Multiplex.” *The McKinsey Quarterly*. (Autumn 2002): 6. (Adjusted for 2015 data).

40 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

41 Statista. “Number of items rented out at Redbox kiosks from 2010 to 2014 (in millions).” 2015. Last accessed June 15, 2016. ► <http://www.statista.com/statistics/296377/redbox-number-kiosk-rentals/>.

in 2017. Redbox faced obstacles from the major studios about the timings for their new films. The studios tried to delay the time when Redbox can rest out new films from 28 days after theatrical release to 56 days.⁴²

12.6.2 Book Retailing

In recent years the main innovations in the book industry were those of retail distribution. Innovations were retail chains and megastores, online retailers, and on-line delivery. Traditionally, book retailing was based on thousands of small retailers (bookstores), a few large wholesalers (in the USA, four majors), several direct-to-consumer operators (book clubs and mail order publishers), and some direct distribution large or regular end-users such as to school systems and university libraries.

Large bookstore chains began to emerge in the 1960s. Barnes & Noble has over 1000 stores in the USA, including 400 superstores. What are the advantages of book chains and megastores? They have a central buying system, record of sales history of books, large selection, bigger advertising budgets, sales history and inventory control. They also offer amenities such as coffee bars for longer store visits, and visits by authors.

Critics of superstores believe that all they carry are popular titles. However, there are 50,000–200,000 titles in superstores compared to 20,000 in a small store. Another fear is that superstores deter book buyers, when in fact they have made shopping and browsing more attractive due to lower prices, a greater selection, more convenience, and stronger promotion. Other critics believe that these stores have shifted the public reading taste down-market to bestsellers and potboilers. Some of this may have happened. But one should not over-romanticize the quality choices of past generations of book buyers. Subsequently, online publishing and distribution has shifted choice in the opposite direction, to

more specialization and more titles including more high-quality book content.

12.6.2.1 Retail Price Maintenance for Books

The competition problem in book retailing is that the chains obtain substantial discounts from publishers, which negatively affects the survival of small bookstores. With higher retail prices are not consumer-friendly, they keep more bookstores in business and encourage the smaller store to hold a larger inventory relative to sales.

The competition between large bookstore chains and small booksellers has been reflected in legal and political battles. In many countries book publishers must fix the retail price and force the retailers to adhere to it. This system is called Resale Price Maintenance (RPM). Book stores then compete not on price but on the quality of their service and the titles available (see also ► Chap. 11 Pricing of Media and Information).

12.6.2.2 Book Retailing Distribution: E-Tailing of Physical Books

In 1994, a young hedge fund manager, Jeff Bezos, surveyed top mail order products and found that books represent a perfect category for e-commerce in terms of prices and convenience. Mail order catalogs, let alone retail stores, could not comprehensively cover books because of the huge numbers of titles. He started the company Amazon.com, and relocated to Seattle to take advantage of the proximity to Ingram, the largest book wholesaler in the USA. Amazon was innovative in using online capabilities. It provided search engines, personalized suggestions and feedback from the reader community, and more. Initially, Amazon had no physical facilities for books and acted solely as an intermediary for orders. In time, it created distribution centers, strategically located in states with low or no sales tax.

12.6.2.3 Book Retail Distribution: Print-on-Demand

It is difficult to predict consumer demand for a book. This can lead to books sitting around in warehouses (known as “rotten fruit”) or, conversely,

42 Gruenwedel, Erik. “The Vanishing Video Store Rental.” Home Media Magazine. April 3, 2012. Last accessed June 28, 2017. ► <http://www.homemediamagazine.com/research/vanishing-video-store-rental-26860><http://www.homemediamagazine.com/research/vanishing-video-store-rental-26860>

12.6 · Retail Distribution: Physical Distribution

being sought after yet out of print. These problems can be fixed with print-on-demand (POD) technology. Consumers are able to print out books at special locations, such as a bookstore, and it only takes a few minutes to print, glue, and bind a book.⁴³ The technology allows for books to be produced and sold in small quantities, even one at

a time. It reduces inventories (by publishers, wholesalers, and retailers) and creates a “pull model” for book production. POD has resulted in specialized models of publishing itself, because it lowers the entry cost for a new publisher and the risk associated with an upfront printing of books whose sales potential is uncertain.

12.6.2.4 Case Discussion

Bertelsmann—Book Retailing

Bertelsmann's book distribution has several very different channels: it serves book stores and clubs; but it owns no bookstores.

Random House used to sell many of its books through Bertelsmann's book clubs, based on a membership model with required purchases. This distribution channel was a major factor for the company becoming a media giant. The same system was also used for music. Authors and publishers vied for Bertelsmann's book club distribution. The success of the clubs made Bertelsmann a major publisher by giving its own books a wide distribution. Soon, it also bought up several smaller publishers. In time, however, consumers drifted away from clubs. In 2011 Bertelsmann closed its book club division, which at the time still had 15 million subscribers in 16 countries. It sold its US book club, Bookspan.

Print-on-Demand

Until 2009, Random House owned 49% of Xlibris, a provider of self-publishing and on-demand printing services, but then sold it.

E-stores for Print Books

Bertelsmann started Bertelsmann Online (bol) in 1999 as an e-bookstore, competing with Amazon.com and Barnes & Noble's BN.com. But after major losses and restructuring efforts, Bertelsmann sold off bol.de.

E-book Distribution

Bertelsmann engages in e-book distribution on its own distribution platforms, as well as on others. In Germany, it started several ventures related to e-books:

- The mobile direct-to-consumer Skoobe e-book distribution platform for smartphones and tablets, focused on German-language e-books. (Skoobe is “e-books” spelled backward.) Its model was not selling but renting out books, just as Netflix does for films online. It charges users €10 a month subscription to borrow up to two titles for 30 days. Renting books is cheaper than buying them. Skoobe's main selling points are price and a wide range of recently published e-books and a user-friendly design.
- A second e-book distribution venture is Tolino. The Tolino e-book platform was launched in 2013 and joins Bertelsmann

and Germany's three major physical book retail chains—Thalia, Weltbild, and Hugendubel—together with phone giant Deutsche Telekom. It also offered a tablet reader. Thus, Tolino brought together Germany's top physical booksellers, its largest media company and book publisher, and its largest telecom company, all joined to compete with Amazon and Apple. Previously, each of the five had its own e-book business, with a combined market share of 35%. There was no governmental German or EU antitrust intervention in this venture that joined major horizontal competitors and vertical buyers/sellers.

To sum up: Bertelsmann's bargaining strength as a publisher, in dealing with large e-tailers like Amazon or Apple, has weakened compared to what it used to be relative to traditional retailers. Its strength in direct-to-readers book club distribution collapsed. Bertelsmann's efforts to offset these trends by entering the online distribution of physical books or e-books, or by operating POD, have either failed or are yet to show success.

⁴³ Macprint. “Offering You The Latest Printing Press Technology.” 2009. Last accessed July 25, 2011. ► <http://fahadlatesttechnology.blogspot.fr/2009/11/offering-you-latest-printing-press.html>.

12.6.3 Magazine and Newspaper Retailing

The retailing of magazines and newspapers, typically in newsstands or multi-product retailers such as convenience stores, drug stores, and supermarkets,⁴⁴ is known as “single copy sales.” That form of distribution has been declining steeply,⁴⁵ at about 10% per year. Factors were: the much cheaper subscription prices relative to single-copy sales;⁴⁶ changing consumer shopping patterns (less impulse purchases, fewer shopping trips); a shift to digital reading and a proliferation of digital devices—smartphones offer far more news choices than a retailer, and with more convenience; a decline in the number of locations selling single copies, which reduced distribution cost but limited availability;⁴⁷ and the prevailing system in which newsstands and other offline retailers could return unsold copies, which shifted the risk of weak sales onto the publisher. The result of these factors was a decline of physical retailing to secondary status. For magazines, retail newsstand and supermarket sales make up only a small share of their overall sales. Even for consumer magazines, less than 15% of total circulation is through retail outlets,⁴⁸ for example, *Rolling Stone* magazine gets only 5% of its circulation via newsstands,⁴⁹ *Vogue* 20%, and *Time* magazine 1.8%. Celebrity publications are the most popular magazine category at newsstands, but it is also the category that has lost the most sales. Also relatively well performing in retail sales are magazines presenting highly visual information that is best done in print, for example food, home decorating, and travel destinations.⁵⁰

12.6.4 Music Retailing

Arguably, no part of the media industry has been more affected by electronics and online technologies than the traditional retail distribution of content. And no music retail distribution has been more affected than that of music.

Before the 1970s, there were two kinds of record retailers. They were stand-alone specialist shops and general department stores that included hit record racks. They had different supply channels. The specialist ordered records from independent “one-stop wholesalers.” Department store racks were served by independent “rack jobbers” who selected titles and stocked the racks. Music was also retailed by record clubs.

In the 1990s, online stores such as CD-Now and Amazon.com emerged as retailers of physical music products. A few years later, direct download began, at first illegally and without payment. Subsequently, for-pay online stores also entered, particularly the Apple iTunes. This put specialized retailers under enormous pressure. Since 1999, annual retail music sales dropped by about 10% each year to \$8.0 billion,⁵¹ and even more so for independent retailers.

There are various ways to sell digital music. Apple sells music via its iTunes store on a model in which users acquire a song or album and download it to their devices. Since 2015 Apple also let users access music via a streaming service (Apple Music), whereby the music would only be played when connected via the Internet. Since 2015, overall streaming revenue (Apple, Pandora, Spotify, and others) surpassed digital download revenue in the USA.⁵²

12.7 Online Retail Distribution of Electronic Media

Online distribution is mostly another form of retailing. But it often straddles the retail and wholesale stages. It enables an intermediary—sometimes traditional, sometimes new—to link between producers and consumers. There are different models:

44 Supermarkets are the largest retail center for single-copy magazine sales in the USA, with 35.6% of the market share.

45 Doctor, Ken. “Newsonomics: Single-copy newspaper sales are collapsing, and it’s largely a self-inflicted wound.” *Nieman Lab*. March 13, 2005. Last accessed February 24, 2017. ► <http://www.niemanlab.org/2015/03/newsonomics-the-collapse-of-single-copy-sales/>.

46 Magazine titles that discounted their subscription prices by more than 70% declined by 16% at the newsstand, four times more than magazines that discounted subscriptions by less than 10%.

47 Dool, Greg. “Newsstand Sales Fell 16 Percent in 2015.” *Foliomag*. March 14, 2016. Last accessed June 29, 2017. ► <http://www.foliomag.com/newsstand-sales-dropped-16-percent-in-2015/>.

48 Vasquez, Diego. “Behind magazines’ decline on the newsstand.” *Medialife*. February 13, 2014. Last accessed June 29, 2017. ► <http://www.medialifemagazine.com/behind-magazines-decline-newsstand/>.

49 Rolling Stone. “Circulation.” 2016. Last accessed February 24, 2017. ► <http://www.srds.com/mediakits/rollingstone/circulation.html>.

50 Vasquez, Diego. “Behind magazines’ decline on the newsstand.” *Medialife*. February 13, 2014. Last accessed June 29, 2017. ► <http://www.medialifemagazine.com/behind-magazines-decline-newsstand/>.

51 Lee, Louis. “Taps for Music Retailers?” *Business Week*. June 23, 2003, 40.

52 Bloomberg. “Apple’s iTunes Overtaken by Streaming Music Services in Sales.” March 22, 2016. Last accessed June 17, 2016. ► <http://www.bloomberg.com/news/articles/2016-03-22/apple-s-itunes-overtaken-by-streaming-music-services-in-sales>.

- A traditional retailer extends backward directly to the producer. For example: the book retail chain Barnes & Noble Online leapfrogs much of the wholesale distributor.
- A traditional wholesale distributor may reach consumers directly. Example: HBO Now, which leapfrogs the cable TV and satellite retail intermediaries.
- New intermediaries emerge to reach end users. Example: Apple iStore.
- Producers link up directly with consumers. Example: *The Guardian* newspaper or *The New York Times* which leapfrog wholesale and retail intermediaries.

12.7.1 Business Models for Online Media Retailing

The new online model of distribution leads to several business models.

12.7.1.1 Advertising-Based Content Provision

The advertising-based business model is by far the most prevalent for text based content, for social-media type video, and for a good number of commercial music and video services. This is a logical continuation of traditional print and broadcast media being supported by advertising dollars. However, the problem of advertising as an economic foundation is that there is a huge supply of advertising opportunities online relative to the attention to such advertisements and to their effectiveness, and hence the price of advertisements is much lower. The former CEO of the media giant NBCUniversal, Jeff Zucker, memorably summarized the problems of moving to online distribution as “trading analog dollars for digital pennies.” Whereas the cost per thousand impressions (CPM) in 2017 for TV networks averaged \$24.40 and for newspapers it was \$35, for online video it was merely \$3, and for online text display ads \$2.03.⁵³ Of this, the ad placement service of Google keeps 32%, so that is the web publisher gets \$1.38. On the positive end, ads can be targeted more precisely and with greater effectiveness. Yet this

advantage would already be reflected in the willingness-to-pay by the advertiser, that is, in demand. Without it the prices would be still lower.

At the same time, the cost of creating online content is not lower but more expensive, if anything. It is true that digital technology makes production and distribution cheaper. But the greater competitiveness of content providers also means the need for more technical bells-and-whistles, for a higher frequency of updates such as news, and for greater marketing efforts. It also means more fragmented audiences which translates into a smaller number of users having to support a higher cost operation though their value to advertisers. That audience is too small for most online content providers to provide an economic base, yet large enough in the aggregate to squeeze the larger media providers, too.

12.7.1.2 Online Content for Sale or Rent

For film or TV programs, the video-on-demand (or the related but more limited pay-per-view) system has been offered since 1993 by cable TV and then satellite and telecom companies. It then migrated online where it is widely used. Some content is streamed for a once-only use while connected. Other content is downloaded for storage and use anytime by the user. In practice, the separation is not neat, with some downloaded material expiring after a few weeks, and conversely streamed materials that can be resumed or repeated for a while. A similar process has taken place with music, where much of it sold online through downloads or streams, in particular from Apple iTunes. Other providers are Amazon Music, Google Play Music, and emusic.com. Online text publishers, too, have taken steps in the direction of the sale of discrete items of content, though with no particular success. Under the pay-per-read (or pay-per-article) system, a newspaper charges a small amount for an article. It is a micropayment system for micro-transactions. A provider exploring the pay-per-article model is Blendle, the Dutch news platform start-up with some funding from The New York Times Company and the German publisher Axel Springer AG. Newspaper articles cost between 19 and 39 cents, while magazine stories cost between 9 and 49 cents. Publishers get to keep 70%. There

⁵³ Online ads charge on a “per click” basis (CPC). For text display ads CPC averages \$0.58. The click rate per impression was 0.35%. Per thousand impression this translates to a price of \$2.03.

are no ads.⁵⁴ It recommends stories by algorithm as well as human choices. Readers who feel the article was not worth it can opt for an immediate refund. About 20% of those who register end up linking their credit card to the service.

Micropayments allow for complex pricing strategies. Price differentiation, group pricing, loyalty discounts, disaggregation, and tie in with products flourish in micropayment systems. The pricing can get very complicated, but such prices cannot be easily sustained when competition comes into play. Only unique content will sustain high or discriminatory prices.

12.7.1.3 Subscription-Based Content

The *Wall Street Journal* began in 1997 to erect a “pay-wall” of subscriptions. At first, registered users dropped by 90% but the count eventually recovered. At the other extreme of size, a small local paper, the *Champagne News Gazette*, also sold news subscriptions. It charged \$4.50 a month just for sports because of a popular columnist and due to the nostalgia of University of Illinois alumni who wanted to stay in touch. The *New York Times* began to charge for access to its columnists in 2005. Online subscribers could also access archives and real estate posts. This did not work well. No one wanted to pay for columnists’ opinions when so much was available for free elsewhere online. Eventually all content became subscription-based, though offered with deeply discounted content. The emergence of mobile tablet and smartphone devices gave NYT subscriptions a major boost.⁵⁵ There were 2.6 million digital-only subscribers at the end of 2017.

Thus, it seems that users are willing to pay for subscriptions when that online news source is the only provider of local news, or when the news source is an authority on its subject matter, like the *Wall Street Journal*, *Handelsblatt*, the *Financial Times*, or *Le Monde*. Readers will not pay for commodity news.

Many content providers have moved into a mixed model of “freemium” pricing in which they offer a basic product for free and charge a premium for a better grade of the service. In music, Spotify offers premium service for downloads and ad-free streaming for \$10 per month, with 25% of its active users being paying subscribers. Spotify’s ratio of paid-to-free users has held steady as the company has moved beyond early adopters.⁵⁶ Pandora implemented a subscription model with a freemium strategy: users can choose between free ad-supported radio listening or an ad-free premium which costs \$5 a month.⁵⁷ Pandora’s pay-users account for only 4.9% of listenership, but they contribute over 20% of its revenue.⁵⁸ For newspapers, the *New York Times* gives all visitors 10 free articles per month; to read more they need to pay for a subscription. This is known as a “metered paywall.”⁵⁹

12.7.1.4 Public Subsidy-Based Model

A large number of traditional public broadcast organizations have branched out into online provision of their past content. It is a natural extension of their reach and mission, including globally. These activities are often supported by the existing payment mechanism of public TV, based on user fees or government grants. This has been opposed by commercial media companies that compete with the public service media.

12.7.1.5 The Community Model: Retailing of User-Generated Content

This form of retail distribution has arguably been the most innovative contribution of the Internet to content creation and consumption. There are various models of content sharing—including

54 Ha, Anthony. “Pay-per-story news service Blendle comes to the US.” *Tech Crunch*. March 23, 2016. Last accessed June 29, 2017. ► <https://techcrunch.com/2016/03/23/blendle-us-launch/>.

55 Doctor, Ken. “Newsonomics: The New York Times is setting its sights on 10 million digital subscribers.” *Nieman Lab*. December 5, 2016. Last accessed June 29, 2017. ► <http://www.niemanlab.org/2016/12/newsonomics-the-new-york-times-is-setting-its-sights-on-10-million-digital-subscribers/>.

56 Dormehl, Luke. “A Whopping 25% of Spotify’s 60 Million Active Users are Paying Customers.” *Fast Company*. January 12, 2015. Last accessed June 29, 2017. ► <https://www.fastcompany.com/3040781/a-whopping-25-of-spotifys-60-million-active-users-are-paying-customers>.

57 Yiranni. “What makes Freemium work? Lessons from Pandora.” June 1, 2016. Last accessed June 29, 2017. ► <https://yirannny.wordpress.com/2016/06/01/what-makes-freemium-work-lessons-from-pandora/>.

58 Israelite, David. “Freemium Model Works For Pandora But Is Devastating To Songwriters.” *Hype Bot*. September 25, 2015. Last accessed June 29, 2017. ► <http://www.hypebot.com/hypebot/2015/09/freemium-model-may-work-for-pandora-but-is-devastating-to-songwriters-op-ed.html>.

59 Norris, Ashley. “Is the New York Times paywall a success? What can it teach other publishers?” *Fipp*. October 7, 2015. Last accessed June 29, 2017. ► <http://www.fipp.com/news/opinion/is-the-new-york-times-paywall-a-success-what-can-it-teach-publishers>.

unlicensed piracy and legitimate creation by members of the community who share it with others. Some of it, when successful, becomes advertising-supported.

Having analyzed the various types of business models that support online media distribution, we now take a look at several of the major online media industries themselves.

12.7.2 Online Distribution of Film and Video

Video servers usually store the online content and serve it on demand. Capabilities also include access control, encryption, and compression as well as billing, users' social interaction, polling, and user measurement. They can also insert advertising, including targeted ads.⁶⁰

The distribution of the content from the video platform's servers to the Internet is provided by so-called content delivery networks (CDNs). A CDN is a network of high-performance transmission links capable of carrying numerous video streams simultaneously. CDNs also provide content platforms with a widely dispersed network of servers that stores content files to be accessed by users in a decentralized way. The CDN places files in different places so that the user can receive the nearest copy of it faster and the service provider uses transmission capacity efficiently.⁶¹ This is particularly important for content sites streaming large video files, and those with heavy traffic in different countries. Content platforms enter into contracts with CDNs that frequently include guarantees of service quality. Several content providers and distributors have created their own CDNs, in particular, Google, Netflix, and Amazon.

Online video has rapidly taken off and has become the main use of the Internet, in terms of quantity of transmission. Already in 2014, video traffic accounted for 78% of overall Internet packet traffic online in the USA. In 2016 Netflix

accounted for 35.2% of prime-time Internet traffic, and Amazon 4.3%.⁶²

A large number of content providers, packagers, and platform providers has emerged. In addition, most TV networks and cable channels have created individual online sites with offerings of their video content.

Clearly, this sector will consolidate considerably and most likely focus around several central nodes, which are likely to be the "cloud providers" who will be the primary integrators of content, platforms, advertising placement, data, and interactive technology.

Their advantages include:

- Providing the convenience of a few access points to consumers;
- Bridging the diversity of technical standards used by content providers;
- Compliance with global laws and regulations;
- Financial distributions to the various participants in the value chain;
- Marketing, branding, and quality control;
- Management of privacy and security;
- Ability for personalization due to extensive access to user data;
- Technological sophistication;
- Deep pockets.

The main players in this cloud-based future global video system could well be, given today's evidence, Internet-based platform companies such as Google, Amazon, Facebook, Apple, Microsoft, and Alibaba. This is further discussed in the ► Chaps. 3 Production Management in Media and Information and 8 Managing Law and Regulation.

The content cloud providers are differentiating themselves by creating vertical extensions into content creation. In 2013, Netflix started to offer its own content: the 13-episode drama *House of Cards* with Kevin Spacey, which got much attention. Amazon, too, has been producing its own original content, including award winning shows like *Mozart in the Jungle* and *Transparent*. It also produced the Oscar award winning movie *Manchester by the Sea*.⁶³

60 Picard, Robert and Jeffery Brody. *Newspaper Publishing Industry*. Needham Heights, MA: Allyn & Bacon, 1997.

61 Sexton, Patrick. "Content Delivery Networks." *Varvy*. October 10, 2015. Last accessed June 29, 2017. ► <https://varvy.com/pagespeed/content-delivery-networks.html>.

62 Spangler, Todd. "Netflix Chews Up Less Bandwidth, as Amazon Video Streaming Surges." *Variety*. June 22, 2016. Last accessed June 29, 2017. ► <http://variety.com/2016/digital/news/netflix-bandwidth-share-2016-1201801064/>.

63 McAlone, Nathan. "Amazon will spend about \$4.5 billion on its fight against Netflix this year, according to JPMorgan." *Business Insider*. April 7, 2017. Last accessed June 29, 2017. ► <http://www.businessinsider.com/amazon-video-budget-in-2017-45-billion-2017-4>.

12.7.3 Online Periodicals Distribution

Online newspapers started, in 1982, when 11 major US newspapers made portions of their print editions available to consumers on the CompuServe portal.

Although dismissed as old-fashioned, paper-based publications such as newspapers, magazines, and books still carry several advantages. They are easy to use, portable, have high-contrast text, full-resolution graphics, zero power consumption, durability, flexibility, and a permanence for archives.⁶⁴ That said, online publishing brings many other advantages to distribution. Most obviously, without paper the distribution cost drops while speed and range rise. In 2008, it cost the *New York Times* twice as much to print out copies for its readers than it would have to send them all on an Amazon Kindle for free.⁶⁵ Digital distribution has other advantages. It facilitates interactivity and targeted advertising, and it can collect demographic or geographic information on users, or on their behavior. There are no production over-runs or under-runs, because the distribution model shifts from push to pull. And the need for warehousing, distribution centers, and trucks is eliminated. But the product changes, too. There is a continuous update of content; content can be customized to fit readers' preferences; there is interactivity among readers and the publication; and targeting is possible for advertising. There can be multimedia content, "hypertext," sound, animation, and video.

There are disadvantages to online text publications, too. Technical glitches, network congestion, privacy issues, hardware requirements, and the need for continuous website maintenance. The glut of such information also depreciates credibility and pushes publications to be more sensationalist in content, and less thorough in editing and fact checking.

But by far the hardest aspect of the move to online is the much greater competition, coupled

with the difficulty to monetize content. Although people still want to get the news, paying for them is no longer necessary. People refuse to pay for news and articles because the competition between various outlets for viewers or readers drives down the prices to or near zero. Only the most powerful and leading brands are able to charge for content.

12.7.4 Books Online Retail Distribution

E-books have been around, at first unsuccessfully. In 2010, Apple introduced a new line of tablet computers, the iPad, which became wildly popular.

Phones, too, became a popular platform for e-books, especially in Japan. Mobile phone novels, known as *keitai shousetsu*, first emerged in Japan in 2003. These novels were sent through text messages to readers. Such novels cater primarily to young females and feature unconventional orthographs, emoticons, symbols, punctuation, and script choice common in colloquial youth talk and typing styles.⁶⁶ In 2007 four of the top five literary best-sellers in Japan were cellphone novels.

12.7.5 Direct Electronic Distribution to Users: Streaming Music

Streaming audio technologies allow users to listen to music or view videos but restrict them from storing the music. In 2008, Apple's iTunes surpassed Walmart to become the #1 music retailer in America. Other online download services in the USA were Rhapsody, Buy Music, Napster, and Yahoo Music Jukebox. Each had millions of songs available for downloading. Pure streaming requires users to be connected. Companies offered subscription plans of around \$10/month. Major music streaming services are Pandora (an early Internet radio leader), Spotify (a major provider in Europe), and iHeartRadio, from the largest US radio station group. By 2017 streaming audio accounted for 15% of all audio

64 Wells, Alison. "Exploring the development of the independent, electronic, scholarly journal." *Information Research* 5, no. 2 (January 2000).

65 Carlson, Nicholas. "Printing The NYT Costs Twice As Much As Sending Every Subscriber A Free Kindle." *Business Insider*. January 30, 2009. Last accessed July 8, 2010. ► <http://www.businessinsider.com/2009/1/printing-the-nyt-costs-twice-as-much-as-sending-every-subscriber-a-free-kindle>.

66 Coates, Stephanie. "The Language of Mobile Phone Novels: Japanese Youth, Media Language, and Communicative Practice." ASAA. 2010. Last accessed June 27, 2011. ► <http://asaa.asn.au/ASAA2010/papers/Coates-Stephanie.pdf>.

sources in the USA, and of that Pandora had a 30% market share, about 4.5% of all US radio listening.⁶⁷

12.7.6 Online Videogame Retail Distribution

The largest online retailer of video games worldwide is, by far, Steam. It was started in 2003 by game production studio Valve as a way to push out updates of its games to users. It subsequently evolved into distributing games by outside developers. In 2018 Steam offered over 8000 games and had over 150 million registered accounts.⁶⁸ Steam keeps 15–30% of the retail price, depending on whether the producer is a major game house or an independent producer. In China, the major online distributors of video games are www.37.com and game.qq.com.

12.8 Distribution Channel Strategies

Managers of media distribution must deal with these issues:

- Self-distribution vs third-party distribution;
- The selection of distributors;
- The timing and sequencing of distribution over various platforms.

12.8.1 Self-Distribution: Customer-Direct Distribution by Producers

In general, direct producer-to-consumer sales avoid sharing revenues with retailers and wholesalers. But they also reduce an understanding of the needs of local markets and lose the grass-roots promotion of a retailer. In other cases, a direct relationship creates a bond. The Internet

enables musicians and authors to use direct-to-fan distribution to sell their work. Some of them are well-known, like Radiohead or Steven King, who at times market their “brand” without a need for intermediaries. (It should be noted that they achieved their brand recognition inside the traditional system, and with the support of its conventional marketing operations.) This avenue will not be easily available to unknown artists. To develop audiences they need self-promotion, word-of-mouth, and sheer luck. While some such efforts snowball and receive much attention, the probability of success is miniscule.

For artists to go directly to audiences does not mean that there are no intermediaries. It is, of course, possible for an artist to have his or her own website and get paid for downloads or streaming, and perhaps also have advertising on that website. For performers, the Internet permits direct-to-fan sales. An example is the comedian Louis CK, who has been called “the king of direct-to-consumer sales.” He sells his standup special for \$5 a copy on his website. About 200,000 copies were bought in 12 days. He also bypassed the Ticketmaster online ticket agency and instead offered the tickets to his shows directly on his website. He sold 100,000 tickets in 2 days, grossing \$4.5 million. More likely, however, is for the artist to place the music on aggregator sites such as Apple’s iTunes (for sale), AppleMusic or Google’s YouTube (for streaming), and GooglePlay (for downloading).

Another level of intermediary are services that manage placement on the various music sites around the world, collect the royalties, and distribute them to the artist. These services charge for their work as distributors. Thus, the net revenue left to the artist from the sale of her album selling on iTunes for a typical \$9.99 is about \$6.36, which is considerably higher than for an album sold as a CD at \$15, of which the artist may get about 10%, which after a number of deductions might add up to \$1 per sale. On the other hand, the number of copies sold by the artist on her own might be much smaller since she does not have the label’s brand reputation and costly marketing apparatus and behind her.

Does self-distribution work in economic terms for artists? Let us look at the numbers. Suppose one artist distributes her music in the traditional way through a major record label, while another artist uses the aggregator TuneCore to distribute content. On average, the second type

67 Owen, Laura Hazard. “Left on the dial: With young people trading AM/FM for streaming, will radio find a home in your next car?” *NiemanLab*. April 18, 2016. Last accessed June 30, 2017. ► <http://www.niemanlab.org/2016/04/left-on-the-dial-with-young-people-trading-amfm-for-streaming-will-radio-find-a-home-in-your-next-car/>.

68 Edwards, Cliff. “Valve Lines Up Console Partners in Challenge to Microsoft, Sony.” November 4, 2013. Last accessed June 10, 2015. ► <https://www.bloomberg.com/news/articles/2013-11-04/valve-lines-up-console-partners-in-challenge-to-microsoft-sony>.

of artist earns \$214 per year, or \$18 per month. This is due to the fact that 94% of digital tracks sell less than 100 copies and 32% of them sell only one copy.⁶⁹ The top-earning 1% of artists on TuneCore made an average \$935 per month while less than 1/100 of 1% of artists made more than \$22,000. Three artists (one in 165,000) earned more than \$100,000 from digital music sales.⁷⁰ In contrast, Universal Music Group (UMG) has 934 artists under contract. On average, these artists make \$15,000 per month from digital music sales, which is about 830 times the amount an independent artist makes on average. Of course, UMG signs only a very small number of artists, those with strong sales potential and then promotes them and gives their work a strong distribution.

A second revenue stream for self-publishing artists—music and blogs—is online advertising. Google YouTube sells ads through multiple streams. Those ads are then matched up to content and served when a user clicks on the video. The contributor of the content gets compensated based on how much advertising earnings are brought in through views of their videos.

12.8.2 The Selection of Distributors

One strategy is for a producer to seek a wide distribution by as many distributors as possible. The idea behind such “saturation distribution” is that the more outlets and platforms stock the product, the greater the chance of it being bought. But in that case, the distributors, whether wholesale or retailers, are likely to compete with each other and thus will end up with a limited volume and profit margins. The other extreme is “exclusive distribution,” with a small number of intermediaries who then fully commit to the product. Their exclusivity gives them higher profits, but their presence across the market is limited, and the lack of alternative distributors may lead them to be less than fully energetic. Also, having exclusivity, they might exert power against the producer. An interme-

diate option is “selective distribution”⁷¹ with a relatively small but non-exclusive number of distributors.

When selecting distribution intermediaries, a company will look at several factors. These could include:

- Track record;
- Commitment of distributor to other and possibly competing products;
- Financial position;
- Ability to innovate and use new techniques.

The producer, too, must be careful to motivate and incentivize the distributor. Actions that might backfire are:

- Producer bypassing distributor by selling directly to customers, possibly at a lower retail price;
- Over-saturation of market by engaging numerous distributors;
- Creation of new channels;
- Engagements with cost-cutters.

It is almost unavoidable that there will be some competition among a producer’s various distributors and platforms. This is known as “channel conflicts.”

12.8.3 The Timing and Sequencing of Distribution Over Various Platforms

Often, the producer will separate different distribution channels by assigning them different geographic territories or customer classes. Another segmentation is by the time taken for their distribution activity. For film, this is known as “windowing” (■ Fig. 12.11).⁷² A film will be shown first in movie theaters. At the conclusion of the theatrical run, it will become available for sale for home movie viewing, then by on-demand streaming for subscribers of video services. This continues until the film, having exhausted all other distribution options with a higher revenue potential, eventually ends up on late-night TV on small TV stations.

69 HypeBot. “You’re Losing Money: Why The Majority Of Artists Should NOT Use TuneCore.” November 18, 2013. Last accessed June 30, 2017.

► <http://www.hypebot.com/hypebot/2013/11/youre-losing-money-why-a-vast-majority-of-artists-should-not-use-tunecore.html>.

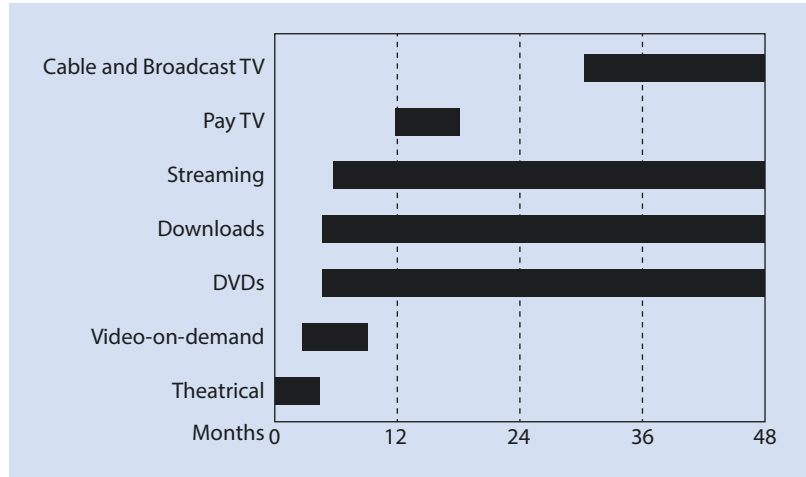
70 These numbers refer to 2011. TuneCore. “TuneCore Artists’ Music Sales – July 2011.” November 22, 2011. Last accessed June 30, 2017.

► <http://www.tunecore.com/blog/2011/11/tunecore-artists-music-sales-july-2011.html>.

71 Palmer, Adrian. *Principles of Marketing*. New York: Oxford University Press, 2000, 337.

72 Inspired by Vogel, Harold. *Entertainment Industry Economics: A Guide for Financial Analysis*, 10th ed. New York: Cambridge University Press, 2014.

■ **Fig. 12.11** Typical distribution windows from release date, c.2014



As mentioned, the basic principle for a release sequence strategy is to:

1. Segment the market by distribution platforms;
2. Distribute via the platform that generates the highest marginal revenue per time unit;
3. “Cascade” down in the order of marginal-revenue contribution.

Creating a release sequence is a form of price discrimination. To be able to maintain it requires keeping the various distributions and their channels separate from each other so that arbitrage does not become possible. Unauthorized sale and pirates undermine the ability to maintain this system. One impact of an increasing piracy was therefore the compression of the release sequence in order to shorten the time window for pirates before the film is available more cheaply than in theaters. Another response was to release films internationally at the same time as they are in the USA, so as to give pirates less time to flood international markets. However, early international release reduces the positive impact of favorable US press stories and performances. Also, marketing campaigns traditionally have the director and stars of a film visit each major country as their film was about to be released. This becomes harder with global release dates.

The theatrical run of a movie is usually over within a window of three months. The home video is released about six months after the theatrical run is done. Spacing too closely cannibalizes the high-margin version, because some potential

viewers will wait. But delaying too much results in a loss of the market awareness of the film and its image as “new.”

12.8.4 Retail Distribution: Conclusions on Trends

While there are always exceptions, the broader trends in retail distribution are:

1. Bricks and mortar retailers are declining:
 - Video rental stores are dead;
 - Music stores are mostly dead;
 - Bookstores and game stores are in decline;
 - Film theaters are squeezed.
2. Consolidation of retailers into large chains. Massive consolidation into chains can be observed for:
 - Books: (Barnes & Noble (USA), W. H. Smith (UK), Kinokuniya (Japan), Hugenduebel (Germany), Payot (Switzerland), Steimatzky (Israel));
 - Music (before bankruptcy): Tower Records;
 - Video rentals: Blockbuster (before bankruptcy), Redbox;
 - Film theater chains: Regal (USA); Gaumont (France); Siverbird (Nigeria); Cinopolis (Mexico); PVR (India); Toho (Japan);
 - Videogames (Valve);
 - Consumer electronics: Best Buy (USA); Best Denki and Deodeo (Japan); Media Markt (Germany).

The consolidation into chains is part of a larger move to national-brand “big box” store chains that exist everywhere, from groceries to auto repairs to restaurants. The trend weakens traditional mom-and-pop retailers. The next disruptive change has been online retailing, often the *coup de grâce* for bricks and mortar stores, whether small or large, unless the smaller retailers can develop additional value-added for the end user.

3. Replacement of physical products by digital products leads to leapfrogging of traditional retailers by e-tailers:
 - Netflix for video streaming;
 - Apple iStore for music and e-books;
 - Amazon for e-books;
 - Steam for games.
4. While many distribution chains show an integration of wholesaling and retailing, in other distribution chains the opposite is happening. For music, books, videogames, or consumer electronics, the emergence of large chains and/or of electronic distribution has led to a compression of the distribution channels, with the wholesale and retail functions often combined. In some cases they are also integrated with that of the producer. Examples are Apple’s and Microsoft’s retail stores, or Time Warner’s HBO Go and HBO Now. On the other hand there has also been a disintegration. In the film industry, the producer companies used to be also wholesale distributors and retailers (theaters.) Today, film retailing in the USA is quite separate from distribution, though legally it can be joined again. Much of film production, too, is separate from distribution, though closely related to financing. Book retail distribution tied to publishers, such as Bertelsmann’s book clubs has declined considerably.
5. A trend from discrete products (a film, a CD) to bundled services:
 - Music (Pandora, Spotify, Tencent);
 - Video (Netflix, Hulu, Amazon);
 - Newspapers and magazines (decline of street sales in favor of subscriptions).
6. There is also a counter-trend into unbundling:
 - VOD instead of Pay-TV subscriptions;
 - Single music tracks instead of albums;
 - Film streaming service instead of a cable TV bundle of channels.

- Some subscription models have declined, in particular book and music clubs, and more generally newspapers and magazines.
7. Online retailers tend to be large and dominant, even more so than retail chains:
 - Books (Amazon);
 - Film rentals (Netflix and Amazon);
 - Music (Apple iStore);
 - Games (Steam, Green Man Gaming (UK), Tencent (China)).
 8. Dominant online retailers tend to be new retailers. All of the examples above are new companies.
 9. Direct-to-consumer retailing by producers has not been a major factor. Can we observe producers becoming retailers? Yes, in many media the producers (even the creators) can access the end user directly. Many music labels or artists run websites that stream content. Book, magazine, and video games publishers permit direct purchases. There has been a large number of self-produced and marketed videos. However, the actual volume of business and of transactions is smaller than the publicity it received.
 10. The revenue share of retailers in overall media revenues of the industry averages 23%. It is 25% for physical content media, 21.4% for electronic content media, and 19.3% for online media. It is higher where:
 - A major local effort is involved (film theaters, 40%);
 - Major investments are needed (cable TV, 33.5%);
 - Large inventory is necessary (books, 40%);
 - Products are perishable or risky.
 11. The retailing stage is resilient. The shift away from traditional retailers moves economic activities to new types of retailers (e-tailers), not to disintermediation of the retailing function. The resiliency of the retailing stage is based on its ability to transform itself. In several segments of the media and information sector the retail sector has been the one that has changed the most. Examples are the music business and the video/film industry. The persistence of retailing (albeit in new forms, often integrated with

wholesale distribution) suggests that retailing has a role regardless of the distribution technology used.

What are the elements of this role of retailing?

- Screening and validation of products;
- Customer service;
- Transaction management;
- Inventory storage;
- Local marketing;
- Creating a shopping experience;
- Local market analyses;
- Consumer credit;
- Comparison shopping among many brands and products—a shopping mall rather than a factory outlet.

The relative lack of success of producers—whether large or tiny—to become retailers also suggests that the respective skill sets are different. Retailers are sales and marketing oriented, which are people-oriented tasks. Producers are technology and content oriented. Both stages require a good dose of effective logistics management, which is an operational function.

The emergence of strong retailers creates countervailing power against large producers or wholesale distributors. Thus, whereas in the past retailing was characterized by small independents who were fairly weak, today Apple and Amazon can dictate pricing arrangements to book publishers and music labels. Similarly, Netflix has power facing the Hollywood studios, and Apple can impose conditions on app developers for iPhone. If anything, the retailer, especially when integrated with wholesale as the above examples exert so much bargaining power that the producers have agitated for regulatory/government assistance in curtailing it. In the past, it was the retailers who sought such protection.

12.9 The Revenue Shares in the Distribution Chain

After our exploration of the wholesale and retail stages of the distribution chain, we now turn to the relative shares of revenues for the participants in the entire chain. Some of this was already interspersed in the previous discussion. ■ Table 12.2 is based on the analyses of this chapter, plus interviews

with participants in the various industries. These show the share in the overall revenue of a media product by the four major stages of production and distribution: creation, production, distribution, and retailing. We identify their share in the money consumers and advertisers paid. (This share is net of payments that was kept rather than passed on to the other stages. It is not net of the other various expenses which each stage incurred. For example, of the 62% of newspaper revenues that go to the publisher, 14.7% are used for materials (paper), 18% for the actual production (printing etc.), 6.3% for general administration, and 10.5% for marketing and promotion; 12.5% are profits.)

What can we observe from this table?

- The share of overall revenues that goes to the creators is invariably small and hovers around 11–15% for most media. It is highest for online media at 18%, though that is partly a function of the small role of wholesalers in that sector. It is actually highest for the newspaper industry, which reflects its labor-intensive nature. And it is lowest for film, where much of the revenue goes to theaters, producers, and distributors.
- The share of revenues that goes to producers averages 49%, by far the highest share. It is highest for magazines and newspapers, where it reaches 68% and 62%, including the advertising revenues. It is also high for electronic content media (48.9%), and lowest for film (19%) where most of the revenue goes to the distributors.
- It must be understood that these revenues do not mean a share of profits. The producers of media bear some of the major costs. For newspapers and magazines, for example, (beyond the cost of editors/creators) publishers must pay for paper, printing, solicitation of advertising, marketing of the publication, overheads, and so on. If we look at profitability, profits for book publishers are 7.8% of overall retail revenue, magazine and newspaper publishers 12.5% (2% for advertiser-supported online publishing), music labels have 6% (and less for online music), and consumer electronics makers 5%.⁷³

⁷³ These are not profit margins on producer sales, but margins on consumer prices. Since there are markups by wholesalers and retailers, the profit margins of producers are thus higher. See ■ Table 12.2.

Table 12.2 The revenue shares in the distribution chain

	Retailer	Distributor	Producer	Creator
Film Theatrical distrib. ^a	40%	45%	16%	11%
Film Pay cable distrib.	33.5%	38.5%	20%	8%
Film Broadcast TV distrib.	22%	46%	22%	10%
Film Online distrib.	25.8%	20% (National Distribution) 4.7% (Local ISP) 24% (Advertising Intermediaries)	20%	5%
Film Home video store chain distrib.	25%	50%	17%	8%
Books (print)	40%	12.5%	35%	12.5%
E-books	30%	–	53%	17%
Music CD	20%	17%	46%	17%
Online music	25%	8% (National Distribution) 5% (Local ISP) 18% (Advertising intermediaries)	28%	16%
Magazines (including advertising and subscriptions)	16%	8.5%	68%	7.5%
Online magazines (incl. advertising)	13%	–	67%	20%
Print newspapers (incl. advertising revenues; ^b adjusting for the prevalence of direct subscriptions)	13%	9.5%	62%	15.5%
Online newspapers free (incl. advertising)	3%	23% (Advertising intermediaries)	44%	30%
Online newspapers by subscription (including advertising)	15%	20% (Advertising intermediaries)	45%	20%
Consumer electronics	25%	20%	45%	10%
Physical content media	25%	23.1%	40.1%	11.4%
Online content media ^c	19.3%	5.5%	58.2%	18%
Electronic content media	21.4%	14.7%	48.9%	15.8%
All Media	23%	18.3%	38.5%	13.1%

^aTheatrical deficit is a loss leader for subsequent distribution on other platforms.

^bWhile retailer's share in single-copy sales is much higher, most newspaper revenues come from advertising and subscriptions, in which retailers do not share.

^cExcluding advertising intermediaries.

- The share of the distribution chain covers much of the rest. Wholesalers average 18.3%, as has been discussed earlier in this chapter. It is much higher for film (39.9%), and lower for books (6.3%), magazines (3.8%), newspapers (2.2%), and online media (5.5%). It is larger where marketing activities are extensive, investments are high, and risk is great. It is

higher, by 57%, for physical content media than for electronic content media (23.1% vs 14.7%), and both are much higher than for online media (5.5%) where wholesale operations are less important and are integrated with retailing.

- For retailing, the revenue share averages, as mentioned, 23%. It is higher (25%) for physical content media, 21.4% for electronic content media, and 19.3% for online media. It is higher where local marketing efforts are high, inventory requirements great, and risk high.
- Thus, if we look across all media, the revenue share of the distribution chain is about 41%. It is lowest for online media at about 25% and highest for physical content media (48%). This reflects the higher cost for physical distribution over online distribution, but also the greater market power that prevails.

12.10 The Impact of Distribution on Content

We are on the verge of truly exciting changes in the way we create and consume culture and information. This enrichment of media content will inevitably lead to new types of genres and styles. There is a relation between media technology and content. Marshall McLuhan, the 1970s media guru, is known for the aphorism “the medium is the message”—that is, distribution technology defines content style. He argues that “we shape our tools and thereafter our tools shape us.”⁷⁴

Visual images are composed of a huge number of information units. Digital technology expresses information elements as “bits”—binary information. The cheaper it becomes to produce bits and to distribute them, the more visual the medium becomes. Weaker visual capability favors story line, character development, and dialogue. Higher visual capability favors special effects, adventures, and action.

In the first generation of television (broadcasting), there was a limited number of channels, and the high opportunity cost meant national,

middle of the road content. The second generation of TV was the multichannel stage—Cable TV, DBS, VHS, and DVD. Cable enabled more channels. Very specialized content channels emerged, like Baby First TV, the Boating channel, or Black Belt TV.

And emerging now is third generation TV: TV over the broadband Internet. Bits have become still much cheaper to create, manipulate, and transmit. This changes media into two dimensions: *widening* and *deepening*.

The “widening” of video distribution continues past trends:

1. More TV channels;
2. More regular TV, but at different times;
3. Narrower narrowcasting: long tail content;
4. More imported channels;
5. User generated video;
6. More distribution platforms, including mobile telecom (“anytime, anywhere”) and “follow-me TV.”

The “deepening” of media refers to a greater richness of media, that is, to the greater extensions of signals to sensory receptors such as eyes and ears. More powerful and affordable distribution will lead to “richer” media and to media applications that operate with more “bits,” not just more of the same.

The dimensions of “richness of media” will include, overtime:

- Better quality of picture, especially for larger screens;
- Virtual reality and immersion;
- Interactivity;
- Individualization.

These elements will create video entertainment of an experiential nature, with user immersion, participation, and interactivity. This leads to entirely new types of content and its subcategories (“genres”):

- Immersive films and games;
- Sports immersion and simulation;
- Marketing tools of experiencing products;
- Travelogue experiences;
- Participatory news (“you are there”);
- Education and training simulation content;
- Social immersive sharing;
- Individualization of content: advertising and even plot lines customized to different individuals or user categories.

⁷⁴ As quoted in Culklin, John M. “A Schoolman’s Guide to Marshall McLuhan.” *The Saturday Review*, March 18, 1967, 51–53.

12.11 Conclusions

12.11.1 Case Discussion

Bertelsmann's Distribution—The Future

In the past, Bertelsmann controlled strong distribution channels in book and music clubs, and leveraged this into a strong role in book publishing and music labels. Similarly, its RTL TV licenses gave Bertelsmann a strong role in film and TV distribution and therefore production. But in online media, Bertelsmann's role in distribution declines, and with it the advantage for its own content.

For Bertelsmann, one strategy would be to focus purely on content and drop distribution platforms (such as TV stations, media clubs, online streaming, etc.) as well

as printing. Already, Bertelsmann's UFA films are being distributed mostly by others, and its music distribution, along with the rest of BMG, has been sold off. Its music and book clubs are in decline or closed down. TV broadcasting is also declining in general.

The second strategic option is to form an online distribution. But what has been Bertelsmann's track record been in creating online distribution?

- Music: it was far ahead of the rest of the music industry but its deal with Napster was blocked.

- Film and TV: Bertelsmann's online efforts had no noticeable impact.
- Books: BOL failed. Tolino and Skoobe's efforts are noteworthy, but they wield no real power in a consortium that includes all the major German book retailers.
- Video games: no presence.

The questions then are:

- What can Bertelsmann do to strengthen its role in online forms of distribution?

12.11.2 Overall Conclusions on Distribution

In the media and information industry, the distribution of content and devices usually gets less attention than creation and production. However, it is a key skill in an environment of glut and multiple platforms and stages. Several trends are occurring:

- The rapid advancement of technology is driving the migration of media distribution to electronics.
- Distribution is moving from bulk to individualization.
- Distribution is becoming globalized.
- Convergence to IP is leading to the convergence to multi-purpose platforms.
- The rising economies of scale in distribution is changing market concentration.
- The lowering of entry for applications and content is creating a greater dependence on distribution platforms.
- The technological and economic trends are transforming individualized electronic distribution from a kilobit stage of individual information to the megabit stage and soon to the gigabit stage.

One network principle—known as “Amdahl’s law”—states that a system’s speed is determined by the slowest component in the data path (i.e. a convoy travels at the speed of the slowest ship). Another maxim—“Drucker’s law”—states that profits migrate to the supplier of the missing component necessary to complete a system (i.e. the bottleneck gets the profits). By combining the two, it seems that the most profitable segment is not necessarily the one most developed and innovative but the one most restricted. And that segment more often than not is the distribution stage of the value chain.

Distribution is restricted not because of technology—that is moving ahead rapidly. But rather, it is the fundamental economics of this change. We have seen that networks are characterized by economies of scale, economies of scope, network effects, and instability. And the trends increase these factors, which is why distribution networks almost always are highly concentrated in a few companies. Electronic networks are becoming more expensive in fixed cost and less expensive in marginal cost. This raises industry concentration. It is for that reason that we have market structures with six major film distributors, three music distributors, one infrastructure phone company, one

cable company, maybe two DBS firms, one local newspaper, two to three broadband Internet providers, one satellite radio distributor and three to four mobile wireless providers.

Some distribution is becoming more open and less concentrated, since new technologies create shocks and upheavals to established players. But soon, the fundamental economics of distribution assert themselves with a high fixed cost and low marginal cost. In competition, prices plummet toward low marginal cost, which cannot support the high fixed cost. Companies go out of business, the survivors consolidate, and they establish an oligopoly that maintains prices at a higher level. Airlines, telecoms, and historically films and music are examples of these dynamics.

We now return to the points we presented in the beginning of this chapter.

12.11.2.1 Myth #1: “Content Is King”

This is the cliché of the media industry sector. It believes that content is scarce and difficult, and that distribution is a commodity. Relative power in the value chain is based on the relative scarcity of the stage.

The source of market power is distribution. And distribution, given its fundamental economics, is inherently concentrated. Content has much lower entry barriers, and is not inherently concentrated. The main source of economic power of media firms is distribution. Distribution companies leverage this into a role in content creation and content aggregation. Vertical integration is the symptom, not the cause of market power in distribution. As the complexity of distribution rises, as the FC/MC ratio rises, and as regulation becomes less effective, it is distribution that becomes the key.

12.11.2.2 Myth #2: Technology Breaks Up Market Power in Distribution

Isn't distribution becoming more open and less concentrated? Is there not more broadband Internet, fiber networks, mobile communications, and cable channels? New technology indeed creates new and more advanced forms of distribution. More advanced distribution technology means fewer bottlenecks but not less market power by the distribution company. It could even become more powerful. As we discussed, technology is

raising economies of scale and hence reduces the number of players and raises their market power.

12.11.2.3 Myth #3: Disintermediation

Retailers and wholesalers are needed and fulfill several essential functions. The producer-direct business with consumers is fairly weak. There are indeed new types of distributors, and some distribution stages become integrated, but the function does not disappear. On the contrary, the new distribution intermediaries are more powerful and central than ever.

12.11.2.4 Myth #4: Electronic Distribution Is Very Different from Physical Distribution and Changes Everything

People often make a big distinction between electronic and physical distribution. But there are great conceptual, economic, structural, and organizational similarities. The new distribution technology changes network architectures, market structures, and the players. But the basic role of distribution intermediaries—wholesalers and retailers—remain.

Given its fundamental economics, distribution is inherently concentrated. Content has much lower entry barriers, and is not innately concentrated. Thus, the main source of economic power of media firms is distribution.

In other words, for some types of media content is king. But if so, then distribution is the emperor. It must be managed. It can be leveraged.

12.12 Review Materials

Issues Covered

- What the concept of distribution networks is;
- How network design affects economies of scale and market structure;
- How physical distribution is affected by electronic channels;
- How governments impact a firm's distribution business;
- Whether vertical integration of distribution and production creates synergies;
- What the various topologies and architectures of networks are;

- How different disciplines approach the analysis of networks;
- What the concepts of guaranteed quality of service vs best-effort work are;
- How net neutrality regulations affect the Internet;
- What the distribution systems for film, music, video, and videogames are;
- What the distribution systems for books, newspapers, and magazines are;
- How wholesaling and retailing can be vertically integrated;
- How electronic distribution affects print, music, and video;
- How to select distribution intermediaries;
- How to analyze release sequencing strategies over various platforms;
- The different stages in a distribution chain;
- What the trends are in wholesaling;
- What the trends are in retailing;
- What the revenue shares are for firms in the distribution chain;
- What the extent of disintermediation and consumer-direct distribution is.

Tools Covered

- Social network theory;
- Operations research;
- Queuing models;
- Erlang network capacity analysis;
- Quality of service analysis;
- Distribution architectures;
- FC/MC ratio;
- Economies of scale of networks;
- Network effects;
- Derived demand curve with network effects;
- Shannon's law;
- Release sequencing models.

12.12.1 Questions for Discussion

1. How are electronics changing physical distribution?
2. What are the parallels in physical and electronic distribution networks, and how will declining prices affect these networks?
3. How will the film industry change as various operations move toward electronic distribution?
4. Are the problems of volatility facing network companies today similar to those faced by other network industries? How did they deal with these problems?
5. Identify a non-media industry where the approach to distribution has changed dramatically over the last few years. What are the implications for suppliers to that industry?
6. List the criteria a content provider might use in selecting a channel intermediary.
7. In what media industries is JIT inventory management relevant, or for which less so?
8. Describe logistics management, in consumer electronics.
9. Business managers and engineers both need to make economic decisions. As a business manager, how does the decision process differ from that of an engineer?
10. You are a manager at a large e-commerce company such as Amazon.com. Analyze the effect of a pull supply chain on your company.
11. What are the limitations of Metcalfe's law?

12.12.2 Quiz

1. What is not a myth?

 - A. Content is “king” (the scarce element).
 - B. Technology reduces the market power in distribution.
 - C. Electronic distribution is very different from physical distribution and changes everything.
 - D. Electronic and physical distribution are organized around networks.
2. Which one is not a primary characteristic of telecom networks?

 - A. Two-way.
 - B. One-to-many connectivity.
 - C. Individualized medium.
 - D. Limited capacity.
3. What is not a conceptual similarity between electronic and physical distribution?

 - A. Transport links.
 - B. Nodes.
 - C. Hierarchy.
 - D. Wired links.
4. From the factors listed below, which one is the key factor in networks?

 - A. Price deflation.
 - B. Intangible products.
 - C. High fixed costs, low marginal costs.
 - D. Convergent markets.
5. Which platform is not a broadband distribution option?

 - A. Satellite.
 - B. DSL.
 - C. Dial-up modem.
 - D. Powerline.
 - E. Cable modem.
 - F. Wi-Max.
6. Satellite delivery is very appealing for what reasons?

 - A. Ability to reach distant areas.
 - B. More secure than physical distribution of film.
 - C. Centralized scheduling.
 - D. All of the above.
7. The key economic characteristics of communications networks are:

 - A. Economics of scale.
 - B. Economics of scope.
 - C. Network effects.
 - D. All of the above.
8. What is Metcalfe’s law?

 - A. The total value of the network to all users, n , is proportional to $n \times (n - 1)$.
 - B. The value of the network grows by the square of the processing power of all the terminals attached to it.
 - C. The total value of the network to all users, n , is proportional to $(n - 1)(n + 1)$.
 - D. The total value of the network grows by the n th power of the processing power of terminals attached to it.
9. What are the implications of Shannon’s law?

 - A. The stronger the signal, and the lower the interference (“noise”), the more information can be put on a transmission link.
 - B. The stronger the signal, and the higher the interference (“noise”), the less information can be put on a transmission link.
 - C. The stronger the signal, and the higher the interference (“noise”), there is no effect on the amount of information that can be put on a transmission link.
 - D. None of the above.
10. Investment in telecommunications networks in the future is likely to:

 - A. Decrease, because most of the network has already been built.
 - B. Be more difficult, because capital suppliers will be more wary of regulatory conditions and capital requirements.
 - C. Increase rapidly and exponentially, due to high levels of demand for multimedia services.

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11. Digital is more effective than analog for communications because:
- Digital signals can travel faster.
 - Analog signals cannot travel through walls.
 - Digital information has less degradation over distances.
12. What is not another term for network effects?
- Network externalities.
 - Spillover effects.
 - Supply-side economies of scale.
 - Demand-side economies of scale.
13. What are current wholesale distribution trends?
- Replacement of a three-stage system by a four-stage one.
 - Decreasing market concentration in wholesale distribution.
 - Large retail chains don't deal directly with manufacturers/producers, and this increases the role of the wholesalers.
 - Expansion of distributors into content production.
14. What key economic factors shape distribution in the media industry?
- High fixed costs & low marginal costs.
 - High marginal costs & economies of scale.
 - Low fixed costs & low marginal costs.
 - Low fixed costs & high marginal costs.
15. What are business implications of network effects?
- A large network is less attractive to users and hence less competitive, all other factors held equal.
 - Larger networks don't add any value to the users.
 - Interconnectivity to large networks is not important to a small network, because this does not raise its value to customers.
 - The control to access to a large base of users can be a company's greatest asset.
16. What statement refers to the Tree-and-Branch distribution architecture?
- Topology that contains multiple distributors and multiple consumers.
 - The flow of information or of products is two-way.
 - The flow of information starts with a wide distribution pipe which then branches into increasingly narrower ones.
 - In this architecture every consumer is horizontally connected among various users.
17. What is a trend in retail distribution?
- Brick and mortar retailers are increasing in their share.
 - Direct-to-consumer retailing by producers has been a major factor.
 - A shift from single product offerings to bundled services.
 - In music, digital download revenue is growing faster than digital streaming revenue.
18. What are criteria for selecting distribution intermediaries?
- Track record.
 - Financial position.
 - Commitment of distributor to other and possibly competing products.
 - All of the above.
 - A and C only.
19. What action by a media producer is most likely to backfire in a producer distributor setting?
- Development of new products.
 - Creation of new distribution channels.
 - Setup of an innovative marketing team.
 - None of the above.
20. Which of the following statements about revenue shares in the media distribution chain is correct?
- Creators typically receive the largest revenue share.
 - On average across all media, producers generate the highest revenues.
 - Distributors receive a higher revenue share for online content media than for physical content media.
 - Relative to distributors, retailers receive a higher revenue share for pay cable films but a lower revenue share for broadcast television.

Quiz Answers

- ✓ 1. D
- ✓ 2. B
- ✓ 3. D
- ✓ 4. C
- ✓ 5. C
- ✓ 6. D
- ✓ 7. D
- ✓ 8. A
- ✓ 9. A
- ✓ 10. B
- ✓ 11. C
- ✓ 12. C
- ✓ 13. D
- ✓ 14. A
- ✓ 15. D
- ✓ 16. C
- ✓ 17. C
- ✓ 18. D
- ✓ 19. B
- ✓ 20. B

Feedback Loop

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13.1 Accounting and Media Accounting

This chapter deals with accounting in the media and digital sector. In this book, we covered so far:

1. How firms create their products;
2. How firms harvest their products.

We will now deal with:

3. The feedback loop: how firms identify performance and plan for the future.

The present chapter is about such feedback through accounting and financial information in the media and digital sector. The reader will learn in this chapter about:

- An overview of media accounting issues;
- A recognition of the problems and pitfalls for managers;
- A recognition of how to analyze the financial condition of media and tech firms.

We will discuss:

- How companies gather and report financial information to partners, investors, regulators, and tax authorities;
- The special accounting and reporting issues for media and digital companies;
- How investors and partners analyze finance reports;
- How companies use accounting information to run their business and allocate resources;
- The impact of new IT technology on accounting information and on management control over operations.

13.1.1 The Function of Accounting in Business

13.1.1.1 Accounting as Science Versus Accounting as Persuasion

Accounting is the arrangement of quantitative information about an organization's operations and financial state. It has a long history. Counting and numbers emerged early as a human endeavor parallel to writing and letters. Writing skills developed into the professions of scribes, writers, and intellectuals. Counting skills gave rise to mathematicians, scientists, and accountants. Humans

count heads of cattle, bushels, and barrels. They *account* for their activities in lists and ledgers. And they do *accounting* through tabulations, balances, and summaries.

Accounting has a dual nature, that of objective *science* and that of subjective *persuasion*. These two aspects of accounting differ in their goals and they pull accounting professionals in two different directions. On the one hand, the role of accounting is to illuminate and analyze the activities of an enterprise (or even country), which is the scientific dimension. Correspondingly, modern accounting has been an early user of highly advanced information processing technologies. On the other hand, the persuasive aspect of accounting aims to convince others about—the health of an enterprise.

Managers and owners need accurate and timely information on the economic condition and performance of the firm to help guide their decisions. Accounting as a science provides reasonably well-defined guidelines and processes that provide for generating such information.

Investors use accounting information to make their decisions, and it is therefore in the interest of firms to use accounting reports to make themselves look good. For managers, positive accounting information ensures continued support by owners and top management. Conversely, in a setting where profit-sharing is tied to financial results, accounting practices can be used to lower the reported profit and hence lead to lower payments to profit sharing investors, collaborators, and partners. Skillful accounting can also lawfully reduce tax payments. Properly presented, a firm can gain favorable government treatment due to its reported performance, whether stellar or dismal. All this is possible because, despite the rules-oriented characteristics of accounting, major decisions within the accounting process are often far from clear-cut.

This tension over proper accounting is part of a struggle over the control of information among the key players: investors, managers, and the government. Company insiders have a vast informational asymmetry in their favor. They will try to part with as little negative (or, occasionally, positive) information as possible. Only law and competitive pressure forces them to disclose more about the firm than they would otherwise do. Accounting as a profession is caught in the middle of this struggle.

As accounting grew to serve many functions, it also became more complex. And now, this very formal structure is being applied to the digital sector. On the one hand we have more technology to do the numbers faster and better than ever. But we also have a dynamic entrepreneurial business culture which brings its business and technology creativity into a profession that has been staid almost by design. This is a never-ending tension. It is, in a way, the underlying theme of this chapter.

13.1.1.2 History of Accounting

The accounting process bears the image of tedious bookkeeping. Its structural elegance is often obscured, and people imagine it as confining, narrow, and lacking in imagination. Often, the cultures of “creatives” and “entrepreneurs” clashes with a derided culture of “bean-counters.” Yet this perspective on accounting is highly superficial.

Accounting is one of humanity’s great intellectual constructs. The process summarizes human activities by numbers, follows transaction flows, and provides snapshots of reality. This enables an analysis, control, and oversight of organizations and governments. Accounting creates a unified measuring system that allows for the integration of millions of actions by thousands of people in dozens of countries.

Based on techniques going back 500 years, accounting has evolved into a well-established profession complete with standards, self-governance, and research. The earliest and most rudimentary forms of keeping track of transactions appeared in Sumeria and Egypt in 2000 BC. As the methods continued to develop, helpful tools like the Chinese abacus were invented. A major step forward came in Renaissance Italy with the monk Luca Pacioli (1447–1517) setting forth the principles of “double entry” bookkeeping in his work *Summe de Arithmetica, Geometrica, Propotioni et Proportionalite* (1494). He pioneered the concepts of “debits” and “credits” that would “balance.” Pacioli is considered to be the father of accounting. Three centuries later, Josiah Wedgewood (1730–1795), the grandfather of Charles Darwin and an early industrialist, introduced techniques for recording managerial transactions by developing what became cost accounting. Wedgewood determined the cost of materials and labor for

each of his famous pottery products and recorded their value. This provided a tool for production planning and for pricing.

By the late eighteenth century, accounting practices became more standardized, with professional “accountants” being used by many businesses in London. In 1849 and 1854, the major accounting firms of Samuel Price and William Cooper got started. Today it is the “P” and the “C” in the “Big 4” accounting firm PwC.¹ After 1862, the auditing of companies by independent “public accountants” became mandated in Britain, allowing for a rise in the status of accountants. In Japan, Western-style accounting was introduced in 1873 by Yukichi Fukuzawa.

Modern managerial accounting was born in 1923 as General Motors President Alfred Sloan introduced major cost accounting techniques, made as calculations of the return on investments and on equity, and flexible budgeting.

Thus, accounting has been around for a long time. So what makes it so interesting today? As mentioned, the rapid change in the technology of collection and processing of information; the rapid change in companies’ business models; and the rising importance of globalization, start-ups, project-based organizational structure, intellectual assets, and institutional investors.

13.1.1.3 A Company’s Accounting Function: General

The role of an accountant takes on various forms depending on company size, ownership, structure, and industry.

■ Stage 1 Firm: Small Proprietorships

In small entrepreneurial firms, the owner/manager of the firm typically starts out by keeping his or her own financial records and books. Such firms typically retain an independent professional accountant such as a certified (or chartered) public accountant (CPA), also known as a public accountant (PA) in some countries, for the preparation of quarterly or annual financial statements and tax returns.

¹ PricewaterhouseCoopers. “History and Milestones.” Last accessed July 6, 2017. ► <http://www.pwc.com/us/en/about-us/pwc-corporate-history.html>.

■ Stage 2 Firms: Around 20–30 Employees

As the start-up business grows, the volume of transactions rises and with it the number of bills and invoices. The owner's time becomes too valuable and the company hires its own bookkeeper. For labor-intensive tasks such as inventory and HR/payroll, the company might need outside help. The firm still requires the work of an outside CPA to prepare monthly or quarterly reports, but the involvement of such a costly professional will usually be limited to about a dozen days a year. In other cases, an intensive project such as a film production may have an accountant assigned to deal with its financial transactions.²

■ Stage 3 Firms: Around 100 Employees

As a firm becomes mid-sized, it will employ an internal accountant or controller. The internal controller reports back to top management and, where required, to lending banks. He or she is responsible for overseeing accounts payable, accounts receivable, special ledger accounts, and internal cost calculation. Outside accountants may also be used at the request of banks and investors. These accountants compile, review, and audit the transactions recorded by the internal controller throughout the year. They might typically spend two or three weeks a year with a firm.

■ Stage 4 Firms: Large Companies

A large company retains an outside independent CPA firm to perform audits for investors and management. Special projects will also require the services of a CPA. Large companies spend tens of millions of dollars on their annual CPA bill.

Typically, the chief accounting officer or controller oversees the internal accounting process within a company, reporting to the CFO.

The role of an internal accountant in this setting is to prepare and interpret data needed by management, monitor business processes for

compliance with the budget, and design systems to prepare payrolls, record purchases and sales, keep track of assets, and so on. The accounting department tracks the flow of money inside the company. The tasks are often divided internally between accounts receivable/payable, payroll, credit department, and tax department. Some tasks may be outsourced to an outside financial service provider.³

13.1.2 Is Accounting for Media and Technology Special?

The basics of accounting in media and technology are the same as in other industries but they must often deal with unusual circumstances:

- Many of the assets of media and media tech firms are intangibles. These include copyrights, patents, and licenses. How does one account for such items of value?
- For Internet start-up companies, asset valuation is difficult due to low or absent cash flow. They are also heavy users of stock options. And they are eager to project a positive picture to potential investors.
- The pervasive role of the government in the media sector often governs rules on how to state a firm's financial performance.
- In e-commerce, firms engage in highly globalized transactions, often in real time, and subject to numerous tax systems.
- In the film industries there is much profit and revenue sharing.
- In the TV and radio industries there is a heavy use of non-cash barter deals.
- For book publishing, music recordings, and patent licensing, compensation takes the form of royalties often based on revenues.
- For tech start-ups, there is often an exchange of equity for services.
- Accounting itself is an information industry, and increasingly a high tech one.

2 Such accountants prepare schedules and budgets for film productions, as well as managing the day-to-day accounting functions, and report the project's financial progress against the budgets. Usually, production accountants will have a thorough knowledge of union contracts, taxes, and relevant government regulations. These accountants usually work for a film production on a freelance basis or as part of a specialized firm.

3 Berton, Lee and Roy Harris. "Reel-World Accounting." *CFO* 15, no. 3 (March 1999): 34–40.

13.1.3 Case Discussion

Disney's Accounting—Mickey Mouse or Cinderella?

The Walt Disney Company is the world's second largest media company.⁴ Its Walt Disney Studios division produces films through Walt Disney Pictures, Touchstone, Hollywood Pictures, Pixar, Lucasfilm, Marvel, and for a time Miramax. Its film distribution arm is Buena Vista. Disney's other divisions include the TV networks ABC, and the Cable channel families ESPN (80% ownership) and A&E (50% ownership). In 2018 Disney announced a deal to buy major parts of 21st Century Fox, including its film and TV studio, TV and several cable networks. Disney also owns and/or operates theme parks in several countries

(Disneyworld); it also runs or co-owns online operations (Hulu), theaters, and retail stores. It controls subscription streaming platform Bamtch as the foundation for its online sports and entertainment future.

During 2003 and 2004, CEO Michael Eisner was harshly criticized by some shareholders and directors for the company's business performance. (This was also discussed in ► Chap. 5 Human Resource Management for Media and Information Firms.) At the 2004 annual meeting, 43% of shareholders,⁵ including major institutional investors, voted

against management. This is highly unusual in corporate America, especially since under CEO Eisner the share price of Disney had risen enormously. One share bought in 1984 for \$52 would have been worth \$1334 at the end of 2004, a rise by a factor 25.4 in 20 years. And the financial reports for 2004 were good, suggesting a further rise. This invites us to take a close look at Disney's accounts at the time. Were Disney's financial reports painting a rosy picture to take some pressure off management? Or were the critics wrong? We will return to this question throughout this chapter.

13.1.4 The Five Sets of Books

There are different purposes for accounting. Since each calls for different treatment, they create different accounting summaries, and they do so in a perfectly legal manner. These different “sets of books” are those of:

- Financial accounting;
- Managerial accounting;
- Tax accounting;
- Regulatory accounting;
- Profit accounting.

Financial accounting provides information to decision makers outside of a company but interested in its performance—shareholders, bankers, financial analysts, investors, labor unions, journalists, and so on. The product of financial accounting is a set of financial statements which are often publicly disclosed. These documents are crucial to the relationship between a company's owners and managers.

Securities laws try to ensure that people managing the business do not defraud investors by

providing them with false or misleading information, or by failing to disclose information that a reasonably prudent investor would want to know.⁶

The process tries to assure investors of the accuracy of financial reports. To assure compliance with “generally accepted” accounting rules, firms have their public financial statements examined by independent “chartered” or “certified” accountants.⁷

In contrast, *managerial accounting* is addressed to the internal management of the firm. It measures, analyzes, interprets, and communicates financial information internally.⁸ In particular, it helps measure the cost of products, the profitability of divisions, and budget allocations. Because these reports are for internal rather than public use, they need not follow any particular set of official rules.

Tax accounting is the process for calculating an organization's tax liability, following methodologies regulated by tax authorities. The purpose is to follow governmental rules while minimizing tax liability. These documents, too, are not public.

Regulatory accounting rules are established by government agencies for a regulated industry

4 O'Reilly, Lara. “The 30 Biggest Media Companies in the World.” *Business Insider*. May 31, 2016. Last accessed July 6, 2017. ► <http://www.businessinsider.com/the-30-biggest-media-owners-in-the-world-2016-5/#27-gannett-295-billion-in-media-revenue-4>.

5 Teather, David. “Disney shareholders force Eisner out of chairman's role.” March 4, 2004. Last accessed July 6, 2017. ► <https://www.theguardian.com/business/2004/mar/04/usnews.citynews>.

6 Litwak, Mark. “Financing independent films.” *Mark Litwak*. June 2005. Last accessed July 6, 2017. ► http://www.marklitwak.com/uploads/2/2/1/9/22193936/financing_independent_films.pdf.

7 Stickney, Clyde and Roman Weil. *Financial Accounting: An Introduction to Concepts, Methods, and Uses*. New York: Dryden Press, 2000, 411–450.

8 Gillet, Phillip W. “Managerial Accounting Fundamentals Website.” *San Diego State University*. Fall 2000. Last accessed July 29, 2011. ► <http://acct202.tripod.com/>.

or activity. For example, in America the Federal Communications Commission, or in India the Telecom Regulatory Authority, established financial reporting requirements and formats for the telecom industry. This process provides information to governments for measuring compliance with regulations and enables the setting of regulated prices.

Profit accounting is utilized for allocating profits. An example is the distribution of profits from a film or a music project. This type of accounting will be discussed first.

13.2 Profit Accounting

The following analysis focuses on profit accounting in film. But the issues are similar for all business activities where a share of profits must be paid to outsiders, such as a limited partnership in a tech venture, or where patent license fees are based on a profit share.

13.2.1 How to Depress Accounting Profits

Typically, the entity that must pay out has incentives to show profits that are low. David O. Selznick the independent producer of the legendary film *Gone with the Wind* complained that Hollywood was “built on phony accounting.” Is profit accounting Hollywood’s most creative art? Part of the issue is that the studio companies have an economic incentive to understate profits which they must share. To depress profits, the distributor’s accountants will allocate high costs to overhead expenses, set a high percentage for the depreciation and amortization of assets, charge high internal transfer prices for inputs and low ones for outputs, and put high price tags on marketing expenses. Other methods of depressing accounting profits are the exclusion of certain revenue streams (in film, for example, only part of home video sales are counted).

Thus, profits can be described and defined in several and very different ways. As a result, contracts with investors and others with a stake in the profits need to specify carefully how profits will be determined by the distributor or by a general

partner in a limited partnership.⁹ If any participants disagree with such profit allocations, their options, unless specified in the contract, are limited when they lack the relevant information. The two basic types of profit participation deals are “gross” and “net” participation. Participants with bargaining power, such as major film stars and other top talent, will demand a percentage of the project’s gross profit, because of the many potential disputes over deductions of cost and expense items from gross profits to reach net profits. The most desirable (and rarest) variation is called the “dollar one,” where participants are entitled to a share of all the revenue received by the studio distributor (or limited partnership) before any deduction except those mandated by law.¹⁰ A character in David Mamet’s play *Speed-the-Plow* sums up his learning about Hollywood financials in one sentence: “There is no net.”¹¹ But keep in mind that most participants, whether producers, directors, or actors, are experienced in the film business, are advised and represented by seasoned agents and lawyers, all of whom understand these accounting practices and take them into consideration. Ultimately, their share in the project’s profit is a reflection of their relative bargaining strength and the essentiality of their contribution to the studio/distributor, not of underhanded accounting.

13.2.2 Royalties for Books and Music

For books, the royalty calculation to the author is based on the cover price: if the cover price of a hardcover book is \$20 and the royalty rate is 10% of the cover price, the royalty is \$2 per book. An

9 Vogel, Harold L. “Movie Industry Accounting.” In *A Concise Handbook of Media Industry Economics*. Ed. Charles Moul. New York: Cambridge University Press, 2005.

10 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005. On top of that, payments to all gross participants are considered a deferred “production cost” and are retroactively added to the budget of the film. The \$30 million payouts to Hanks and Spielberg therefore added \$60 million to the film’s budget, and it therefore raised the studio’s overheads and other charges that were calculated as a percentage of the budget, by another \$15 million. Taken together, all other profit participants needed the film to make an extra \$75 million to get to the “break-even” point where their own profit participation started.

11 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005. A variation of gross profit participation is for stars or investors to receive a share of the film’s revenues, after the film earns a specified amount, such as break-even.

alternative system is based on revenues received.¹² If the book gets discounted by, say 50%, the royalty is now 10% of \$10, not of \$20, and the author's take is \$1 per book.¹³ Publishers issue a periodic royalty statement and check. Publishing contracts typically contain a clause entitling authors to inspect and audit the relevant records, but often only within two years.

Similar issues of defining profits exist in the music industry. Is it true, as often stated, that 80% of records do not make any money? This depends on the method of accounting and cost allocation, usually specified by the contract. Accounting issues within the recording industry include "recoupment," royalty, audits, and contract structure.¹⁴ Many of the major costs of a recording are "recouped," that is subtracted from the artist's royalties against prior payments known as "advances." An artist is responsible for part of the recording costs, equipment, and personnel, the costs of live performances, and at least half of the promotional costs such as music videos. Royalties are only paid out after the advances have been covered. But the label assumes the risk if the recording does not generate enough revenues for deduction.

■ Example: The Economics of a Gold Record

A "gold record" means that 500,000 copies were sold in the USA (20,000 in China, 50,000 in France; 100,000 in the UK, Germany, India, and Japan). It is a mark of success. One would therefore assume that a gold record is a financial bonanza for the artist. But the reality can easily be different.

Suppose that a band signs a contract that stipulates a royalty rate of 14%, and the CD sells 500,000 copies at \$14 each, for a total of \$7,000,000. One would therefore expect the band to receive \$980,000. But this does not account for the many deductions. For example, the CD

royalty rate applies only to 85% of the CDs. The band recorded the album on a \$300,000 budget; the producer receives a standard 3% of the royalty, and there may be contractual discounts for promotions and even for breakage (even though CDs do not break like vinyl or shellac once did).¹⁵

Nominal royalty = 500,000 × \$14 CD retail price × 14% royalty rate	\$980,000
Real royalty	
(a) Less 15% free goods (copies given away to radio stations and reviewers and for quantity and sales discounts)	
(b) Less CD-rate discount 15%	
(c) Less breakage allowance 10%	
(d) Less packaging discount 20%	
(e) Share of royalties to producer = 3%	
Together, these deductions add up to 60%.	
Total royalties before deductions: 500,000 × 40% × remainder × 11%	\$308,000
(f) Less payments to agent and manager 10%	(\$30,800)
(g) Less recording costs	(\$300,000)
(h) Less 50% of independent promotion	(\$100,000)
(i) Less 50% of video costs	(\$75,000)
(j) Less tour support	(\$50,000)
(k) Total	(\$247,800)

Thus, under this example, the band would actually end up owing \$247,800 which would have to be covered from subsequent sales and future recordings.

13.2.3 Profit Accounting in Limited Partnerships

In limited partnerships, the share of the general partner (GP) depends on investment contributions, required management effort, and so on. The share of the limited partners (LPs) depends on the size of their investment and other considerations that established by contract. In limited partnerships (LLPs) of hedge funds the GP typically takes

12 Ellenberg, Ethan. "All About Royalties." *The Ethan Ellenberg Literacy Agency*. July 1999. Last accessed July 6, 2017. ► <http://ethanellenberg.com/all-about-royalties/>.

13 There is a "reserve for returns": books are fully returnable and publishers therefore keep a permanent accounting reserve as a percentage of gross shipments.

14 Holzman, Keith. "Manage for Success: Royalty Accounting." *Holzman Solutions*. August 2002. Last accessed July 6, 2017. ► <http://www.holzmannsolutions.com/articles/16-aug02.htm>; Gunderson, Edna. "Bye, bye, a piece of the pie." *USA Today*. June 11, 2004. Last accessed July 6, 2017. ► http://www.usatoday.com/life/music/news/2004-05-16-royalties-main_x.htm; Passman, Donald S. *All You Need to Know About the Music Business*. New York: Simon & Schuster, 2000.

15 Passman, Donald S. *All You Need to Know About the Music Business*. New York: Simon & Schuster, 2000.

13.2 • Profit Accounting

2% of fund assets per year, plus 20% of profits, often limited to those above a hurdle rate such as an 8% return.

General partners often have incentives to minimize profits they must share. They can do so by:

- Increasing salaries of managers, including that of the GP;
- Setting high bonuses for managers and classifying them as expenses rather than as part of profit;
- Deducting expenditures such as travel, dinners, meetings;
- Creating reserves for future contingencies;
- Allocating general overheads against fund profits;
- Setting high transfer prices for intra-company transactions of purchases, and low ones for sales;
- Using high rates of depreciation and amortization.

13.2.4 How Profit Participants Can Protect Themselves

Companies' accounting practices are often non-transparent when it comes to royalties and profit shares.¹⁶ Contracts often prevented the auditing of ledgers and accounts to determine accurately the amount of royalties or payments owed.¹⁷ In 2003, BMG, Universal, and Warner Music announced reforms in their accounting practices. BMG took the lead by eliminating packaging and promotional deductions and calculating royalties based on wholesale price rather than discounted retail price.¹⁸ It adopted what it described as a "fairer and more transparent" royalty system that shrank a standard contract from 100 pages to 12 pages.¹⁹ Universal Music Group agreed to give

auditors access to previously denied financial records.

In order to raise confidence and hence facilitate transactions, investors—whether in content production or technology ventures—need to protect themselves by some of the following measures:

1. Require a collection account manager: an independent third party who is protecting the interests of investors;
2. Due diligence: check on the producer/general partner/entrepreneur to determine their track record;²⁰
3. Understand the parameters of the deal: whether it compensates for inflation, and so on;
4. Obtain all promises in writing and in contracts;
5. Establish an arbitration clause, with the prevailing party entitled to reimbursement of legal fees and costs;
6. Participate actively and seek information through site visits, progress reports, briefings, feedback;
7. Participate in the monitoring of the project, e.g. make sure that the funds are spent on the agreed upon project rather than new ones, unless agreed upon;
8. Obtain an experienced advisor where they lack the expertise, time, or local presence;
9. Make sure that the contract is clear on all the terms, such as the definitions of "net profit" and of "receipts";²¹
10. The amount and types of overhead charged to the project should be clearly spelled out;
11. Insist on reasonable controls and limitations on claims for expenses;²²
12. Understand that the profit participation reports are prepared on a cash basis for revenue and on an accrual basis for expenses;
13. Define the dates and frequency of financial reporting;
14. Include the right to audit;
15. Require errors and omissions insurance: this helps ensure completion;
16. Require recoupment of net profits to be scheduled prior to financial contributions to certain other payees.

16 Wasserman, Jim. "Calif., N.Y. Weight Regulation: Recording Industry in for New Fight." *Associated Press*. April 4, 2003. Last accessed June 17, 2017. ► <https://www.newspapers.com/newspage/221055721/>.

17 Future of Music Coalition. "California State Assembly Hearing on Major Label Accounting Practices." Last accessed June 17, 2017. ► <https://futureofmusic.org/filing/california-state-assembly-hearing-major-label-accounting-practices>.

18 Holloway, Lynette. "BMG Plans to Simplify Royalty Deductions." *New York Times*. November 21, 2002. Last accessed July 6, 2017. ► <http://www.nytimes.com/2002/11/21/business/bmg-plans-to-simplify-royalty-deductions.html>.

19 Holzman, Keith. "Manage for Success: Royalty Accounting." *Holzman Solutions*. August 2002. Last accessed July 6, 2017. ► <http://www.holzmansolutions.com/articles/16-aug02.html>; Gunderson, Edna. "Bye, bye, a piece of the pie." *USA Today*. June 11, 2004. Last accessed July 6, 2017. ► http://www.usatoday.com/life/music/news/2004-05-16-royalties-main_x.htm.

20 Alberstat, Philip. *The Insider's Guide to Film Finance*. Waltham, MA: Focal Press, 2004.

21 Shindler, Marty. "Understand before you sign." *The Shindler Perspective, Inc*. Last accessed July 6, 2017. ► <http://www.ishindler.com/articles/TSPUnderstandBeforeYouSign.htm>.

22 Jones, Cones. *The Feature Film Distribution Deal: A Critical Analysis of the Single Most Important Film Industry Agreement*. Carbondale, IL: Southern Illinois University Press, 2006.

13.3 Public Financial Accounting

13.3.1 Major Financial Documents for Investors

Financial accounting is used to prepare financial information for stockholders, banks, suppliers, and regulators. All publicly traded companies are required to publish financial statements and must follow general procedures known as Generally Accepted Accounting Principles (GAAP)²³ in the USA, or similar national principles in many other countries, or global principles known as International Financial Reporting Standards (IFRS).

13.3.1.1 Balance Sheet

The first major document of financial accounting is the balance sheet. The balance sheet reports a company's assets, liabilities, and stockholder's equity. The value of a company's assets, by definition, balance with the sum of the liabilities and the equity. Assets are typically reported in terms of net book value—the original cost of the asset minus the depreciation on the asset.

13.3.1.2 Income Statement

The income statement, also known as the P&L (profit & loss) statement, presents the operating activities of a firm. Expenses are subtracted from revenues, revealing how much money a company made (or lost) within an accounting period.

13.3.1.3 Cash Flow Statement

The statement of cash flows can be thought of as a business's checking account. It is a company's summary of cash transactions during an accounting period. The statement shows where money comes from, how it is spent, and how much is at hand. These transactions are divided into three categories—operating, financing, and investing—which enables investors to see better how money flows in and out of the company.

13.3.1.4 Pro Forma Financial Statements

Companies often report also with separate financial statements called “pro-formas.” These have no defined meaning and formal requirements.²⁴

The pro forma statement, being without clear rules, can be based on estimates and projections.

We will discuss all four types of public financial accounting statements, starting with pro formas.

The basic idea behind pro-formas is that a firm facing exceptional gains or losses in a year can indicate the one-time nature of these events and adjust its P&L to provide investors with a more realistic picture. For example, it can adjust for:

- Major gain from sale of division or asset;
- Major loss from isolated legal action.

Problems arise when pro forma statements are used to prettify or disguise the true financial condition.²⁵ In 2002, Nokia Corp, the Finnish wireless technology company reported a third quarter pre-tax profit of €1.1 billion in its pro forma statements. Without the pro forma adjustments, Nokia's pre-tax profit was at a much lower €281 million.²⁶

In another example, the major mainframe software firm Computer Associates (CA) used a pro forma statement to disguise reality. CA reported 42 cents pro forma earnings for the quarter, while in reality it had a 59 cents loss under GAAP rules. In the several quarters of FY2000, CA inflated its revenue by approximately 25%, 53%, 46%, and 22% by including prematurely recognized revenue of \$2.2 billion in 2000 and 2001.²⁷ As a US government official described it, “Like a team that plays on after the final whistle has blown,

23 Accounting.com. “What is GAAP?” Last accessed June 17, 2017. ► <http://www.accounting.com/resources/gaap/>.

24 US Securities and Exchange Commission. “Cautionary Advice Regarding the Use of ‘Pro Forma’ Financial Information in Earnings Releases.” December 4, 2001. Last accessed July 29, 2011. ► <http://www.sec.gov/rules/other/33-8039.htm>.

25 US Securities and Exchange Commission. “Cautionary Advice Regarding the Use of ‘Pro Forma’ Financial Information in Earnings Releases.” December 4, 2001. Last accessed July 29, 2011. ► <http://www.sec.gov/rules/other/33-8039.htm>.

26 Manuel, Gren. “European Interest Grows in Pro Forma Accounting.” *Wall Street Journal*. January 8, 2002. Last accessed June 22, 2011. ► <http://search.proquest.com/docview/398962008?accountid=10226>.

27 US Securities and Exchange Commission. “SEC Files Securities Fraud Charges Against Computer Associates International, Inc., Former CEO Sanjay Kumar, and Two Other Former Company Executives.” September 22, 2004. Last accessed June 19, 2007. ► <http://www.sec.gov/news/press/2004-134.htm>.

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Computer Associates kept scoring until it had all the points it needed to make every quarter look like a win.” CA kept its accounts open for additional days to create the illusion of increased revenue, leading to a “35-day month.” After CA was forced to stop recognizing revenue prematurely, its stock price dropped over 43% in just one day. CEO Sanjay Kumar was charged with securities fraud and sentenced to 15 years in prison. The company also had to pay \$225 million to harmed shareholders.

13.3.1.5 Case Discussion

Disney—Pro Formas

In its 2001 Annual Report, Disney used pro forma presentation to maintain the appearance of stability in its earnings per share. It reported in its formal P&L statement—which followed the guidelines of GAAP—a \$0.02 *loss* per share. But in its pro forma “Financial Highlights” statement it showed a \$0.72 pro forma *gain* per share. It reported certain transactions or events differently from the way they must be reported according to GAAP rules. Basically, it excluded from its earnings several items which it considered “one time events.” Disney properly qualifies these results in footnotes. All of this is perfectly legal and Disney disclosed it. However, interpreting it requires a sophisticated reading of Disney’s report.

13.3.2 Auditing

Given the potential for problems, how can the accuracy of financial information be protected?

An audit of a firm’s financial statement means that an independent expert reviews the company’s books for compliance with accounting principles. It is also a review of the ability of a firm’s accounting system to deal with transactional data properly and effectively, such as through checking a random sample of transactions.

Another layer of financial control is the audit committee of the board of directors, whose task it is to ensure the integrity of the company’s financial reporting. This committee generally oversees internal and external reporting and audit processes. This audit committee is comprised of independent (i.e. non-officer) directors. The actual

process is delegated to internal employees of the firm or to external consultants or auditing firms.²⁸

In the USA, the 2002 Sarbanes-Oxley Act created strict rules of responsibility for accurate financial reports. Auditing firms had to divest themselves of all non-accounting activities. The law established an Oversight Board to review the audits of public companies and to set guidelines for accounting firms.

13.3.2.1 Case Discussion

Disney—Auditing

Unlike its rivals Vivendi Universal and Time Warner, Disney avoided accounting scandals in the period under CEO Eisner. Its external auditors, PricewaterhouseCoopers (PwC), received \$8.7 million for auditing Disney in 2001. That same year, Disney also paid PwC \$43 million for consulting and other services, such as the design of a provided financial information system and its implementation.

Already prior to the enactment of a law that outlawed this type of conflict of interest,²⁹ shareholders asked that management drop PwC in either their capacity as auditors or consultants. The Disney board then voted to do so. This cut annual fees paid to PwC by 75%. Disney became the first major company to make such a move to separate the auditing and consulting.

13.3.3 Regulation of Accounting

13.3.3.1 Government Regulation

Government rules exist for the public and correct disclosure of financial information by companies whose stock is publicly offered. Accounting manipulations by some companies can discredit the entire economic system and reduce investor confidence, resulting in less investment and costlier private safeguards.

In the USA, the Securities and Exchange Commission (SEC) was created in 1934 to ensure the disclosure of important financial information

²⁸ Burke, Frank M. *Audit Committees: A Guide for Directors, Management, and Consultants*, 3rd ed. New York: Aspen Publishers, 2004, 1–220.

²⁹ Wall Street Journal. “Auditors Still Perform Nonaudit Services.” April 3, 2002, C1.

from publicly traded companies. The act was passed in response to the Great Depression; generally, the public distrusted the reliability of a company's accounting information, and laws were therefore enacted that required companies to publish accurate information in their financial statements. The SEC has authority to establish standards, but has historically delegated the details to self-regulatory accounting bodies.³⁰ Other countries have similar agencies and procedures.

There are also several industry-specific accounting regulations. In the USA, the Federal Communications Commission established the Uniform System of Accounts (USOA) for telecommunications companies to separate regulated from unregulated activities.

13.4 Analyzing Financial Statements and Valuation of Media Firms

Now that we have the four major financial documents before us, based on established principles and verified by independent accountants how do we use and interpret them?

Securities analysis uses data from public financial accounting, plus projection into the future, and other factors. Securities analysts ask two basic questions when looking at a company: Is the firm financially sound? Is it earning an adequate rate of return? The answers are needed by investors to interpret financial statements and understand whether the company is a good investment.

13.4.1 Ratios and Metrics

Analysts use equations and ratios to compare a firm's performance over time and in comparison with others. Such ratios are published in many financial databases.

Several ways exist to use ratios:

- Comparisons among industries;
- Comparisons within industries to other companies;
- Comparisons among years, for the same company;
- Comparison with targets.

There are several basic categories of ratios, and within such categories there are several types. They will now be discussed.

13.4.1.1 Liquidity Ratios

Liquidity ratios are used to measure a company's ability to pay current liabilities with current assets. A company's ability to convert short-term assets into cash to cover debts is important. Bills need to be paid. A commonly used liquidity ratio is the *current ratio*.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The lower the ratio, the less likely a company is to be able to pay its debt obligations.³¹ Generally, this ratio should be above 1.5.

In 2001, Microsoft had \$39.6 billion in cash and short term investments (current assets). Compare this with the company's debt: Microsoft has no long term debt and its short term (current) liabilities equaled \$11.1 billion.³² Microsoft's current ratio was hence $\$39.6/\$11.1 = 3.3$. A ratio over 3 normally indicates too much cash. Microsoft's balance sheet shows over three times the amount of cash necessary to pay off current liabilities and long term debt. Why isn't it putting this money into work? Unless it is saving resources in order to launch new products, build new production facilities, or make major corporate acquisitions, a current ratio this high usually shows that management is not using cash efficiently.

30 Financial Accounting Standards Board. "Facts about FASB." Last accessed July 29, 2011. ► <http://www.fasb.org/facts/index.shtml>.

31 Labyrinth Inc. "How do we interpret our financial statements?" 2005. Last accessed July 29, 2011. ► www.labyrinthinc.com/SharedContent/SingleFaq.asp?faqid=58.

32 Kennon, Joshua. "Analyzing a Balance Sheet." *About*. 2002. Last accessed July 29, 2011. ► <http://beginnersinvest.about.com/library/lessons/nlesson3.htm>.

13.4.1.2 Case Discussion

Disney—Liquidity Ratios

Disney's current ratio for 2004 was 0.89.³³ In comparison, its peer company Time Warner's current ratio was 0.98.³⁴ The industry average ratio for that year was 1.0. Disney's current ratio was thus below the industry average, suggesting a below-average ability to meet its short term debts. Below a ratio of about 1, a company likely faces some difficulty in meeting its debt obligations for the short term (one year or less). Disney was slightly below that line.

13.4.1.3 Leverage and Solvency Ratios

Solvency and leverage ratios are used to measure a company's ability to pay its *long-term debt* and thus avoid bankruptcy. These metrics determine if a company has over-extended itself through an excess of debt.

“Debt-to-Equity Ratio” (Debt Load)

A company's relative debt load is measured, in particular, by the debt/equity ratio:

$$\text{Debt To Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Total Equity}}$$

The company's total debt, both short and long term, is divided by the amount of the owner's equity. The ratio is also known as the company's “leverage.” If the ratio is above 1.0, the firm owes more than it owns.³⁵ The debt to equity ratio helps give investors an idea as to whether a company can service its debt. If a company has a high debt to equity ratio within an industry, this should raise a red flag, especially if interest rates are on the rise (making it more costly to service the debt or roll it over) or if the company's cash flow shows volatility.

13.4.1.4 Case Discussion

Disney—Debt Load

Disney's debt to equity ratio in 2004 was 0.27. (In 2016 it was a much higher 0.47.) In comparison, Time Warner's debt to equity ratio in 2004 was 0.37. The media industry's average ratio in 2004 was 0.35, somewhat higher than Disney's. But for the overall corporate economy debt was much higher. For the S&P 500 index companies, the average debt to equity ratio was 0.85 in 2004. In comparison, Disney was not highly leveraged in that year.

13.4.1.5 Financial Measures

The P/E Ratio

The price–earnings ratio (P/E ratio) is the ratio of the company's current market value to its annual earnings (profits after tax and preferred dividends).

$$\frac{P}{E} = \frac{\text{Market Value Per Share}}{\text{Earnings Per Share}}$$

The *P/E* ratio measures the company's current market value per share relative to annual earnings (profits after taxes per share). The *P/E* ratio is a key valuation tool. However, while *P/E* ratios are available for traded companies whose stock price can be readily sold, they do not exist for untraded privately held companies, like Internet start-ups, which have no market price *P*.^{36,37}

The *P/E* ratio reflects the value the market has placed on a common stock. A high *P/E* of 25 and above means the market places a high expectation of future growth in the company's earnings. A high *P/E* ratio may also mean that the market is overvaluing the stock, or stocks in general. But it is also possible that earnings have dipped briefly, due to factors which the investors believe are temporary.

33 YCharts. “Walt Disney Current Ratio (DIS).” Last accessed July 6, 2017.

► https://ycharts.com/companies/DIS/chart/#?format=real&units=&maxPoints=720&securities=include:true,id:DIS,&endDate=&displayTicker=false"es=&correlations=&securitylistSecurityId=&calcs=include:true,id:current_ratio,&zoom=&startDate=&recessions=false&chartView=&splitType=single&scaleType=linear&securitylistName=&securityGroup=

34 YCharts. “Time Warner Current Ratio (TWX).” Last accessed June 9, 2011.

► http://ycharts.com/companies/TWX/current_ratio.

35 Kennon, Joshua. “Analyzing a Balance Sheet.” *About*. 2002. Last accessed July 29, 2011. ► <http://beginnersinvest.about.com/library/lessons/lesson3.htm>.

36 There are variations of a *P/E* ratio. The “trailing *P/E*” or trailing 12 months *P/E* ratio uses historical data for the most recent 12 months. Projected *P/E* or forward four quarters *P/E* ratio uses estimates for the next four quarters of a company's performance for a ratio. A third is a mixture of the previous two, combining the performance of the company for the past two quarters and the estimated performance for the upcoming two quarters to come up with a ratio.

37 Investopedia. “*P/E* Ratio: Conclusion.” Last accessed July 18, 2011.

► <http://www.investopedia.com/university/peratio/peratio5.asp>.

A P/E can be high if the expected annual growth rate of profits is high, for example if the firm operates in a market niche with strong growth potential.

Similarly, a low P/E ratio may mean that a company is being undervalued or that future prospects for a company are not promising and are affecting market confidence in the stock.

Many mature industries, such as utilities, will have lower P/E ratios than new tech companies which may have very high P/E ratios due to future performance expectations. It is therefore important that P/E ratios be compared across the same industries.

To estimate the value of an untraded company for which no stock prices exist, one can take the expected earnings and multiply them by the P/E of a comparable company B or others from the same industry that are traded.

And what if there are also no earnings at all for the company, as is typical for dot-com companies? With neither an “E” or a “P”, a P/E ratio does not exist. Thus, valuation must be based on metrics that are not dependent on earnings. These methods include the use of other ratios such as:

- Debt/contributed capital;
- Debt/subscriber;
- Debt/net capital expenditures.

Market/Book Value Ratio

Price/book (P/B) ratios compare a stock’s market value to its book value:

$$\text{Market to Book Value} = \frac{\text{Market Price Per Share}}{\text{Book Value Per Share}}$$

The “book value” is the net amount of assets shown in the firm’s balance sheet—total assets minus total liabilities. A low P/B ratio could mean that the stock is undervalued by the market relative to its assets. A higher P/B ratio implies that investors expect management to create more value from a given set of assets. It may also mean that the market value of the firm’s assets is significantly higher than their accounting value. It may also mean that the assets have been acquired a long time ago and their value today is much higher.

The book value has less relevance to the evaluation of many much of earning power is due to intangibles such as copyrights and patents that were created and booked as expenses rather than

capital assets. If shown as assets, the company’s book value would show a much greater value and the ratio would be higher.

13.4.1.6 Performance Ratios

If investors in Disney’s stock want to calculate the opportunity costs of investment, they would select a set of peer stocks and compare the performance with Disney.

Operating Ratio

The operating ratio shows a company’s efficiency by comparing net sales to operating expenses. It is calculated as:

$$\text{Operating Ratio} = \frac{\text{Operating Expenses}}{\text{Operating Revenues}}$$

This ratio measures the company’s effectiveness in using resources to run the company’s operations. The smaller the rate, the greater the ability to create profits. However, the ratio does not take into account repayment of debt, which is not part of operating expenses. A firm may be efficient by this ratio but still fail if its debt is too high for repayment.³⁸

■ Operating Margin

Operating margin measures profitability, and shows how much of each dollar of revenue is left over after costs of goods sold and operating expenses are subtracted.:

$$\text{Operating Margin} = \frac{\text{Operating Income}}{\text{Net Sales}}$$

For example, if a firm’s operating margin is 15% (0.15), it is earning 15 cents on each dollar of sales. Note that this performance does not include interest payments, taxes, or one-time special events.

13.4.1.7 Profitability Ratios

Profitability ratios show how successful a company is returning profits on its investment.

$$\text{Profit Margin} = \frac{\text{Profit}}{\text{Revenue}}$$

³⁸ Stickney, Clyde and Roman Weil. *Financial Accounting: An Introduction to Concepts Methods and Uses*. New York: Dryden Press, 2000.

Generally, the terms “income,” “earnings,” and “profits” are used synonymously. Profitability “margins” are profits expressed as a percentage of revenues. They show a firm’s ability to produce earnings during that period, and are an important benchmark against other companies in the industry. Depending on the definition of “profit” these measures are either “gross margin,” “operating profit margin,” “pre-tax margin,” or “net profit margin.” The latter—arguably the most meaningful measure—is also described as the “profit margin.”

13.4.1.8 Return on Assets and on Investment

Whereas the preceding section looked at a firm’s performance relative to its sales—profit per dollar of sales—a firm’s success ultimately lies in profitability relative to its assets, or its investment, or of the capital contributed by investors.

Return on assets (ROA) and on investments (ROI) allow investors to see earnings generated by a company’s assets and investment.

Return on Assets

The ROA is net income divided by average total assets:

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}}$$

This shows profit for each \$1 in assets and relates the operating performance to investments of a firm, independent of the financing used in the acquisition of assets (i.e. whether equity or debt).³⁹ The ROA also shows the asset-intensity of a business.

However, a high percentage of a media or tech company’s assets are intangibles, much of them of uncertain value. Thus, in the case of Disney where maybe 80% of assets are intangibles, looking at metrics like ROA and ROI will not provide good information. In these situations, it would be more useful to look at the company’s cash flows, subscriber numbers, or other “hard” measures to get a better idea of performance.

Return on Investment

A firm’s ROI is a measure to compare the profitability of a firm’s specific business project, or of an investor’s return for his or her investment. It

is basically the profit rate for the investment, the “bang-for-the-buck.” It measures the efficiency of the investment in terms of profits relative to investment:

$$\text{Return on Investment (ROI)} = \frac{(\text{Net Income} + \text{Interest Expense})}{\text{Total Assets}}$$

13.4.1.9 Growth Trends

Balance sheets are a snapshot in time. In contrast, profit-and-loss statements are the results for a period of time—typically a year or a quarter. What investors are often looking for is a trend. This has two dimensions: a growth rate and its volatility. Companies, especially publicly traded companies, seek a decent-sized growth rate but also that it be stable. Meeting the expectations of investors and analysts helps ensure a favorable stock price by lowering the riskiness of a stock. To maintain this stable income and growth rate over several time periods, companies use an “accounting cushion” in which they overstate liabilities in strong years and then overstate the income in a weak period.

13.4.1.10 Case Discussion

Disney—Growth

Disney’s sales growth over the year preceding the confrontation over CEO Eisner was about even with Time Warner’s (3.8% vs 3.7%) and much better than the industry average of negative 4.5%; but it was lower than that of the S&P 500 companies (13.0%). More importantly, Disney’s net income (profits) rose by 8.0% whereas Time Warner’s dropped by 13.6%. Disney’s annual average five-year growth (2001–2005) rate in net income was very high at 35.1% and should have made its shareholders happy with management. To put this in perspective, however, the S&P performance was even higher, which can be explained by the year 2001 being a recession year and hence a low base for any subsequent income growth calculation.

13.4.1.11 Non-financial Business Metrics

Not all metrics for judging a firm’s performance are financial in nature. Non-financial information about a company can be used along with income and cash flows to provide a better picture of performance. Non-financial measures of company performance include:

³⁹ Stickney, Clyde and Roman Weil. *Financial Accounting: An Introduction to Concepts Methods and Uses*. New York: Dryden Press, 2000.

- Customer churn;
- Return rate of products and defect rate;
- Customer reorder rate;
- The quit rate of the work force;
- New patents;
- The share of sales from new products;
- The ratio of patents to research and development expenses;
- Average time to present the product to the market;
- The conversion rate from solicitations to sales;
- Cost of acquisition per new customer acquired.⁴⁰

These non-finance measures are not often used. Companies are reluctant to report some of this data. Even when it is favorable, they fear being locked into the future release of unfavorable data, or to become liable for erroneous numbers, or to reveal information to competitors and negotiating partners. However, there is a push to disclose such information to investors, coupled with a “safe harbor” shield against liability resulting from the disclosure of non-traditional information.

13.4.1.12 Social Accounting

Social accounting—also known as social auditing, social reporting, ethical accounting, or triple-bottom-line—is a way of measuring and reporting on an organization’s social, environmental, and ethical performance.⁴¹ Social accounting aims to bring quantitative measures to socially beneficial activities, based on the concept that “if you can’t measure it, you can’t manage it.”⁴²

There are many different techniques for looking at the social impact of an organization. Some are quantitative, some use benchmarking, and others

Table 13.1 Social Accounting Targets

Commitments	Metrics
Corporate philanthropy goals	Amount of money given; Hours volunteered
Environmental sustainability principles	Tons of solid waste going to landfill; Carbon emissions
Code of ethics	Number of ethics complaints
Commitment to open communication with stakeholders	Performance records of interaction with major stockholders
Diversity	Employee and management diversity; Vendor diversity; Number of complaints and safeguards

are more in the nature of inspired—or inspiring—story-telling, and still others are a PR effort. Some items that might be reported in social accounting are provided in Table 13.1.⁴³

The number of such social audits has grown, but they are the exception nevertheless. Even companies with a strong sense of corporate responsibility are reluctant to issue social audits because they fear that it might expose them to unwanted negative media coverage and criticism from stakeholder groups.⁴⁴ Another reason is that many of the dimensions of social accounting are hard to define, measure, quantify, and value. But as information technology spreads into all aspects of economic and social life, it will become easier to track the impacts of a company’s activities in new ways, both by the company itself and by outside groups and governments.

40 Litan, Robert E. and Peter J. Wallison. “Beyond GAAP?” *Regulation* 26, no. 3 (2003): 52.

41 Social Audit Network. “What is social accounting and audit?” Last accessed July 6, 2017. ► <http://www.socialauditnetwork.org.uk/getting-started/what-is-social-accounting-and-audit/>.

42 Norman, Wayne and Chris MacDonald. “Getting to the Bottom of ‘Triple Bottom Line.’” *Business Ethics Quarterly* 14, no. 2 (April 2004): 243–262.

43 Zadek, Simon. “Social Auditing.” *The New Economics*. June 1995. Last accessed July 29, 2011. ► <http://www.fpm.com/script/UK/Jun95/social.htm>.

44 Zadek, Simon. “Social Auditing.” *The New Economics*. June 1995. Last accessed July 29, 2011. ► <http://www.fpm.com/script/UK/Jun95/social.htm>.

13.4.1.13 Case Discussion

Excerpts from Disney's Citizenship Report

"Message from Our CFO.⁴⁵

Dear Stakeholders:

... I am happy to report that 2012 was not only another year of record financial results for Disney, it was also a banner year for our citizenship performance. We became the first major media company to build upon our landmark nutrition guidelines, and introduced food advertising standards for kids. We reduced our net direct and indirect greenhouse gas emissions, achieving our targets for the year and taking another major step forward in our efforts to reduce the Company's impact on climate change. We also implemented new policies to reduce the risk for workers and families along our extended supply chain.

We are proud of the progress we have made against these targets. [Figure 13.1] outlines

our 2012 performance on the 65 citizenship targets.

Examples of these projects include:

- A groundbreaking, play-based curriculum that transforms unstructured recess time into engaging learning time for 179,000 kids across the U.S.
- A new creative learning program in China serving more than 68,000 rural children in grades 3–5.
- A creativity lab themed in virtual worlds reaching 450 kids in the U.S. and around the world.
- A theater program that brings Disney licensed musicals into underserved schools in Nashville, TN, allowing 305 kids, their teachers, and their families

to participate in all aspects of production.

- A hands-on afterschool learning laboratory for more than 300 kids from disadvantaged populations in Los Angeles, CA."

Conclusion of this part of the Case Discussion: Disney's *Citizenship Report* shows a substantial effort to identify, structure, and monitor the company's social performance. In addition to being a sign of social responsibility as a company value, the effort also helps the company to buttress a wholesome family-oriented image. As one might expect in a document driven by that goal, the positive dimensions of Disney's social contributions are listed while negatives are mostly left out. That said, the report is impressive and stands out among large corporations.

13.5 The Valuation of Media Properties

Investment guru Warren Buffet once said: "If I were teaching an MBA class on finance, the final exam would be one question: How do you value an Internet company? Anyone who turned in an answer would fail the exam."⁴⁶

How, in general, are companies valued? To investors this is a critical question. There are several techniques.

13.5.1 Cost Approaches

Cost approaches include "book value" and "historic cost," with the value of a company computed as the sum total of its past investments in assets,

minus depreciation. Another approach is that of "replacement cost"—the value of the assets at the price of replacing them today.

There are several disadvantages to the cost approach, including inadequate correlation of cost with value. For example, not all development costs lead to successful inventions or products. But some successful developments are worth a lot more than the cost of creating them.⁴⁷ The advantages are that the historic numbers are available to accountants and have a certain "hardness" and are thus less susceptible to manipulation.

13.5.2 Income Approaches

In economic terms, a company can be valued by the income streams that it generates. That, after

⁴⁵ Disney FY12 Citizenship Report. Retrieved from ► https://ditm-twdc-us.storage.googleapis.com/FY12DisneyCitizenshipSummary_FINAL_0.pdf

⁴⁶ De Figueiredo, John M. "Finding Sustainable Profitability in the E-commerce Continuum". *Massachusetts Institute of Technology*. July 15, 2000. Last accessed July 7, 2017. ► <http://sloanreview.mit.edu/article/finding-sustainable-profitability-in-electronic-commerce/>.

⁴⁷ World Intellectual Property Organization. "WIPO National Workshops on Assessment and Valuation of Inventions and Research Results for Technology Transfer and Commercialization." August 1997. Last accessed July 6, 2017. ► http://www.wipo.int/edocs/mdocs/innovation/en/wipo_avi_ph_97/wipo_avi_ph_97_5.pdf.

Status	Completed	On Track	Getting Started	Did Not Achieve
Total	15	43	5	2
Target	Status	Summary		
By 2020, contribute more than 5 million hours of employee community service through the Disney VoluntEARS program		In 2012, Disney employees volunteered more than 586,000 hours through the Disney VoluntEARS program.		
By 2014, set a baseline for the percentage of employees who volunteer at least one hour of service annually in the VoluntEARS program		We identified a system to help track participation that will be implemented by 2014.		
By 2020, positively impact the lives of 10 million children and families in need		In 2012, we reached over 563,000 kids and families in need through a variety of efforts.		
By 2014, donate 18 million books to organizations that provide new books to children in need		In 2012, we donated more than 8 million books.		
By 2012, engage over 4 million players through online games to raise awareness of, and encourage participation in, giving to people and the planet		In 2012, we engaged more than 2.4 million players through our Pixie Hollow and Club Penguin properties, but we did not achieve this target.		

Fig 13.1 Disney social accounting report

all, is what most investors seek. Technically, the incomes are discounted so as to include future earnings in present valuation. Discounting also incorporates the risk factor. The measure of value is the asset’s earnings as related to the imponderables inherent in the business situation. This includes risks of economics, technology, and politics. Such overall risk is reflected in the discount rate of the asset.

The formula for discounted present value is
$$NPV = \sum_{t=1}^T \frac{CF_t}{(1+r)^t} - CF_0$$
, where T equals the life

of the asset, CF_t equals the cash flow in period t , and r is the discount rate, the investor’s required rate of return for investments with comparable risk. CF_0 is the investment in period zero itself.

The income approach is suited for intangible assets, too. It can be used for the appraisal of contracts, licenses, royalty agreements, patents, trademarks, copyrights, and franchises.⁴⁸

13.5.3 Multiples Approach

One could compare a company whose value is being sought to one whose value is known. In real estate, the value of a house is often based on “comps”—comparable properties that have

48 World Intellectual Property Organization. “WIPO National Workshops on Assessment and Valuation of Inventions and Research Results for Technology Transfer and Commercialization.” August 1997. Last accessed July 6, 2017. ▶ http://www.wipo.int/edocs/mdocs/innovation/en/wipo_avi_ph_97/wipo_avi_ph_97_5.pdf.

sold. But what are comparable companies? One way to deal with this question is to make use of the accounting ratios that were described earlier. One takes the financial ratios and so on for other companies that are traded in the stock market and hence obtain a known value based on the collective wisdom of the market, and extrapolate to compute the value of a non-traded firm. Examples of these metrics include the P/E ratio, the ROI, the value per subscriber, cash flow multiples, ARPU (average revenue per user) multiples, and revenue multiples. For example, suppose one wants to estimate the value of company A in industry X. A is not traded in the stock market. A has earned, on average over the past three years, \$25/share/year. The average P/E ratio R in the industry X is 10. Then a share of A should be worth, *ceteris paribus*, $P = E \times R = 25 \times 10 = 250$.

A similar approach can be used for an extrapolation of revenues, subscribers, or ARPU.

Other methodologies include that of looking at the share price of a company over a longer period, and using this as the yardstick for valuation of such a company. This would be most useful where some external shocks or speculation have left that share price temporarily at an atypical level, either very low or very high, for reasons that have little to do with the company itself. Another valuation approach is that of options pricing. That approach is discussed in ► Chap. 4 Technology Management in Media and Information Firms and in ► Chap. 7 Intellectual Asset Management.

13.6 The Balance Sheet

The balance sheet consists of three main parts: *assets*, which includes anything of value to the company; *liabilities*, which include bank loans, mortgages, and bonds the company has issued; and shareholders' *equity*.

Every balance sheet must “balance,” by definition. The total value of all assets must be equal to the value of all liabilities plus shareholder equity.⁴⁹ Equity has two sources—cash contributed by investors in return for stock issued by the company, and retained earnings, which are profits not

paid to shareholders as dividends. The company's “book value” is the value of assets minus depreciation intangible items such as intellectual assets and goodwill, and minus all liabilities.

For not-for-profit organizations, the “statement of financial position” is analogous to the corporate balance sheet. The document identifies “net asset value” instead of stockholders' equities.⁵⁰

Thus, the balance sheet shows how much the company owns, how much it owes, and what stockholders own. This report is presented in the annual report to shareholders and in the reports filed with regulatory agencies (in the USA, as part of the well-known Form 10(k)). The information is made available through the company itself or through financial information databases such as ► www.SEC.gov,⁵¹ ► www.finance.yahoo.com, ► www.thestreet.com, and ► www.bloomberg.com.

■ Table 13.2 provides an example of a balance sheet. The company's total assets, at the end of the year 2016, were \$15,557,000, composed of total fixed assets of \$1,600,000, total current assets of \$6,072,000, and cash on hand of \$7,885,000 (mostly accounts receivable, i.e. payments owed to the firm). Liabilities consist of current liabilities of \$11,137,000, mostly unearned revenues (basically prepaid services such as subscriptions that must now be performed or delivered by the firm). Also considered a liability is the paid-in capital, including capital reserves. The “deficit” line (retained losses or earnings) serves to balance total assets with total liabilities (including capital). Where liabilities otherwise exceed assets, this line is negative, and where assets exceed liabilities this line is in surplus and positive (retained earnings). As can be seen, the firm had an accumulated deficit of \$2,693,000.

A balance sheet is only a snapshot of a company's financial condition at a particular moment, and it comes with many imperfections and judgment calls that are described below.

One year later, the company was in a similar position. When it comes to assets except a drop of 20% in cash on hand. The amount of current liabilities fell sharply by 36%, mostly from a reduction in “unearned revenues,” which are

50 Smith, Gordon V. and Russell L. Parr. *Valuation of Intellectual Property and Intangible Assets*, 3rd ed. New York: John Wiley & Sons, 2000, 515–544.

51 The SEC's Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system provides automated collection, indexing, forwarding, etc. of submissions by companies and others who are required to file forms with the SEC.

49 Kennon, Joshua. “Analyzing a Balance Sheet.” *About*. 2002. Last accessed July 29, 2011. ► <http://beginnersinvest.about.com/library/lessons/nlesson3.htm>.

Table 13.2 Example of a balance sheet (\$ thousands)^a

	December 2016	December 2017
Assets		
Fixed assets		
Computers	\$732	\$977
Infrastructure	\$625	\$569
Office equipment	\$243	\$118
<i>Total fixed assets</i>	\$1600	\$1664
Current assets		
Accounts receivable	\$5347	\$5472
Prepaid tax	−\$20	\$15
Miscellaneous receivables	\$745	\$455
<i>Total current assets</i>	\$6072	\$5942
<i>Cash on hand</i>	\$7885	\$6328
<i>Total assets</i>	\$15,557	\$13,934
Liabilities		
Capital		
Reserves	\$693	\$693
Invested equity capital	\$6420	\$5038
Deficit	−\$2693	\$1058
<i>Total capital</i>	\$4420	\$6789
Current liabilities		
Creditors	\$63	\$268
Wage taxes and soc. securities	\$98	\$155
Unearned revenues	\$9791	\$6204
Personnel fund	\$438	−\$210
Miscellaneous Payables	\$747	\$728
<i>Total current liabilities</i>	\$11,137	\$7145
<i>Total liabilities</i>	\$15,557	\$13,934

Table based on Ripe Network Coordination Center. "Balance Sheet." Last accessed July 6, 2017. ► <http://web.archive.org/web/20101128052610/http://www.ripe.net/ripe/docs/ar2002/balance-sheet.jpg>

prepaid sales where the product must still be delivered by the company. Also, the invested equity capital declined, suggesting a distribution by the company to shareholders. In consequence, the accumulated deficit had now become a profit of \$1,058,000.

To be most useful, balance sheets must be compared with previous ones for the same company with the methodology held constant, and also compared with those of other companies.

13.6.1 Assets

Assets are things that a business owns, like a building, or has the right to use, for example copyrights. It also includes acquisitions. There are two classes—monetary assets and non-monetary assets.

Assets are typically valued according to *historical cost*, that is, acquisition costs. Acquisition cost are certain, in contrast to "fair market value," which is often quite unknown.⁵² According to a study of 3500 US companies over a period of two decades, there has been an increase in the gap between the book value (acquisition cost minus depreciation) and market value. In 2010, the book value was only 28% of the market value, while back in 1978, it had been 95%.⁵³

The gap is even wider for media and tech companies. Intangible assets can make up 80% or more of a media company's value. But traditional accounting methods do not capture the true value of these intangibles. Balance sheets report only 15% of the true value of such companies.⁵⁴

13.6.2 Depreciation and Amortization of Assets

A key issue in accounting is determining if the costs are investments or expenses. Classifying the cost as an investment, which is referred to as a "capitalization," distributes the expense over the

52 Encyclopedia4u. "US Generally Accepted Accounting Principles." March 30, 2004. Last accessed July 29, 2011. ► <http://www.encyclopedia4u.com/u/us-generally-accepted-accounting-principles.html>.

53 McClure, Ben. "Intangible Assets Provide Real Value to Stocks." *Investopedia*. 2009. Last accessed July 14, 2010. ► <http://www.investopedia.com/articles/03/010603.asp>.

54 Baukney, Heather. "Intangible Assets: an interview with Baruch Lev." *ITworld*. April 3, 2001. Last accessed July 6, 2017. ► <http://www.itworld.com/article/2797427/enterprise-software/intangible-assets--an-interview-with-baruch-lev.html>.

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lifetime of the asset, which reduces annual cost and raises profit. It results in more assets relative to debt. In contrast, an *expensing* of the cost immediately will lower profits for that year, lower taxes in that year, but raise them in subsequent years.

Amortization is the spreading of the cost of an asset over a period of time, usually several years. Depreciation is a type of amortization, accounting for the decrease in the value of an asset over time.⁵⁵ There are several ways to calculate the depreciation on an asset. “Straight-line depreciation” spreads the depreciation expense evenly over the years of the asset:

$$\text{Annual Depreciation} = \frac{\text{Cost} - \text{Salvage Value}}{\text{Estimated Life}}$$

An “accelerated depreciation” can be used when the earning power of an asset declines as it ages, but more rapidly at first. There are therefore larger depreciation charges in the early years of the asset’s life.

Tax authorities provide a table of acceptable lives for goods and property that are to be used with the corresponding depreciation method.

13.6.2.1 Amortization of R&D, Intellectual Assets, and Networks

As far as accounting is concerned, R&D activities do not create assets but only expenses. Accounting rules require the immediate expensing of R&D. The justification is that the future benefits of most R&D are too uncertain for them to be called an asset (capitalization). This pushes, in particular, start-ups into the red since they show only expenses and no assets in return.⁵⁶ However, when a patent is actually bought from a patent holder, it is then treated as an asset (at the acquisition price plus transaction costs) and can be amortized over its legal or economically useful life—whichever is shorter.

In the USA, the rules, as previously mentioned, are set in FASB “Statement 142” which decrees that patents, copyrights, and trademarks with finite lives are amortized over their useful lives, and for not more than 40 years.⁵⁷ Thus, although

copyrights are granted to the author of a work for the life of the creator plus 70 years—which could easily exceed 100 years—according to the FASB rules the cost of the copyright is amortized only over the expected life of the benefit, not to exceed 40 years. Similarly, the cost of creating or acquiring trademarks must be amortized over the period of the benefit, not to exceed 40 years.

13.6.2.2 Impairment, Write-offs, and Write-downs

Often, the value of an asset drops, and accounting reports need to deal with this to maintain a realistic description of the company. *Impairment* is the reduction of asset value carried in the books when the market value of that asset drops below book value.⁵⁸ In contrast, a “write-off” is used to treat uncollectible accounts, like an insolvent debtor’s obligations. For instance, in 2002, AOL Time Warner was forced to recognize an impairment of \$54 billion, attributed mostly to the AOL acquisition. Sprint, the wireless and wireline company, posted a \$1.9 billion net loss in 2004.⁵⁹ It analyzed long-distance business trends and then took a \$3.5 billion impairment charge on these assets. Sprint also took a \$1.2 billion write-down (loss) on its spectrum for use of the Multichannel Distribution Service, a form of microwave video distribution.

13.6.2.3 Case Discussion

Disney—Write-offs and Write-Downs

Compared to its peers, Disney had a low use of write-downs. Industry write-downs in 2004 include AOL Time Warner with \$98 billion, Viacom with \$23 billion, and News Corp with \$10 billion. In contrast, Disney’s 2004 impairment write-down was just \$64 million. Thus, Disney had none of the gigantic write-downs of several other media companies, though there had been several large ones in other years, but not of the same order of magnitude. In 2001, the company recorded restructuring and impairment changes totaling about \$1 billion, related to the closure of Internet portal GO.com and of approximately 70 Disney stores.

Standards Board. “FASB Codification.” *FASB*. Last accessed July 20, 2011. ► <http://www.fasb.org/home>.

58 FASB. “Statement of Financial Accounting Standards No. 53- Financial Reporting by Producers and Distributors of Motion Picture Films.” December 1981. Last accessed July 10, 2017. ► <http://www.fasb.org/summary/stsum53.shtml>.

59 Gross, Grant. “Sprint Records \$1.9 billion loss on impairment charge.” *IDG News Service*. October 19, 2004. Last accessed July 29, 2011. ► <http://www.networkworld.com/news/2004/1019sprinrecor.html>.

55 McGrahan, Kathleen and Gordon Shillingaw. *Accounting: A Management Approach*. Homewood, IL: Irwin, 1993.

56 Stickney, Clyde and Roman Weil. *Financial Accounting: An Introduction to Concepts Methods and Uses*. New York: Dryden Press, 2000, 437.

57 In contrast, intangible assets whose lives are indefinite are not amortized but are tested yearly for impairment. Federal Accounting

13.7 Liabilities

Liabilities are a company's obligations to its creditors. Liabilities include accounts payable (amount due for goods and services purchased by the company), bank loans, notes and bonds payable, and wages and salaries due. "Current liabilities" are short-term debts which have to be paid within one year. Long-term debt includes mortgages and business loans.

Problematic issues of accounting liabilities in the media and information sector include stock options, pension plans, and off-balance sheet financing.

13.7.1 Stock Options

A popular method of providing tax-favored compensation to employees in the high tech and new media industries is the granting of stock options.

There are two types of stock options: incentive stock options (ISOs) and employee stock purchase plans (ESOs).⁶⁰ ESOs are designed mainly to benefit rank and file and middle employees, by allowing all eligible employees to purchase the company's stock at a discount over market price, for example 15%. An employee is not subject to income tax on the benefit of the discount until the stock is sold off, at which point the proceeds are considered a capital gain, but taxed at a lower rate than ordinary income. In contrast, ISOs are created to attract high rank executives and key employees. Companies issue stock options to employees to raise productivity or to attract new talent by giving them a chance to get in "on the ground floor."⁶¹ In companies where cash is scarce, options are a good way to keep employees invested in the company. There are tax incentives to ISOs and ESOs. The rise

in share value is considered a capital gain and is therefore taxed at a much lower rate than regular income. For example, in 2016 the capital gain would be taxed at a maximum rate of 20% while ordinary income would be taxed at up to almost 40%.

Typically, a company treats employees' compensation such as wages as an expense item. But when high-tech companies extended stock options as a form of compensation they typically did not expense them. This reduced their reported expenses and made the companies look more profitable. For example, the expensing of stock options would have reduced reported earnings in the semiconductor manufacturing industry in one year by an average of 40%.⁶² Cisco received a tax benefit of nearly \$2.5 billion from its use of ESOs. As a result the company paid little or no federal income taxes, while reporting \$2.67 billion in profits in its financial statements.

This then became a controversial issue. Opponents of high compensation for top management regard this practice as a way to transfer much wealth to top executives without it showing up as an expense, and for these managers to avoid paying their fair share in income taxes.

In America, the FASB rules now require companies to treat options as an immediate expense, which reduces reported profits. However, it is difficult to value stock options accurately when there is no market price, in order to expense them.

Another variable of stock option compensation involves their "backdating." Companies select favorable dates on which to base the options price. The act of backdating, in itself, is not illegal. But altering dates on the financial statements and reports is illegal.⁶³ In 2007, nearly 170 high-tech companies were investigated for "backdating" options.

60 Cavitch, Zolman. "Business Organization with Tax Planning (10–133), Part 21 Taxation of Executive Compensation, 10–133 Business Organizations with Tax Planning §133.01 Appeal and Limitations of Stock Options." New York: Matthew Bender & Company, Inc., 2004.

61 Glassman, James K. "Running an Option." *National Review Online*. November 7, 2003. Last accessed July 10, 2017. ► <http://www.nationalreview.com/article/208523/running-option-james-k-glassman>.

62 Morgenson, Gretchen. "Litmus Test for Ethics: Options." *New York Times*, March 21, 2004. Last accessed July 10, 2017. ► <http://www.nytimes.com/2004/03/21/business/market-watch-litmus-test-for-ethics-options.html>.

63 Regan, Keith. "Take-Two in SEC Crosshairs." *E-Commerce Times*, April 5, 2007. Last accessed July 29, 2011. ► <http://www.technewsworld.com/story/gaming/56727.html>.

13.7.2 Case Discussion

Disney—Stock Options

Disney provided stock options worth more than half a billion dollars between 1995 and 2000. If this company had counted these payouts as executive compensation it would have significantly reduced its reported earnings.⁶⁴

Between 1991 and 1995, Disney CEO Michael Eisner earned \$234 million. In 1998 his overall compensation had increased to \$570 million, mostly due to stock options that were awarded early in his tenure that had become exercisable. Overall between 1998 and 2000, Eisner earned more than \$680 million from the exercise of

stock options.⁶⁵ Disney did not count the stock options it granted executives as an expense, claiming that they were not executive compensation but merely rearrangements of the corporate financial structure.

Disney was not charged with improper backdating of stock options, but when it bought Pixar in 2006 it also acquired Pixar's backdating problems. That company had granted its employees backdated options after 1997, totaling \$323 million. Disney, as Pixar's new owner, was liable for \$33.5 million. Steve Jobs, Pixar's

CEO and subsequently Disney's largest shareholder, had granted these backdated options to other employees and claimed that he did not know the legal and accounting ramifications. (Jobs himself received such options at his other CEO job at Apple. For those transactions, he got off the hook without being charged for securities law violation, but Apple's CFO Fred Anderson and General Counsel Nancy Heinen were charged with falsification of documents, pleaded guilty, and were convicted.)

13.8 Income and Profit Statements

The income statement is also referred to as the “profit and loss (P&L) statement” or as the “earnings statement.”⁶⁶ It may well be the most important financial statement a company issues. P&L is important because it gives an investor or observer an idea of how profitable the company is overall. Via P&L one can also look at the company's margins and other financial and operating ratios to see how well it does in terms of generating profit and compare this to other players in the industry.

We must understand that the concept of “income” can be expressed in a variety of ways.

The first line on any income statement is *total revenues* (total sales). Companies often break up revenue into different categories according to divisions, activities, or geography. For start-up companies, investors turn to revenue and its growth as an indication of future potential.

Gross profit is the total revenue generated minus the cost of creating that revenue, typically subtracting the cost of goods sold. COGS includes

inputs and production expenses, but net expenses such as salaries, taxes, and distribution cost.

Gross profit is used to calculate *gross margin*, which can be found by dividing gross profit by sales revenue. It is a measure of a company's efficiency.

Operating income measures the money generated from its operations (without income from investments in other businesses).

Operating margin is the ratio of operating income and total operating revenue. It can be used to compare the quality of a company's operations to that of its competitors.

Net income is the total profit made by a business for the period, the “bottom line.” The *net profit margin* is the profit that a firm generates from every \$1 it earns.

Earnings per share (EPS) is the profit gained on every share. It is calculated by dividing net income by the shares outstanding. The number of outstanding shares can vary since the company can increase the number of shares through the issuance of stock options, convertible bonds, or secondary stock offerings. Therefore, a related measure for profits, “diluted earnings per share,” shows the EPS if all diluted shares outstanding (converted stock, stock options, etc.) were included.

Financial statements of not-for-profit organizations are similar to the income statements of for-profit companies. Instead of “profit” they might show an “excess of income over activity expenditures.” Such surplus must be retained

64 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

65 Hodgson, Paul. “Incentivizing Michael Eisner.” *Forbes*. April 1, 2004. Last accessed July 10, 2017. ▶ http://www.forbes.com/2004/04/01/cz_ph_0401opiniondisney.html.

66 Kennon, Joshua. “How to Calculate Return on Assets or ROA.” *The Balance*. Last updated December 30, 2016. ▶ <https://www.thebalance.com/return-on-assets-roa-357592>.

within the organization or be spent on its purposes. It cannot be paid out as a dividend to the nominal owners such as trustees.

To calculate income, companies have two basic accounting methods available: the *cash method* or the *accrual method*. The cash method recognizes income and expenses when money is actually received or paid. But for financial reporting, the GAAP principles require firms to use accrual based accounting, where revenue is recorded when it is earned, not when the money is actually received. The tax code requires companies to use this method of accounting for tax filings.

13.8.1 EBITDA and Other Profit Definitions

There are other metrics for earnings performance. EBITDA stands for “earnings before interest, taxes, depreciation, and amortization.” It reports how much a company would have made if it did not have to pay interest on its debt; pay taxes; or did not take depreciation and amortization charges i.e. capital expenditures.⁶⁷ EBITDA is a popular but controversial measure because it can make unsuccessful firms often look good. It does so by omitting these often substantial elements of cost. The legendary investor Warren Buffet summed it up, “EBITDA would only make sense if capital expenditures are funded by the tooth fairy.”⁶⁸

However, EBITDA can provide a relatively good “apples-to-apples” comparison between companies and between time periods because it eliminates the accounting decisions that are somewhat within management discretion; tax payments that are based on a variety of income and expense statements and whose timing can be somewhat juggled; and depreciation that can be treated in a variety of ways, such as being accelerated and front loaded. EBITDA can be, in particular, a useful measure of firms with low or long-lasting capital equipment. In such a situation, depreciation and amortization is fairly steady.⁶⁹ But EBITDA is a poor measure of firms in an industry with big technological change,

where capital assets are large but short-lived, or where significant upgrade investments are needed to stay up to date. In these cases, EBITDA would project a rosier picture than reality.

The French media conglomerate Vivendi Universal reported \$7.9 billion in profit for the three years ending 2002, not accounting for interest and related expenses. If those had been included, its income would have been negative by \$6.5 billion.⁷⁰ Getting nervous, Vivendi’s board called in the investment bank Goldman Sachs to go over the company’s financials. According to media mogul Barry Diller, “When Goldman came out with its report, the board members all said, ‘Oh my God.’” The board had been focused on the increase of EBITDA and did not realize the full income picture, or so its members later claimed.

13.8.2 Case Discussion

Disney—Income Statement

The income statement shown in Table 13.3 for 2004 shows Disney’s performance (Main headings are bolded). Its revenue from all of its operations totaled \$30.8 billion, or about \$31 billion when including revenue from investments. This was offset by the cost of operations and other items such as taxes which totaled \$28.8 billion. Its net income was \$2.345 billion. Disney’s net income rose from \$1.3 billion in the preceding year, 2003, by 85%. Earnings per share were \$1.12 in 2004 versus \$0.65 in 2003.

To calculate Disney’s EBITDA, one adds to the net earnings the cost of interest, taxes, and the substantial depreciation costs booked against its hotels, theme parks, copyrighted films, satellite transponders, and so on. EBITDA is then determined to be \$5.5 billion, or more than twice as high as net earnings. The calculation follows:

Net earnings	\$2345
Interest paid	\$624
Income taxes paid	\$1349
Depreciation	\$1198
Amortization of intangibles	\$12
EBITDA	\$5528

67 Kennon, Joshua. “How to Calculate Return on Assets or ROA.” *The Balance*. December 30, 2016. Last accessed July 10, 2017. ► <https://www.thebalance.com/return-on-assets-roa-357592>.

68 MacDonald, Elizabeth. “The Ebitda Folly.” *Forbes*. March 17, 2003. Last accessed July 10, 2017. ► <https://www.forbes.com/global/2003/0317/024.html>.

69 McDonnell, Sharon. “EBITDA ComputerWorld.” *ComputerWorld*. January 8, 2011. Last accessed July 29, 2011. ► <http://www.computerworld.com/s/article/55895/EBITDA>.

70 MacDonald, Elizabeth. “The Ebitda Folly.” *Forbes*. March 17, 2003. Last accessed July 10, 2017. ► <https://www.forbes.com/global/2003/0317/024.html>.

Table 13.3 Disney Incomes (2004)

Revenues	
Revenue from media networks	\$11,778
Revenue from parks and resorts	\$7750
Revenue from studio entertainment	\$8713
Revenue from consumer products	\$2511
Equity investment income	\$372
Total revenues	\$31,124
Cost and expenses	
Cost and expenses for media network	\$9600
Cost and expenses for parks and resorts	\$7066
Cost and expenses for studio entertainment	\$8038
Cost and expenses for consumer products	\$2000
Minority owner interests ^a	\$197
Net interest expense	\$617
Restructuring and impairment charges	\$64
Income taxes	\$1197
Total cost and expenses	\$28,779
Net income (revenues minus expenses)	\$2345

^aPayments due to others from the income of subsidiaries that are majority-owned by Disney, but not 100% owned. Disney is required to include their full revenue, and then has to break out the amount owed to the minority owners, such as to Hearst for its share of ESPN

13.8.3 The Cash Flow Statement

A company's reported earnings uses somewhat arbitrary accounting treatments, such as when to recognize revenues or how fast to depreciate. It is difficult for a potential investor to look beyond those numbers and evaluate the company's true performance. An alternative way to look at a company's health is to go past the reported earnings and analyze instead the cash flow. The *cash flow statement* reports the incoming and outgoing money flow over a time period. This is different from its earnings. As mentioned, it is like a company's checking account because it tracks the inflow and outflow of

its funds. It does not include non-cash items such as depreciation, which are less relevant for determining the short-term viability of a company than its ability to pay its bills and debts. Whereas reported earnings can be overstated, a company cannot easily overstate its cash balance. "Cash is a fact, profit is an opinion." This is important for start-up companies with limited liquid assets. These companies are vulnerable to short-term cash shortages, even when accounts receivable suggest long-term financial health.

The importance of cash flow management can be seen from the experience of two film studios that went out of business because they ran out of money. Orion Pictures was a medium-sized respected film studio that produced such hits as *Silence of the Lambs* and *Dances with Wolves* in the late 1980s.⁷¹ Carolco Studio had huge successes with *Total Recall* and *Terminator 2*. However, the worldwide profit from those hits and other films was slow in coming while the movies' budget costs were huge. Both Carolco and Orion went out of business. The cause was poor cash flow management. By the time the substantial profits from these films were made, the companies were already insolvent.

13.8.4 Cost and Expenses

13.8.4.1 When Cost Is Recognized: Expensing Versus Capitalization

One of the key issues in accounting is how to treat a cost item. We have already encountered this issue repeatedly. Should the cost be considered an *investment* in an asset? (This is known as "capitalization".) Or is it a one time *expense*? (This is known as an "expensing.") If the cost is capitalized, it would be proper to distribute the cost of such an investment over its lifetime. This reduces annual expense and raises profit. By identifying the item as an asset rather than an expense, it also raises the asset/debt ratio, which tends to be a good thing for a company to show. In contrast, an expensing means writing off of a cost right away, which lowers profits, but also reduces tax

71 Boxoffice Mojo. "The Silence of the Lambs." Last accessed July 10, 2017. <http://www.boxoffice Mojo.com/movies/?id=silenceofthelambs.htm>; Boxoffice Mojo. "Dances with Wolves." Last accessed July 10, 2017. <http://www.boxoffice Mojo.com/movies/?id=danceswithwolves.htm>.

payments due. Within rules and accepted practices, firms have to decide on how to treat their costs, either as investments or as expenses.⁷²

In economic and managerial terms, the decision of how to treat the expense should be based on when the benefit from the expense will be realized and for how long. If the benefit of an outlay is reaped entirely in the same period, it should be expensed. But if the outlay is likely to generate benefits in the future, it should be capitalized, and then “amortized” over time.

An example of this problem is AOL, the Internet and outline service provider, which in the 1990s aggressively built up its customer base by sending out free diskettes to attract a subscriber base. The costs that AOL incurred for these diskettes were treated as investment expenditures in generating a subscriber base. Consequently, the expenses were amortized as capital assets. This reduced the early cost of this marketing campaign. Without such treatment AOL would not have shown profits from 1994–1996. The SEC disagreed with this treatment and forced AOL to restate its balance sheet for that period, including expensing the marketing costs, which resulted in the company showing a loss.⁷³

In film and other media, production costs are often expensed. Why should this be the case? After all, if production costs are expensed all at once, it would create a big drop to the production company’s profit-and-loss statement. Later, as revenues start to flow in, the company shows a radical recovery. This kind of erratic income volatility seems to provide erroneous economic information. And yet the immediate expensing of production costs is quite common around the world. One reason is the tax angle. The immediate expensing of a film creates great potential for tax shelters to investors by creating a big loss for tax purposes. Under the tax codes of many countries, investors are able to write off the film production cost as expenses which allow them to offset their income right away while only receiving taxable revenue from the film later. In the USA, the tax reform of 1986 eliminated this tax shelter. But many other countries have these deals in place to provide an incentive for rich taxpayers to invest in films.

For websites, during their development stage infrastructure outlays are generally capitalized. But once the website is in the operating stage, costs must be expensed. New functionalities and upgrades, however, are capitalized. Practically speaking, it is often hard to differentiate between the two. The cost of initial graphics, which includes the design and layout of each page, is capitalized.⁷⁴ The cost for gaining subscriptions is viewed as an expense.

13.9 Managerial Accounting

The standard financial statements that are provided by companies listed on the stock market to the public give only aggregates. In contrast, the company’s managers require much more information to operate effectively.⁷⁵ A system of “managerial accounting” therefore serves managers in their decision-making, policy setting, and internal communication. It is often also called cost accounting, though that term is generally considered a sub-category, focused on analyzing cost and pricing.⁷⁶

On the most obvious level, every company must generate proper recording of financial and operational information, and internal controls exist to ensure that the data is correct and timely. Controls include procedures for authorizing transactions, and for the recording of separate operations. Typically, financial authorization is separated from the accounts payable department.

Beyond the recording function, managerial accountants must recognize emerging financial problems. For example, if they observe a high debt ratio, then this must lead to a close look at imminent loan repayment dates, cash flow, and late payments from buyers. With such information, management can initiate changes to the expense budget, adjust profit/loss projections, cut costs, and perhaps adjust marketing strategies.⁷⁷

72 McGrahan, Kathleen and Gordon Shillingaw. *Accounting: A Management Approach*. Homewood, IL: Irwin, 1993.

73 Litan, Robert E. and Peter Wallison. “Beyond GAAP.” *Regulation* 26, no. 3 (2003): 52.

74 EY. “Internet Accounting Issues: A Summary.” May 2001. Last accessed July 6, 2017. ► <https://www2.bc.edu/peter-dicarlo/MAY%20Summary%20of%20Internet%20Acctg%20Issues%205-2001.htm>.

75 Roehl-Anderson, Janice and Steven Bragg. *The Controller’s Function: The Work of the Managerial Accountant*, 3rd ed. Hoboken: John Wiley & Sons, Inc. 2005, 340–365.

76 Webster, William H. *Accounting For Managers*. New York: McGraw-Hill, 2003.

77 Roehl-Anderson, Janice and Steven Bragg. *The Controller’s Function: The Work of the Managerial Accountant*, 3rd ed. Hoboken: John Wiley & Sons, Inc. 2005, 93–118.

Large companies with a typically decentralized structure require a strong monitoring of performance across divisions.⁷⁸ For such performance evaluation and for control over cost and revenues, a company creates a number of internal financial reporting levels. This is more complicated than it sounds, because there is a lot of intermingling: divisions and sub-units regularly use corporate-level and group-level overhead functions and products.

Another problem is the global spread of company activities. Multinational companies often have divisions and global locations with different accounting practices. They must coordinate to combine in a company-whole system, yet comply with local laws and practices. Local subsidiaries must keep financial accounting systems that follow local regulations as well as company policies. Another dimension of aggregating financial information is across specific customers, often across national boundaries and product lines. To that purpose companies have implemented forms of global account management which has proved to be difficult because it involves data flows from numerous subunits of a company.⁷⁹

13.9.1 Responsibility Center and Profit Centers

To evaluate the performance of a company's division or project it is segregated financially as a "responsibility center." There are three varieties:⁸⁰

- *Expense centers* measure the inputs but not the outputs; for example the legal department. Costs are the inputs and they are measured to determine the efficiency of the department. Managers might compare the numbers with those of operations elsewhere, and look at the trends over time.
- *Investment centers* calculate an operation's profitability by looking at the assets and the profit they achieve. This requires an allocation of common assets to various operations which is often difficult.

- *Profit centers* measure both inputs and outputs. As is the case for investment centers, the revenues include also internal contributions by other departments through the allocation of transfer payments, though the internal "transfer prices" could be arbitrary and affect the results.

13.9.2 Overhead and Indirect Cost

The internal accounting process is complicated by overhead functions that are indivisible and hard to allocate. Examples are interest cost or taxes incurred at the corporate level but attributable to divisional income-producing activities.⁸¹ The allocation of overheads is important in the measuring of the profitability of projects. To allocate cost, a firm separates project-related costs (direct costs) from non-project related costs (indirect costs). Direct cost might include the cost of people and materials specifically used for the project. Indirect cost is the overhead, and includes those not directly associated with projects, taxes, IT, and maintenance beyond the specific project.

For a film production, the fixed cost of the studio that is not directly chargeable to a specific film is considered an overhead, such as taxes, the salaries of management or maintenance staff. The studios estimate a film's overhead by using a percentage of its overall budget.

13.9.3 Transfer Pricing

When goods or services are supplied by one division or profit center to another within the same firm, the price used as "revenue" (to the supplying unit) or "cost" (to the receiving unit) is called a *transfer price*.⁸² Examples would be how much the pay-TV channel HBO, owned by Time Warner Media, would pay the Warner Brothers film studio, also owned by TW, for a TV series which it produced. Similarly, how much would one of Bertelsmann's TV channels pay its Random House book publishing division for the rights to make a film script from one of Random House's books?

78 McGrahan, Kathleen and Gordon Shillingaw. "Accounting: A Management Approach." Homewood, IL: Irwin, 1993.

79 Arnold, David, Julian Birkinshaw, and Omar Toulan. "Implementing Global Account Management in Multinational Corporations." *Marketing Science Institute*. 2000. Last accessed July 10, 2017. ► <http://www.msi.org/reports/implementing-global-account-management-in-multinational-corporations/>.

80 Anthony, Robert N. *Fundamentals of Management Accounting*. Homewood, IL: Richard D. Irwin Inc., 1985.

81 Mellman, Martin, Joseph Kerstein, and Steven B. Lilien. *Accounting for Effective Decision Making*. New York: Irwin, 1995, 298–322

82 Anthony, Robert N. *Fundamentals of Management Accounting*. Homewood, IL: Richard D. Irwin Inc., 1985.

A company's top management must set a policy for transfer prices in varying circumstances. There are several ways to set transfer prices. One is "cost based." Others are "market based," "arms-length," or "regulated" by top management. This is discussed in ► Chap. 11 Pricing of Media and Information.

There can be significant tax consequences to transfer prices, since they can be used to shift profits to low-tax countries. Because of various abuses, the USA has instituted for tax purposes, a "formula apportionment" (FA) method, which makes it harder for a company to manipulate its international tax status. This method requires a company to combine the income of all its subsidiaries into a single taxable income. Income is then apportioned by a formula to the different countries. As a result of this, transfer pricing methods between subsidiaries then cease to be a factor due to taxation.

In addition to using transfer prices to squeeze competitors or to lower taxes, they can also be set up to reward and motivate managers of a division⁸³ by bonuses based on divisional performance. For this a company must create a fair internal pricing system.⁸⁴

Methods a company can use is to allocate profits to the different subsidiaries proportionally to the revenues generated, to the cost expended, or to the value-added (net of the cost of its contribution).

For example, suppose a company's subsidiary A manufactures a DVD for \$6. Subsidiary B obtains it at that cost from A and adds marketing/advertising at a cost of \$4. Subsidiary B then sells the DVD to a retailer at a cost of \$30.⁸⁵

The total profit on this product is \$20. How should the profit be allocated among the two divisions? If the profits were to be allocated proportionally to the cost expended (i.e. 60:40), subsidiary A makes a profit of \$12 and subsidiary B makes a profit of \$8. But if the proportions of

value-added are used, then A gets credited nothing as profit (\$6 minus \$6), whereas B gets credited with a profit of \$20. And if revenues are the base for profit allocations A would receive 1/6 of \$36, since its revenue share is 6/(6+30) of overall profits (\$20), that is \$3.33 while B gets 5/6, that is \$16.67.

If transfer prices are too high, they may result in inefficient use of resources. Suppose Company C, a telecom network provider, has created a global network where national subsidiaries were charging each other to use their particular territorial networks. If they were higher than those of third-party service providers, the subsidiaries would buy the services externally. As a result, C's network would be under-utilized.⁸⁶

Leaving the negotiations over transfer price to divisions to haggle over also creates problems. Suppose company D has encouraged all its subsidiaries to negotiate prices between themselves. As a result a lot of management time is spent on internal discussions over pricing. Large subsidiaries, strong personalities, and those with skills of internal politics might be able to get better terms. To avoid this then leads companies to create "objective" pricing formulas. Yet these, too, have problems.

A problem exists when simplistic formulas are used. Suppose Company E has a transfer pricing policy where services sold by one division to another division should be sold at cost, plus a 10% markup. Suppose that its Division 1 sold the service to Division 2, which, after adding items, sold it on to Subsidiary 3, and so on. Each subsidiary added 10% when passing it on. Consequently end prices finish up well above cost plus, which push that division into losses when it tries to compete.

13.9.4 Tracking Costs

A company must be able to track its costs. This enables the company to compare planned ("budgeted") and "actual" costs, and to determine whether corrective action must be taken.⁸⁷ The

83 Hyde, C. and C. Choe. "Keeping Two Sets of Books: The Relationship Between Tax and Incentive Transfer Prices". *Journal of Economics and Management Strategy* 14, no.1 (Spring 2005): 165–186.

84 In one survey, 89% of companies reported that they used the same transfer prices for both tax and incentive purposes. However, studies have shown that companies often create two different transfer prices. Hyde, C. and C. Choe. "Keeping Two Sets of Books: The Relationship Between Tax and Incentive Transfer Prices". *Journal of Economics and Management Strategy* 14, no.1 (Spring 2005): 165–186.

85 Feinschreiber, Robert. "Transfer Pricing Methods." Hoboken: John Wiley & Sons, Inc., 2004, 1–61.

86 KPMG. "Transfer Pricing for the Telecommunications Industry." 2006. Last accessed June 20, 2007. ► <http://www.kpmg.ca/en/industries/ice/documents/TransferPricingForTelecomIndustry.pdf>.

87 Schroeder, Roger G. *Operations Management*. New York: McGraw Hill, 1981, 339.

techniques of cost tracking depend on the nature of a firm's product. Where the product is diverse and discrete, such as a movie, a *job* (project) costing approach is used, in which direct costs such as materials and labor (plus a share of overhead and indirect costs) are attributed to each project.⁸⁸ In contrast, firms with repetitive production of uniform goods use a *process* costing in which the total cost is divided by the number of units to obtain a unit cost. An example is a cable TV service.

Standard costing is often used to enable rapid feedback on cost. Costs are estimated ("standard costs") and periodically compared with actual costs. Where there are major discrepancies they are flagged for attention and action. This kind of a system is used for film production.

13.10 Capital Accounting and Budgeting

Capital budgeting is the process of selecting and monitoring capital expenditures.⁸⁹ It is the planning process a firm uses to estimate and calculate its long-term, capital investments. Such investments may include asset purchase, infrastructure and plants, R&D projects, advertising campaigns, and other projects that require capital expenditure and whose cash inflows are in the future.

Several interrelated evaluation techniques are used in capital budgeting⁹⁰ in order to select projects for investment. They include net present value, internal rate of return, ROI, the hurdle rate, and the payback period.

We discuss these approaches in other chapters, in particular those of ► Chap. 4 Technology Management in Media and Information Firms, ► Chap. 6 Financing Media, Information, and Communications, and ► Chap. 14 Strategy Planning in Media and Information Firms.

13.11 Information Technology in Accounting

13.11.1 Management Information Systems

Corporate accounting was always at the leading edge of business application of computer technology. This made sense: there are lots and lots of transactions, major number crunching, and fairly well structured procedures. In 1955 the major accounting firm Arthur Anderson computerized the payroll of a client, a GE plant, using a UNIVAC I mainframe computer. Thus started the age of business information systems.⁹¹

The large accounting firms used large mainframe computers to assist their clients. Soon they discovered that such services and the associated IT consulting were a highly profitable additional service to their auditing clients. As mentioned, after 2003, however, in the face of mounting public and government outcry, they had to divest their consulting business from the public accounting services provided to the same companies.

Initially, accounting software focused on automating routine financial transactions such as the payroll. Soon, it added managerial elements, which became "management information systems" (MIS). This enabled speedy data collection, aggregation, and the distribution of financial information, which led to faster and better informed decisions. A major advance in the application of IT to accounting was the introduction of spreadsheet software.

13.11.2 Enterprise Resource Planning Systems

Enterprise resource planning systems (ERP) are software packages that integrate business functions. Its functions include accounting for financial transactions (including accounts payable, accounts receivable, cash receipts and disbursements, and general ledger functions) and inventory control (including material requirement planning and manufacturing control modules) of the functions it plans.

88 Wild, Ray. *Production and Operations Management*. Andover, U.K.: Cengage Learning, 1989, 93.

89 Garrison, Sharon. "Capital Budgeting." *Self-Paced Overview*. Last accessed July 10, 2017. ► <http://www.studyfinance.com/lessons/capbudget/?page=01>.

90 Garrison, Sharon. "Capital Budgeting." *Self-Paced Overview*. Last accessed July 10, 2017. ► <http://www.studyfinance.com/lessons/capbudget/?page=01>.

91 Kee, Robert. "Data Processing Technology and Accounting: A Historical Perspective." *The Accounting Historians Journal* 20, no. 2 (December 1993): 187–216.

ERP integrates the computer functions across a company. Instead of each department having its own software and database, one piece of data (and software) is capable of using a shared data system across many departments.⁹²

ERP has been important to the data operations within the firm and was also a step in the standardization of data collection formats across different firms.⁹³ This started with electronic data interchange (EDI) for the exchange of financial data and documents between the computers of different organizations according to standardized rules. EDI permits exchange of a large volume of data, reducing the paperwork or repetitive inputting of data. It facilitates, for example, export–import transactions that tend to be document-intensive. As mentioned in ► Chap. 11 Pricing of Media and Information, traditional EDI was based on closed networks set up and controlled by large companies with its suppliers and dealers, or by industry groups. It focused on highly repetitive business-to-business transactions. The various EDI systems were incompatible within an industry and across industries. In time, however, integration took place. EDI specifications were set more broadly by industry associations and key companies for their suppliers/dealers. (The main standards are EDIFACT in Europe, and ANSI X.12 in the USA.)

Soon, EDI migrated to the Internet, with low-price EDI software packages available. A further step was the emergence of XBRL (Extensible Business Reporting Language) that is a web-based universal business data reporting system and format that allows users to extract financial information. Its uniform format permits the easy exchange of financial information within company and suppliers, buyers, and so on. This helps small businesses. In 2008, the US securities regulatory agency

SEC released rules controlling the use of XBRL by financial institutions.⁹⁴ XBRL emerged as the global standard for business and financial data communications.⁹⁵

13.11.2.1 Real-Time Accounting

Traditional paper-based systems could produce reports only on a periodic basis—quarterly or yearly. It was too costly and unwieldy otherwise. Electronic systems could provide more frequent snapshots. Taking a further step gets to “real-time accounting” (RTA), which is now economically feasible and provides up-to-the-minute information along several dimensions. RTA can track and match revenues and costs at the time they were incurred and enable faster monitoring of business activities and performance such as production and inventory. RTA allows management to adapt quickly to opportunities and address problems. However, one must not succumb to hype. Some business processes can be easily monitored in real time but other processes cannot, because they have longer cycles such as big orders and special transactions. Certain cost items are periodic and not in real time.⁹⁶ Examples are corporate income taxes.

RTA often displays its information in “dashboards” on computer screens. A dashboard is a visual interface that shows a company’s major performance indicators in real time. A dashboard displays present, past, and trend predictions. It presents information in visual and intuitive ways, which helps analytic research and managerial decisions.⁹⁷ Its displays include pie-charts, bar-charts, graphs, gauges, and maps. For example, a dashboard may show the effectiveness of different marketing types (e.g. the ROI of a website, direct mail, and discount coupon approaches) and the revenue for different marketing campaigns.

92 Koch, Christopher. “ABC: An Introduction to ERP.” *Enterprise Resource Planning Research Center on Cio*. January 10, 2006. Last accessed July 10, 2017. ► <https://www.scribd.com/document/41999156/ABC-An-Introduction-to-ERP>.

93 Drury, Colin. *Management Accounting for Business*. London: Thomson, 2005.

94 U.S. Securities and Exchange Commission. “Office of Structured Disclosure.” Last accessed July 10, 2017. ► <http://xbrl.sec.gov/>.

95 Willis, Mike. “Corporate Reporting Enters the Information Age.” *Regulation Magazine*. (Fall 2003): 56–60.

96 Rezaee, Zabihollah, William Ford and Rick Elam. “Real-Time Auditing Systems.” *The Internal Auditor* 57, no. 2 (April 2000).

97 Dundas Data Visualization Inc. “The Dashboard Demystified.” 2012. Last accessed June 21, 2012. ► http://www.dundas.com/dashboard/resources/articles/dashboard_demystified.aspx.

13.12 Conclusion

13.12.1 Case Discussion

Disney—Conclusion on Its Accounting Practices

How does our review of Disney's accounting practices add up? Did Disney really do as well financially as management reported? Or did it try to make a beleaguered leadership team look good? Do we find misstatements or major manipulative methodologies that are illegal?

Disney engaged, within industry practices, in accounting practices vis-à-vis its project investors and participants which could confuse an inexperienced author or actor. But in such deals, experience by all partners or their representatives is expected.

Its pro forma statements were trying to paint a more positive picture than GAAP-based financial accounting, by almost \$6 billion. This was mostly based on a series of one-time events. Interpreting the pro forma would have been difficult for a normal investor.

Disney handled its auditors PwC correctly by severing its non-auditing earlier than most companies. No major disagreements with PwC have been reported.

Disney has not been subject to an accounting scandal, like many other media firms did not engage in a major write-down of assets in the way that other major media companies such as Time Warner, Viacom, and News Corporation had to. Disney was not directly involved in improper backdating stock options, though its largest shareholder, Steve Jobs, and its acquired company, Pixar, was investigated and their transaction found in violation.

Disney shifted some of its debt off its balance sheet, in particular for theme park subsidiaries, and also for film production projects and broadcasting rights. This debt was not transparent to regular

investors but was within the law and industry practices.

Disney publishes an excellent annual "social accounting" report with quantified targets and performance and substantiations.

Legal but in the nature of "accounting to persuade" were the treatments of reserve and amortization of its acquisition of the ABC network the debt of partly owned subsidiaries, and the recapitalization of future earnings.

In conclusion, the accounting figures show Disney performed successfully in financial terms in the period under CEO Eisner, in contrast to its performance in HR management, as detailed in ► Chap. 5 Human Resource Management for Media and Information Firms, Disney's problem was people management, not financial management.

13.12.2 Conclusions on Accounting in Media

In this chapter we covered:

- How media and media tech companies gather and report financial information to partners, investors, and governments;
- How investors and partners need to analyze financial reports;
- How companies use accounting information to run their business;
- The impact of new IT technology on accounting information and on management control over operations.

The monitoring of economic performance for information products has been especially difficult in the past because of unclear cost, uncertain revenues, disconnect of cost/price, and frequent regulation.

Accounting is an amazing tool for measuring the state of a complex organization (with

numerous operations, people, supplies, customers). There is nothing like it. It enables companies to develop new models for their organization such as expansion, decentralization of operations, but also centralization of control and real-time control.

Accounting as a "science" is being strengthened as a result of technological tools, as well as by the increased needs for internal control in complex organizations, by the political pressure fueled by recurring scandals, and by the rising demands for information by institutional investors. This raises the role of accounting as a "science".

When RTA information is readily available to managers, can it be denied in the long run to investors? When more information on the financial performance and state of a firm, a division, or a project becomes instantly accessible to managers but is reported only on a highly aggregated basis at long intervals to investors, will such knowledge remain internal? And when information technology is pervading the economy and society,

companies can measure themselves, and will be measured by the outside world, along dimensions that are not only narrowly financial.

Thus, the gap between financial accounting and managerial accounting will narrow, as will the difference between conventional accounting and social accounting. There will be more demands for transparency, and the accounting profession will be its guardians and fiduciaries. To reconcile such transparency with effective management is the challenge for business executives.

13.13 Review Materials

Issues Covered

We have covered in this Chapter the following issues:

- How accounting has developed over the years;
- What function accounting has for companies of different size;
- How the special circumstances of the media and technology sector affect the basics of accounting, and vice versa;
- What the five sets of accounting books are;
- How to define profit;
- How to depress profits by accounting procedures;
- How to apply royalty calculations to books and music;
- How to manage profit participation for limited partnerships;
- How profit participants can protect themselves;
- How to interpret pro forma elements of business results;
- What the role of auditing is;
- How accounting is regulated by the government;
- How to use and read financial documents;
- How to measure a company's ability to pay long-term debts;
- How to use of ratios and metrics to analyze a company;
- How to use non-financial metrics to evaluate company performance;
- How to apply social accounting;
- How to approach valuation of media properties;

- How to read a balance sheet;
- How to evaluate and treat intangibles in accounting;
- How to amortize and depreciate intangible assets;
- How to deal with write-offs;
- How to treat R&D expenditures;
- How to treat stock options;
- What the role of the income and profit statement is;
- How EBITDA and other profit measures are defined;
- How to interpret cash flow statements;
- When to expense and when to capitalize;
- How to apply managerial accounting;
- What the roles and limits of information technology are in accounting;
- How information technology is used in accounting.

Tools Covered

- Balance sheet analysis;
- Income statement analysis;
- Cash flow analysis;
- Liquidity ratios;
- Solvency analysis;
- Royalty calculation and profit participation;
- GAAP and IFRS accounting principles;
- Pro forma statements;
- Investor protection tools and red flags;
- Leverage ratio;
- P/E ratio;
- Operating ratio and operating margin;
- Return on assets;
- Return on investment;
- Rate-of-return methodology;
- Operating ratio and operating margin;
- Social accounting;
- Stock options;
- Valuation of assets;
- Valuation of intangibles;
- Capitalization vs expensing;
- Write-offs and write-downs;
- Depreciation and amortization;
- Depressing of accounting profits;
- Profit accounting;
- Profit and loss statement;
- EBITDA;
- Responsibility and profit centers;

- Overhead allocations;
- Transfer pricing;
- Cost tracking;
- Capital accounting and budgeting;
- MIS, ERP, RTA, XBRL.

13.13.1 Questions for Discussion

1. How can one value a cable television company?
2. Artists and film studios often argue about profit participation. What are the main accounting issues at stake? What are alternative solutions?
3. XYZ, a TV network, has produced a hit TV show, *My Brother and I* that it wants to put into syndication. How can the network account for this show?
4. Discuss the pros and cons for using EBITDA to value a film company.
5. Describe the coordinating stage of a media company's capital budgeting process.
6. If the tax authority IRS were to end its practice of not charging tax on earnings for which tax has already been paid in other countries, but instead treated such tax as a business expense, what would the effect on media companies be?
7. If it is known that a very high percentage of a company's assets are intangible, what would be the best approach to valuing the company?
8. Explain why some companies, like Disney, have a high *P/E* ratio.
9. Discuss the ways media and technology companies differ from other industries in how they amortize their major assets.
10. How would a General Partner in a limited partnership go about depressing its earnings to decrease profit payout? What can the limited partners or profit participants do to protect their interests?

13.13.2 Quiz

1. What is Extensible Business Reporting Language (XBRL)?
 - A. Web-based format that allows users to extract financial information easily;
 - B. Computer language companies use to report errors;
 - C. Specialized modification of JAVA;
 - D. Language used by FASB while they audit companies.
2. How do a company's employee stock options affect a worker's productivity?
 - A. It decreases productivity;
 - B. It increases productivity;
 - C. It increases and decreases productivity;
 - D. It does not affect productivity.
3. Why do net profit participants of films often not receive any royalties?
 - A. Studios spend all profits paying for failed movies;
 - B. Gross profit participants push up the break even point;
 - C. Few movies generate profit in general.
4. Which responsibility center is best for decentralizing the organization?
 - A. Expense center;
 - B. Profit center;
 - C. Investment center;
 - D. All of the above.

- 13
5. What is a pro forma?
- A company's statement of cash reserves and credit;
 - A company's statement of profits and losses;
 - A company's balance sheet;
 - A modified balance sheet intended to highlight the positive developments that the company has made in the past quarter;
 - A modified balance sheet intended to portray the company's real condition by excluding unusual and non-recurring transactions.
6. Intangible assets include:
- The firm's reputation;
 - A firm's borrowing capacity;
 - Depreciated capital assets;
 - Manufacturing facilities.
7. The difference between a company's book value and market value is:
- Debt;
 - Long-term assets;
 - Goodwill;
 - Shareholders' equity.
8. Some features of enterprise resource planning (ERP) include:
- Materials management;
 - Sales and distribution;
 - Production planning;
 - All of the above.
9. Which of these would not be included in a market based evaluation of intangible assets?
- An active public market;
 - Arms-length transactions;
 - An exchange of comparable products;
 - The market index of all assets within the industry.
10. Which of these would not be included in a media company's capital budgeting process?
- Monitoring reports of the company's current financial health;
 - Preparing reports for investors of the company's cash flows;
 - Coordinating inter-departmental budgeting;
 - Evaluating the viability of a new network infrastructure.
11. What is/are the special aspects of media accounting?
- Huge capital investments and depreciation;
 - Rapid obsolescence and price decline of assets;
 - Highly regulated;
 - All of the above;
12. It is not always advantageous to employ real-time accounting because:
- It becomes harder to monitor business activities;
 - It is economically unfeasible to maintain;
 - Certain processes have longer cycles;
 - It does not give investors sufficient warning.
13. Disney is considering making a new Hannah Montana CD. Disney determines that the fixed cost to produce the CDs is \$400,000 and that it can produce the CDs for \$2. It also concludes that a reasonable price for the CD is \$10 each. How many CDs must Disney sell in order to break even?
- 10,000;
 - 50,000;
 - 15,000;
 - 100,000;
 - Disney cannot break even with this venture.

13.13 • Review Materials

14. What is the purpose of managerial accounting?
- Provide information for decision makers outside of the company.
 - Provide information for internal management.
 - Calculate a firm's tax liability.
 - Distribution of profits.
15. What of the following is not a measure of media companies to understate profits?
- Exclusion of revenue streams.
 - Allocate high costs to overhead expenses.
 - Set a low percentage for depreciation.
 - Charge high internal transfer prices.
16. Which term is not usually used to express "profit"?
- Income.
 - ROI earnings.
 - Margin.
 - All of the above.
17. How are assets typically valued?
- Acquisition cost.
 - Appraisal.
 - Fair market value.
 - Comparative pricing with similar assets.
18. What is a type of responsibility center that aims to calculate an operation's profitability based on inputs?
- Expense center.
 - Investment center.
 - Profit center.
 - Revenue center.
19. Which ratio is used to measure a company's ability to pay current liabilities with current assets?
- Debt to Equity Ratio.
 - Current Ratio.
 - P/E Ratio.
 - Operating Ratio.
20. How can profit participants protect themselves from being undercompensated?
- Make sure that all contract terms are clearly defined.
 - Conduct sufficient due diligence on the counterparty.
 - Obtain all promises in writing and in contracts.
 - All of the above.
 - A and C only.

Quiz Answers

- ✓ 1. D
- ✓ 2. D
- ✓ 3. B
- ✓ 4. D
- ✓ 5. E
- ✓ 6. A
- ✓ 7. D
- ✓ 8. C
- ✓ 9. D
- ✓ 10. B
- ✓ 11. C
- ✓ 12. C
- ✓ 13. B
- ✓ 14. B
- ✓ 15. C
- ✓ 16. D
- ✓ 17. A
- ✓ 18. A
- ✓ 19. B
- ✓ 20. D



Strategy Planning in Media and Information Firms

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14.1 Introduction

In past chapters, we have dealt with the optimization of sub-functions of media organizations, such as production, marketing, and distribution. This chapter shows how an information sector firm sets strategy, taking account of all of these elements. Strategy, of course, has been a popular topic. But what exactly is it? Strategy is an organization's plan or decision pattern to achieve desirable goals with available means. It is intended to have long-term consequences, in contrast to "tactics" which generally have short-term consequences and outcomes that are more limited.

At the end of this chapter you will have learned about:

- The process of strategy setting;
- Theories and tools of strategy;
- The basic strategy options for information and media sector firms.

14.1.1 What Is Different About Strategy Setting in Information Sector Industries?

Media and information businesses are faced with several particular issues. These include, as previously noted:

- Especially high uncertainty;
- Price deflation;
- High economies of scale;
- Extensive intangible assets;
- Convergence of industries and technologies;
- Fickle consumer demand and a short shelf life of products and processes;
- Hit dependency/winner-takes-all markets;
- A strong role of government.

Perhaps the main factor for strategy is the particularly rapid technological change in this sector. The media and information sector is subject to radical disruption. Joseph Schumpeter, the Austrian economist of the early twentieth century, spoke of "creative destruction"—with innovation bringing about the demise of established companies.¹ The information sector is especially "Schumpeterian"

since it is at the leading edge of rapid technological change and its absorption into products, applications, business models, and industries. As a result of rapid change and high uncertainty, the media and information sector has been full of blunders. Tactical misjudgments abound, with 60–80% of books, music, or films ending up as financial failures, and only 10% being even modestly successful. But more significant are the *strategic* misjudgments, many of which have been fatal.

When Western Union, then the world's largest private corporation and the dominant telegraph company, was offered the patents to the telephone by Alexander Graham Bell for a mere \$700,000, it turned down the deal as too expensive. It never recovered from its short-sightedness.

When television broadcasting emerged, Darryl Zanuck, the famed studio chief of the Hollywood studio 20th Century Fox, opined:

- » "[Television] won't be able to hold on to any market it captures after the first six months. People will soon get tired of staring at a plywood box every night."²

It was Zanuck's own media industry, however, that people were getting tired of. Hollywood went into a tailspin. Fox's revenues declined by 80% within a few short years.

When computers started to become smaller than room-sized mainframes, Ken Olsen, President of DEC, at the time the world's second largest computer maker and the leader in mini-computers, declared that "there is no reason anyone would want a computer in their home." But of course, the use of personal computers rose enormously a few years later while mini-computers faded. Olsen's company, near bankruptcy, was acquired by a rival.

Just as business leaders were mistaken even about their own industry, distinguished academics were far off the mark. We observed earlier how one eminent physicist (Sir Ernest Rutherford) spoke of those scientists expecting a splitting of the atom as "talking moonshine" while another (John von Neumann) went in the opposite direction, predicting a future where nuclear-generated

¹ Schumpeter, Joseph A. *Capitalism, Socialism, and Democracy*. Philadelphia: Taylor & Francis, 2003. (original edition 1942).

² Pogue, David. "Use It Better: The Worst Tech Predictions of All Time." *Scientific American*. January 18, 2012. Last accessed July 13, 2017. <https://www.scientificamerican.com/article/pogue-all-time-worst-tech-predictions/>.

electric power was “too cheap to meter.” More recently (2007), Clayton Christensen, an academic business guru and author of the bestselling book *The Innovator’s Dilemma*, commented on Apple’s soon-to-launch iPhone:

» “But the prediction ... would be that Apple won’t succeed with the iPhone. History

speaks pretty loudly on that, that the probability of success is going to be limited.”³

Yet in 2011 the iPhone had a market share of 15% in the world-wide smartphone market, with a compound annual growth rate of 18.8% in the subsequent four years. Apple brought in over 50% of all global profits in the handset market.⁴

14.1.1.1 Case Discussion

Comcast

Comcast is the world’s largest cable company. In 2017 revenues were \$84.5 billion and its net profits were \$22.7 billion. It has approximately 29.3 million cable as well as broadband Internet subscribers. The company’s headquarters are in Philadelphia, and it is controlled by the Roberts family. In 2003, when Comcast was still medium-sized and regional, it acquired the much larger AT&T Broadband. Comcast provides services for about 26% of the US cable television market. US Government regulations cap the permissible market share at 30% of cable services. Comcast is the third largest telecommunications provider in America, using its cable TV distribution network to provide phone service, too. In 2011 it bought NBC Universal with its TV and cable networks and Hollywood movie studio. In contrast, the second largest cable multiple system operator (MSO) around that time, Time Warner, had a strong content role, which included the well-established cable TV channels CNN, TNT, TBS, HBO, Cinemax, Cartoon, and others. But in 2009, Time Warner spun off its cable distribution arm into an independent company, Time Warner Cable. It also split off its magazine, music, and telecom operations, and became essentially a pure content company in films and TV.

Comcast, however, went the opposite way, and aimed to become a major vertically integrated platform and content company. In 2004, it made a bid for Disney, but this attempt failed. In 2009, Comcast was back and bought NBC Universal, which owned the “big-4” TV network NBC. The merger was approved in 2011 after considerable regulatory controversy.

Thus, Comcast became in the USA the number one cable MSO (market share 26%), the number two broadband ISP (18%), as well as a top broadcast TV company (12.8%), and the number three provider of cable TV channels (11.4%), telecom voice service (5.6%), and theme parks (operating in eight countries). It ranks third as a TV program and film producer and distributor (9.8% and 10.4% respectively).

Comcast was not finished, however. In 2014, it announced the acquisition of Time Warner Cable, the second largest cable firm in the USA. The deal was challenged as anti-competitive, and eventually Comcast gave it up in 2015. But having signaled its ambitions for expansion.

In 2018, it made an unsuccessful bid for much of Rupert Murdoch’s media empire, 21st Century Fox, topping Disney’s initial rival

offer. It would have acquired Fox’s film studio, TV network, global satellite broadcasting operations, and share in the online platform Hulu. It would become the world’s largest media content company, with \$112 billion in annual revenues. As the next move, Comcast tried to buy control of Sky, Murdoch’s UK-based satellite broadcaster, Europe’s largest pay-TV provider.

What then should Comcast’s strategy be for the next decade? How should it identify opportunities in content, platforms, technology, globalization, diversification, and marketing? How should it deal with threats such as satellite TV, cord-cutting, online video, and mobile video?

According to the *Wall Street Journal*, Comcast has been “torn between two groups of shareholders—those who like management’s ambitious plans to conquer new markets, and those who want the company to return more cash to investors through dividends and stock repurchases.”⁵

The questions for discussion are then: How does a company such as Comcast structure its decision process to define and refine its strategy? What are Comcast’s main generic strategy options? And what is the thinking process that must go into identifying its options and selecting the best ones?

3 McGregor, Jena. “Clayton Christensen’s Innovative Brain.” *Business Week*. June 15, 2007. Last accessed July 11, 2017. ► <https://www.bloomberg.com/news/articles/2007-06-15/clayton-christensens-innovation-brainbusinessweek-business-news-stock-market-and-financial-advice>.

4 The Economist. “Blazing platforms.” February 10, 2011. Last accessed July 11, 2017. ► <http://www.economist.com/node/18114689>.

5 Anders, George. “Comcast Wins Skirmish, Girds for War.” *The Wall Street Journal*. February 20, 2008. Last accessed July 11, 2017. ► <https://www.wsj.com/articles/SB120346320004678295>.

14.2 Theories and Tools of Business Strategy

“Business strategy” has become a trendy yet vague topic. It is important yet difficult to analyze a company’s optimal path in a “hard” or quantitative way. Because there are few analytic models and fewer testable hypotheses, this field has been full of contending schools of thought, some of them conceptual, others numbers-driven, and still others simply spouting the latest buzzwords.

Management is caught in the middle. How does one determine the “best strategy” for an organization? The basic problem for strategy theory and application is that there are so many variables in the real world. Managers, however, want simple rules of thumb for decisions. This has led to a plethora of single-factor strategic rules, which emphasize a key variable such as cost reduction, quality, barriers to entry, scale, and export-orientation. All of these factors are correct under the right circumstances, and some may be achieved jointly. But there is no easy way to test the consistent importance of one factor or cluster over another.

14.2.1 Basic Strategy Perspectives

A number of theories and approaches have therefore arisen to help managers make strategic choices. There have been several stages, as follows.

14.2.1.1 The Business Policy Approach to Strategy (1950s–1960s)

The “business policy” approach to strategic thinking originated at Harvard Business School in the late 1950s.⁶ It combines strategy and corporate responsibility, from the perspective of the general manager as the leader. The main thought leader was Kenneth Andrews and was supported by a mandatory MBA “Business Policy” course, a capstone course rather than a foundation class, which then spread to many business schools. The fundamental questions of the business policy approach were:

- How do firms behave?
- Why are firms different?

6 Evans, Philip. “Strategy: The end of the endgame.” *The Journal of Business Strategy* 22, no. 6 (November/December 2000): 12–16; Mintzberg, Henry. *The rise and fall of strategic planning*. New York: Free Press, 2004; Mintzberg, Henry. *Managers, not MBAs. A hard look at the soft practice of managing and management on development*. San Francisco: Berrett-Koehler, 2005.

		Helpful To achieving the objective	Harmful To achieving the objective
Internal Origin (attributes of the organization)		Strengths	Weaknesses
External Origin (attributes of the environment)		Opportunities	Threats

Fig. 14.1 SWOT analysis

- What is the value-added of the headquarters unit?
- What determines success in international competition?

The approach has no theoretical analysis but includes several descriptive tools, in particular “SWOT” analysis (“strengths, weaknesses, opportunities, and threats”).⁷ There is nothing particularly revelatory in this matrix (Fig. 14.1), or in other similar tools. But it provides a way to systematize the choices that a management team faces.

A SWOT analysis identifies in a simple way strengths and problems. Factors are ordered in two dimensions. The vertical axis distinguishes external and internal factors. These can be either helpful or harmful, as categorized by the horizontal axis. Where an internal factor is helpful it identifies an organizational strength. Where it is harmful it describes a weakness. External factors are those that are less under the firm’s control such as the market, government, and technology trends. They are either opportunities or threats.

14.2.1.2 Case Discussion

The matrix does not identify a particular strategy for Comcast but it organizes its opportunities—which are enormous and whose magnitude could be estimated—as well as the strengths it has at its disposal to seek them out. It also identifies threats and weaknesses, which might also identify a strategic priority that must be taken to alleviate them or to turn them around into an opportunity and strength. The

7 Stewart, Matthew. *The Management Myth*. New York: W.W. Norton & Company, 2009. This thoughtful and informative book has been an important source for this chapter.

limitation of the SWOT analysis is that it is basically a list, not a methodology. But it functions as an external scan and internal self-analysis, and helps to identify priorities and barriers.

Comcast—SWOT Analysis

Comcast's strengths, weaknesses, opportunities, and threats are listed in Table 14.1 below.

14.2.1.3 Game Theory

Also during the 1960s, other analysts developed a very different style of strategic analysis: game theory. Originally this approach was adopted by military strategists, in particular for conceiving Cold War nuclear responses. Soon, it was also used for corporate strategy, to analyze the behavior of rival firms in an oligopolistic market as a set of moves and countermoves. Among the tools of this approach are: the “zero-sum game,” where one party’s gain is another party’s loss; the “prisoner’s dilemma,” which describes a situation where in the absence of collaboration everyone loses; and the “battle of the sexes,” in which coordination is sought in the absence of communication. This is further discussed below, as well as in ► Chap. 11 Pricing of Media and Information.

14.2.1.4 Competitive Analysis (1970s)

The competitive analysis approach is associated with Igor Ansoff, Bruce Henderson, and Michael Porter. It focuses on a company’s competitive position versus its peers along various metrics, and helps management to determine its competitive edge. Igor Ansoff, an American-born mathematician and business analyst who grew up in Russia, published in 1965 the book *Corporate Strategy* which quickly became a classic. To assist planners in selecting the appropriate mix of products and markets, Ansoff supplied a set of strategic planning tools. These tools included graphic “eye candy”: matrices, charts, pie charts, radar charts, x-y or z charts, Venn diagrams, time lines, boxes, and organizational charts.⁸

Following Ansoff’s exhortations, hundreds of firms formed strategic planning departments. Consultancies sprang up, exemplified by the Boston Consulting Group (BCG). The then tiny firm’s partners met to discuss their future, and brainstormed how to differentiate themselves from large established consultancies. As the story goes, at a certain point in the discussion, Bruce Henderson, the founder, suggested a focusing on “business strategy.” When others objected that this was too vague, Henderson replied: “That’s the beauty of it, we’ll define it.”⁹ BCG grew from

Table 14.1 Comcast SWOT analysis

Strengths	Weaknesses
Strong balance sheet Diversified revenue streams Deep pockets Strong management Local market power in multichannel TV Success in broadband Vertical integration with content	High investment requirements No mobile presence Limited international presence Not a tech company
Opportunities	Threats
Online migration of media and commerce Demand for faster broadband connectivities Opening of other countries National and rural programs for network upgrade Internet of Things opportunities Data mining applications Tele-commuting, tele-medicine, e-education, and other applications	Market saturation Competition from other platforms and content providers New product innovation Consumer migration to online cloud services Merger opposition Cord-cutters Net neutrality regulations Privacy regulations Set-top connectivity regulations

8 Stewart, Matthew. *The Management Myth*. New York: W.W. Norton & Company, 2009.

9 Stewart, Matthew. *The Management Myth*. New York: W.W. Norton & Company, 2009.

12 consultants in 1965 to –6200 in 2017. To meet BCG’s competition, the established consulting firm McKinsey reinvented itself as a “strategy consultancy” firm. BCG became known for its 2×2 matrix that categorizes operations into “stars,” “dogs,” “cash cows,” and “question marks.” (This will be discussed further below.)¹⁰

Intellectual leadership in strategic management analysis was next provided by Michael Porter. As a cross-departmental doctoral student, Porter noticed that his Harvard Business School professors had no formal approach to strategy but relied on a case-study approach without useful generalizations. On the other hand, his professors in the economics department used generalizations and theoretical models, but in the wrong direction, as Porter concluded. They aimed to help make markets more efficient, which meant that there would be no profits above a “normal” (i.e. low) rate. Porter now upended such economics and called it “strategy.” Instead of seeking public policies to *reduce* market imperfections that cause excess profits, he advocated that firms precisely *create* and defend such market imperfections in order to generate excess profits. A company with protection by market imperfections has a “sustainable advantage.” Porter identified four generic strategies, which boil down to two basic ones:

- Trying to prevent the successful entry of competitors;
- Differentiating the product and the market.

There are general steps a company can take to create a competitive advantage:

- Invest in research and development to patents and other proprietary know-how;
- Engage in marketing activities to generate a “lock-in” that makes it difficult for its customers to seek alternatives;
- Create economies of scale that enable low cost production;
- Focus on differentiating brand reputation, visibility, and often quality;
- Develop strong government relations with the aim of making competitors’ entry harder;
- Stand ready to cut prices to deter rival entrants.

10 While the “BCG box” is popular with managers, academic studies are skeptical as to its advantages. One study of 129 firms that used the model found they had below average shareholder returns. Slater, Stanley F. and Thomas J. Zwirlein. “Shareholder Value and Investment Strategy Using the General Portfolio Model.” *Journal of Management*. December 1, 1992. Last accessed July 11, 2017. ▶ <http://journals.sagepub.com/doi/abs/10.1177/014920639201800407>.

14.2.1.5 The Core Competencies Approach (1980s)

The competitive analysis approach of Porter and his followers was challenged in the early 1980s as not being sufficiently explanatory. Japan’s competitive success, for example, could not be explained by that perspective, which advised a firm to seek market advantages either by low price or by high quality, but not by both. Yet Japanese car manufacturers created a production system that reduced waste and inventory, resulting in high quality and low cost cars. A main critic of the Porter analysis was Henry Mintzberg of McGill University.¹¹ Mintzberg, by background a mechanical engineer, looked at firms as they concretely operated, not as an economist’s abstract black box. What are their strengths and weaknesses? His “core competencies” approach advocated the development of skills, knowledge, assets, and technologies, and then to combine these elements in seeking opportunities. This approach suggested a transition away from Porter’s market structure orientation in favor of developing internal strengths. MIT professor Birger Wernerfelt introduced a related approach called the “resource-based view” (RBV) in 1984. Resources are the assets of a firm and which are valuable, rare, and hard for competitors to match.^{12,13} A core competency can then be bundled with other elements where the firm has no particular competitive advantage.

In media industries, core competencies may lie in a number of areas: the creation of content; the distribution platforms; the access to financing; the mastery of advanced technology; superior design; effective marketing; or the proximity to government. For many years, a core competency that gave Sony sustainable competitive advantage in consumer media devices was its strength in miniaturization. Since the 1950s, Sony built whole categories of products based on miniaturization skills: pocket-sized portable AM radios, Walkmans, and Discmans.¹⁴

11 Evans, Philip. “Strategy: The end of the endgame.” *The Journal of Business Strategy* 22, no. 6 (November/December 2000): 12–16.

12 Gary Hamel and C.K. Prahalad extended RBV in their 1990 article “The Core Competence of the Corporation.” A good core competence should be difficult for competitors to duplicate. Ideally, it would be complex, hard to identify from the outside, durable, and non-substitutable. Hamel, Gary and C.K. Prahalad. “The Core Competence of the Corporation.” *Harvard Business Review*. May–June 1990. Last accessed July 11, 2017. ▶ <https://hbr.org/1990/05/the-core-competence-of-the-corporation>.

13 Petts, Nigel. “Building Growth on Core Competences – a Practical Approach.” *Long Range Planning* 30, no. 4 (1997): 551–561.

14 Boyd, Charles. “Assessing Strengths and Weaknesses: Doing an Internal Analysis.” *Columbia Institute for Tele-Information*. Last accessed July 11, 2017. ▶ <http://www.citi.columbia.edu/B8210/read29/Boyd.pdf>.

For another large media company, Disney, core competency is to create unique and likable cartoon characters and to market them in multiple ways. The *Lion King* is an example of how Disney managed to extract value from the character in film theaters, home video, music soundtracks, musicals, product merchandising, and theme parks. For Disney, revenues from toy sales for *The Lion King* were two to three times larger than the film revenue.

A company can develop core competencies by¹⁵:

- Identifying its key abilities and leveraging them;
- Benchmarking itself with other companies;
- Understanding what its customers truly value;

- Encouraging core capability development throughout the company;
- Protecting core strengths, especially as the company expands;
- Outsourcing or divest non-core capabilities, and focusing on activities that deepen core capabilities.

The problem with the core competencies approach is that in a dynamic environment of media and technology it is difficult to sustain a non-imitable and unusual capability in any resource. Also, such an analysis is less applicable to start-ups without a track record and without rivals for comparison.

14.2.1.6 Case Discussion

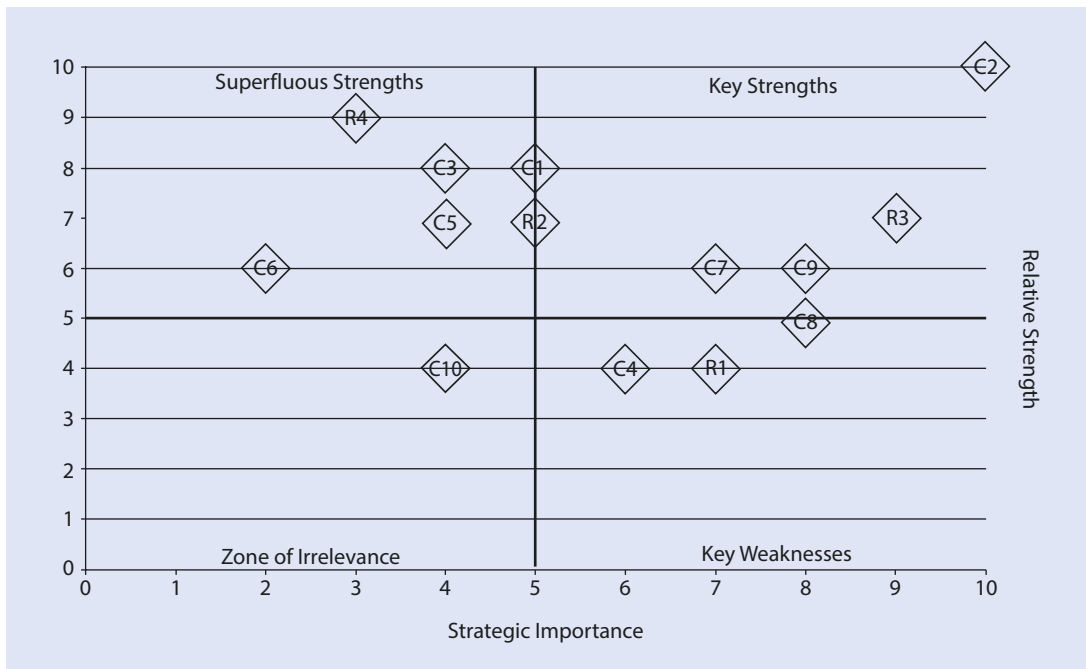
Comcast—Core Competencies and the Resource-Based View

What are Comcast’s core competencies? Comcast’s competitive advantages and disadvantages can be ranked by the relative importance of the attribute, and by the

relative strength or weakness of the firm in that attribute. This can then be graphed (■ Fig. 14.2). The analysis is hypothetical. The x-axis identifies strategic importance (1

= no relevance; 5 = fairly relevant; 10 = of crucial importance). The y-axis shows the company’s relative strength compared to competitors (1 = competitive disadvantage;

14



■ Fig. 14.2 Appraising Comcast’s resources and capabilities

15 Rigby, Darrell K. and Barbara Bilodeau. "Management Tools and Trends 2013." *Bain & Company*. May 8, 2013. Last accessed July 11, 2017.

► <http://www.bain.com/publications/articles/management-tools-and-trends-2013.aspx>.

14.2 · Theories and Tools of Business Strategy

5 = parity; 10 = competitive advantage). The company's key strengths and weaknesses can then be identified (■ Table 14.2).

The analysis shows Comcast having key strengths in content acquisition (C2) (importance 10, strength 10). This is based on Comcast having acquired NBCUniversal. Also strong are

diversified revenue streams (C11) and the domestic cable distribution network (R3). Key weaknesses are TV content production (C4) (importance 6, strength 4). This was based on Nielsen ratings where among the four major networks, NBC came in third. Another weakness is spectrum (R5) where Comcast was stretched

with no ability to expand readily, and in foreign cable platforms (R6). However, these were held to be irrelevant in the short term. Superfluous strengths (strong but less important) included R&D (importance 2, strength 6), because technology, while important, could be acquired from vendors.

■ Table 14.2 Appraising Comcast's resources and capabilities

Appraising Comcast's resources and capabilities	Analysts' judgment of importance	Analysts' judgment of Comcast's relative strength
<i>Resources</i>		
R1. Financial resources and access	7	4
R2. Network quality	5	7
R3. US Cable distribution network	9	7
R4. Brands	3	9
R5. Spectrum	7	1
R6. Foreign cable distribution network	3	1
<i>Capabilities</i>		
C1. Content licensing	5	8
C2. Content acquisition	10	10
C3. In-house engineering	4	8
C4. TV content production	6	4
C5. Financial management	4	7
C6. R&D	2	6
C7. Marketing and sales	7	6
C8. Government relations	8	5
C9. Strategic management	8	6
C10. Cost performance	4	4
C11. Diversified revenue streams	7	7
C12. Experience in interpreting acquisitions	4	8
C13. Vertical integration platform/content	5	7
C14. Customer lock-in	6	8

14.2.1.7 Adaptability Approaches

Many strategy theories do not reflect dynamic changes sweeping an industry. Where change is rapid, the traditional priorities of control and planning become less important than adaptability. This realization has led to strategy theories that emphasize adaptability. Instead of seeking a controllable environment, risk has to be embraced; speed matters more than accuracy; and innovation is more important than control. To do so, a successful organization is an adaptive organization.¹⁶ Peter Senge of MIT popularized the idea of the “learning organization.” Jack Welch, the celebrated former ex-CEO of GE who was picked by *Fortune Magazine* as the “Manager of the Century” proclaimed that GE’s sole competitive advantage was its ability to learn. The approach of adaptive adjustment, called by some “strategic morphing,” is the organizational equivalent of biological evolution.

14.2.2 The Emergence of the Guru Industry

The celebration of the creators or popularizers of ideas for business strategy goes back to the early twentieth century, to the prominent figures of Frederick Taylor and Elton Mayo. Taylor’s principles of “scientific management” were influential not only in the USA but also in the Soviet Union. Mayo was celebrated for exploring organizational behavior. Both Taylor and Mayo were later revealed to have been scientific charlatans when it came to the data they generated and interpreted. But their theories were eagerly accepted at the time by business leaders (and Soviet industrial commissars) because of management’s desire to act “scientifically” and to deal with potential worker unrest.

In the early 1980s, Tom Peters, an associate at the consulting firm McKinsey, was tasked with finding the best management styles. He visited business schools, corporations, and factories. In 1982, in collaboration with Robert Waterman, he turned his observations into the bestseller called *In Search of Excellence*.¹⁷ They identified eight fundamental attributes of successful companies:

- A bias for action;
- Staying close to the customer;
- Autonomy and entrepreneurship;
- Productivity through people;
- Hands-on, value driven;
- Stick to the knitting;
- Simple form, lean staff;
- Simultaneous loose–tight properties.

These eight attributes of excellence could be subsumed under a single insight: “treating people—not money, machines, or minds ... as natural resources may be the key to it all.”¹⁸ This is a sensible observation but does not explain the book’s success. Previous books on management strategy sold a few thousand volumes. This book, however, sold six million copies.¹⁹ It benefitted from timing, being issued in the midst of a US recession as Japanese firms were riding high. Peters became a celebrity and a sought-out speaker for millions of people around the world. In time, his management strategy talks took on a quasi-religious style. His speeches and those of some other business gurus became motivational sermons of self-realization and empowerment.

This propelled business strategy thinking to move beyond being a field of inquiry and research to one full of admired persons with great authority. A “guru industry” emerged based on business school academics and consultants.²⁰ They capitalized on the great interest in America and Europe to recapture competitiveness, and in Asia to gain advantage. The management-strategy consulting industry became a multibillion-dollar business. Its books and ideas became global, connecting the world’s managers with the same concepts, insights, buzzwords, and fads. It seems that ideas

16 Evans, Philip. “Strategy: The end of the endgame.” *The Journal of Business Strategy* 22, no. 6 (November/December 2000): 12–16.

17 Peters, Thomas J. and Robert H. Waterman Jr. *In Search of Excellence*. New York: Harper & Row, 1982.

18 Stewart, Matthew. *The Management Myth*. New York: W.W. Norton & Company, 2009.

19 Stewart, Matthew. *The Management Myth*. New York: W.W. Norton & Company, 2009.

20 Crainer, Stuart and Des Dearlove. “The Short History of Great Business Ideas.” *Business Strategy Review*. 2006. Last accessed July 11, 2017. <http://www.citi.columbia.edu/B8210/read29/Crainer.pdf>. For discussions of this sector, see: Hoopes, James. *False Prophets: the gurus who created modern management and why their ideas are bad for business today*. New York: Basic Books, 2003; Khurana, Rakesh. *From higher aims to hired hands: the social transformation of American business schools and the unfulfilled promise of management as a profession*. Princeton, NJ: Princeton University Press, 2007; Mckenna, Christopher D. *The World’s Newest Profession: Management Consulting in the Twentieth Century*. New York: Cambridge University Press, 2006; Pfeiffer, Jeffrey, and Christina T. Fong. “The End of Business Schools? Less Success Than Meets the Eye.” *Academy of Management Learning & Education* 1, no. 1 (September 2002): 78–95; Warren, Daniel A. *The History of Management Thought*, 5th ed. New York: Wiley, 2004.

on management strategy and techniques are as subject to fashion as music styles or popular culture, going through a life cycle of creation, popularization, and disenchantment.

Which of the numerous theories and approaches to business strategy is then best suited for adoption? This cannot be readily answered. In a scientific inquiry, the validity of a theory is measured by its predictive power. For example, one could test Porter's generic success strategies by measuring, predicting, and then checking the performance of companies that use these strategies with companies that do not. Most strategy gurus, however, do not use analytical and statistical methods. They are based on anecdotes and case studies, are good in explaining the past but have a low predictive value.

Of Tom Peters's "42 highly successful companies," most declined soon after being extolled as exemplars.²¹ Wang Laboratories went bankrupt. Eastman Kodak lost out against Japanese competitors, missed out on digital technology and went under. Boeing lost much of its dominance to Airbus. Amdahl lost out in innovation to IBM and was acquired by Fujitsu. RayChem was acquired by the conglomerate Tyco, which broke up in a criminal corporate scandal. Data General collapsed. National Semiconductor faltered and was acquired in 2011 by Texas Instruments. Delta Airlines went through a Chapter 11 bankruptcy reorganization in 2005 before it recovered.

While there is an undeniable element of fad-dism in the strategic theories, many if not most also hold major grains of truth. Thus, once one abandons the notion of a single-factor, silver bullet theory, one can blend them into an effective combination. The most persuasive perspective is that of a "portfolio of adaptable competencies": a firm creates a set of competencies across its various functions with flexibility to adjust to changing circumstances. Together these several competencies make the firm a strong performer. This is the "build the best ship" approach. It does not have a preconceived rigid strategy. But it will sail to wherever the future mission requires, with a decent chance to succeed.

14.3 The Strategy Process

Perhaps more important than picking the "best" theory or the tool for strategy is the process of strategy analysis and planning itself. Such an activity forces the firm to take a long-term view with respect to its market, its competitors, its technology, and so on. The review and planning process is just as important as the plan itself.

Engaging in strategic planning has several components:

- Organize the strategic process;
- Examine the external environment;
- Review the internal capabilities;
- Identify, analyze, and select the best options;
- Develop a plan;
- Implement the plan;
- Review the performance.

These elements will now be reviewed.

14.3.1 Organization of the Strategy Process

In many cases a firm's strategy is simply to do better what it already does. In other cases, a firm will seize upon new opportunities without much of a plan. However, many companies will try to do better than that and formulate some plan for the near or medium future.²² This could be triggered by new leadership, an emergency, an important disruption by new technology, or by a new and effective competitor. Start-ups may get going with an idea that is pursued with energy but on an entirely uncharted course. For them, careful planning is often futile. In more established organizations, strategy setting is often a sensitive process. A strategic review of a company's direction, strengths, and weaknesses can elicit defensive responses and the protection of turf. The outcome of strategic plans can have significant impact on budgets and affect careers.

21 Stewart, Matthew. *The Management Myth*. New York: W. W. Norton & Co., 2009.

22 Strategy is either prescriptive or emergent. Prescriptive strategy is a roadmap which is defined in advance. In contrast, emergent strategy is developed along the way.

14.3.2 Who Engages in Strategic Planning?

14.3.2.1 Stockholders' Role in Strategy

In general, shareholders do not manage the corporation. What shareholders do is to elect directors who will then represent their interests. They also approve fundamental transactions such as dissolution of the company resulting from a merger. But there are instances in which shareholders exert their voice for strategic change.

14.3.2.2 Directors' Role in Strategy

Ultimately, the board of directors is responsible for strategy. Directors review and approve corporate strategy and policy based on recommendations, typically provided by senior management. The board can also initiate a strategic review, even independently of the CEO and management. With the greater emphasis put on the independence of directors, we are likely to see more of this.

An example of a board-controlled strategic process was the online company Yahoo. The board, dissatisfied with the direction of the firm, created its own committee to plan company goals and strategy. That committee worked with top management to develop and implement these plans and oversaw the CEO's own strategic process.

14.3.2.3 The CEO as Strategy Setter

In small or young organizations, the CEO is generally the owner and/or founder of the company. His or her vision shapes the firm's strategy. In large and established firms, CEOs can be more in the nature of a chief administrator, or a charismatic leader and agent of change. One of the early strategy gurus, George Steiner, postulated that CEOs should expend no more than 18% of their time on items that are due in the next six months, and 67% on the things that take at least two years to happen. In contrast, low-level group supervisors should devote 98% of their time to plan tasks that take place within six months or less, and no time at all to anything one year or more in the future. Yet, in responding to a McKinsey survey, only 8% of 2000 managers said that the CEO of their organization was primarily engaged in long term issues.²³ Instead, they get bogged down in the daily grind.

14.3.2.4 Strategy Setting by Top Management

In most large firms then, strategy setting is a collaborative effort of the top level of management, each member contributing his or her experience and perspective.²⁴ But top officers are also often protective of their area of responsibility. They are also mindful of implications for their careers.

14.3.2.5 Divisional Strategy Setting

The opposite of such a "top-down" system is a decentralized "bottom-up" approach, where each division does its own planning. In such a system, "every tub on its own bottom" with clear responsibilities to take care of itself. At GE, this was the main approach to strategy under CEO Jack Welch. In the pure case, each division creates an autonomous strategy. The advantage is that the decision makers are closer to the market they are trying to reach. On the other hand, this framework may create conflicting plans. In consequence, companies often use a mixed approach. Strategy that is long term and fundamental in nature is handled on the corporate level, while medium-term strategy is run on the divisional level, and short-term and narrowly targeted planning is done by the product groups.

14.3.2.6 Middle Managers as Strategy Setters

Another alternative to a top-down strategic approach is to rely on a continuous improvement run by middle management. That approach is strong on operations but often without a conceptual strategy, whereas the top-down approach is strong on strategy but often vague on its implementation.²⁵ Some companies have tried to combine the two. The diversified manufacturing company Ingersoll-Rand is an example. Periodically it assembles a core team of several dozen mid-level managers who have been pegged as future leaders. That group then identifies business opportunities and designs a strategy. As the next step, the team members must also help implement it, by returning to their business units with a strong commitment to the plan, and to the other team members across the company. This raises the likelihood that the strategy will take hold.

23 Stewart, Matthew. *The Management Myth*. New York: W. W. Norton & Co., 2009.

24 Pauker, Benjamin and Joel Whitaker. *Strategic Intelligence: Providing Critical Information for Strategic Decisions*. Washington, DC: Corporate Strategy Board, 2000.

25 Irvin, Jill, Laura Pedro, and Paul Gennaro. "Strategy From the Inside Out: Lessons in Creating Organic Growth." *Journal of Business Strategy* 24, no. 5 (2003): 10–14.

14.3.2.7 Strategic Planning by Outside Experts

Well-known consultancies focus on strategic planning. They have experience and talented individuals. On the other hand, they often have no intimate knowledge of the firm or the industry, and they are expensive. At times their function is to legitimize the direction already chosen by the CEO, and to take the blame if things go wrong.

14.3.2.8 Dedicated Staff Strategy Group

Companies often create a specialized strategy group. Such a unit typically reports directly to the CEO. The downsides of this approach is the distance from the actual experiences of divisions and functional areas. A related approach is a multi-functional task force, where experts are pulled in from the functional areas (finance, marketing, R&D, etc.) and the major operating divisions of a company. The downside is that these experts, too, may be motivated to protect their groups instead of taking a company-wide perspective. One way for a staff group to proceed is to create “war-gaming exercises” that play through various scenarios of market developments, new entrants, governmental environments,²⁶ and disruptions, and how to deal with them.

A corporate strategy unit has typically several components. The *corporate development department* identifies opportunities and assesses potential mergers and acquisitions. A *strategic planning group* coordinates and integrates plans and initiatives by the business units. It also prepares and updates multi-year plans. A *management issues group* focuses on societal, business, and other trends for the firm. An *economic analysis group* deals with the macro-economy and with investment analysts. A *budgeting and planning group* deals with implementation of strategy and monitors business units’ compliance and performance, drafts the annual budget, prepares for the annual shareholder meeting, and works with or within other functional areas, such as human resources.

An example of the pitfalls of the corporate strategy process is Disney, a company we have encountered repeatedly in this book. As mentioned in ► Chap. 5, Human Resource Management for Media and Information Firms, in 1985, the Disney Strategic Planning Group had five employees. The group was responsible for evaluating external risks and competitive threats. They were instructed to “try to put numbers against subjective decisions.” Soon, however, under CEO Michael Eisner, there were more than 100 employees in Strategic Planning. In 2004, there was an internal revolt at Disney against Michael Eisner and Disney’s corporate policy. Roy Disney charged that the Strategic Planning Group had grown, “octopus-like, into every corner of the company.” He claimed that upper management had lost responsibility for decisions. More and more decisions were done by the Strategic Planning Group. But in his view, “strategic planning is NOT strategic thinking.”²⁷ It mostly used extrapolation of past data to determine the future, and it was hindering creativity and innovation. According to Roy Disney, the Strategic Planning Group staff did not share in Disney’s corporate culture. They were separated from the operating divisions and reported directly to the CEO. He viewed the strategic planners as mostly young, inexperienced, brash outsiders, some of whom were then appointed to key executive positions across the company, and that this process caused uniformity in the thinking of the executives and hindered creativity. After the forced retirement of Michael Eisner under shareholder pressure, strategic planning was restructured in 2005. The function was radically decentralized, with Disney’s four business segments (Studio Entertainment, Parks and Resorts, Consumer Products, and Media Networks) and the international division taking over the responsibility. The remaining corporate planning group focused only on the development of the five-year plan, acquisition opportunities, and emerging businesses.²⁸

26 Pauker, Benjamin and Joel Whitaker. *Strategic Intelligence: Providing Critical Information for Strategic Decisions*. Washington, DC: Corporate Strategy Board, 2000.

27 Disney, Roy E. “Just What IS Strategic Planning, Anyway?” *SaveDisney*. June 3, 2004. Last accessed July 14, 2017. ► <http://web.archive.org/web/20040603123356/www.savedisney.com/news/essays/rd052704.1.asp>.

28 The Walt Disney Company. March 25, 2005, ► http://corporate.disney.go.com/news/corporate/2005/2005_0325_reorg_stratplann.html.

14.3.2.9 Case Discussion

Comcast—Organizational Structure of Strategy Setting

On the corporate level, Comcast has three top executives engaged in strategy, as their titles recognize: a Senior Vice President for External Strategy and New Business Opportunities, a Senior Vice President for Corporate Strategy, and a Vice President for Intellectual Property Strategy. The Strategic and Financial Planning Group, reporting to the CFO, is responsible for forecasting business trends and developing long-range plans. It also identifies new growth opportunities.

On top of this, many of the company's divisions also have their own strategic groups.

NBCUniversal had a special group mainly occupied with its post-merger integration. It was responsible for identifying synergistic opportunities between Comcast, NBC, Universal Studios and Parks, and the cable channels. Beyond transition issues, NBCUniversal also has an Executive Vice President for Strategy and Operations, Entertainment, Digital Network, and Integrated Media who leads the strategic development and operational initiatives across the division's assets.²⁹ A division's sub-divisions, in turn, often have strategists. Thus, NBCUniversal's

subgroup, the Entertainment Division, has an Executive Vice President, Brand Planning and Strategic Insights. Similarly, the Ad Sales division has a Strategy Vice President.

These executives and their staff play significant roles in Comcast's strategy. And yet there is no doubt that the major strategic decisions have been made by the major owners whose control was cemented by a system of supervoting class-B shares. They were, for a long time, the co-founders Ralph Roberts, Julian Brodsky, and Dan Aaron, and then CEO and heir Brian Roberts.

14.4 The Strategic Plan

Strategic plans vary greatly. Their main components are:

- A vision and mission statement that defines the aims and objectives of the organization;
- An external analysis of market technology, competitors, and government trends;
- An internal analysis of resources and capabilities;
- An analysis of strategic opportunities and threats;
- The identification of strategic choices;
- A decision process that sets directions and priorities;
- An outline for implementation, with roadmaps, budgets, and an investment plan;
- A plan for subsequent evaluation and feedback.

14.4.1 The Vision and Mission Statement

A mission statement defines the company's business and its objectives. A vision statement spells out the desired future position of the company.

The two are overlapping and are typically combined in a statement about the company's purposes, goals, and values.³⁰

14.4.2 The External Assessment

The role of an external assessment for strategy is influenced by Michael Porter's focus on a firm's competitive position in a market, as discussed above.

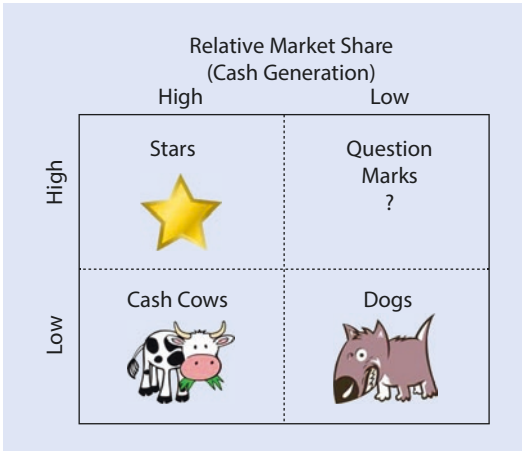
External assessment includes a review of market structure, demand, competitors, technology trends, and the environment in which the company is operating, both government and societal.

14.4.2.1 Assessing the Market

To assess the market, it is necessary to define it, assess its size, growth, direction, the technology trends that affect it, the major players within the market, as well entry barriers. For an analytical look at market growth and the position of the firm in it, a growth-share matrix is useful (■ Fig. 14.3). This was popularized by Boston Consulting Group.

²⁹ These assets include Telemundo, Bravo Media, Oxygen Media, Style, DailyCandy and Swirl, Fandango, iVillage, Television Without Pity, as well as the partially owned networks ExerciseTV, Sprout, and TV One.

³⁰ Rigby, Darrell K. and Barbara Bilodeau. "Management Tools and Trends 2013." *Bain & Company*. May 8, 2013. Last accessed July 11, 2017. <http://www.bain.com/publications/articles/management-tools-and-trends-2013.aspx>.



■ Fig. 14.3 The growth share matrix

A company or its activity that is being analyzed will fall into one of four quadrants based on market growth rate (vertical axis) and market share (horizontal axis). There are four basic scenarios:

1. **Stars:** the company's activity has a high market share in a high-growth market. An example is Google's YouTube. For a star operation, the strategic decisions typically support investments to hold (or gain) market share.
2. **Dogs:** a small market share in a low-growth industry. In most cases the company would exit this activity, or try to gain leadership, for example by combining with other firms. An example of a "dog" is Castle Rock, a small independent film studio which was eventually acquired by Turner and Time Warner.
3. **Cash cows:** the company has a high market share in a low-growth industry. An example is Sony's consumer electronics division after 2000. Such a company's strategy is typically to "harvest" returns on past investments. Strategic decisions should be focused on maintaining innovation within the company to reverse that gradual decline.
4. **Question marks:** the company has a small share in a high-growth industry. The proper strategic response is not clear, it can be to exit by selling out, or alternatively to invest and expand in order to become a star, or by finding a market niche where its share is high, or by creating an alliance with the market leader. Even staying in place will require investments. An example of a question mark is the online music streaming service Rhapsody. Rhapsody bought the original music file-sharing company Napster and rebranded itself under that name. It claims 4.5 million users in 2017.³¹

14.4.2.2 Case Discussion

Which Scenario (Stars to Dogs) Fits Comcast?

In assessing its potential for growth, Comcast would first survey its core products.

Stars Xfinity high speed internet service has a high subscriber count in a high growth market, that of the broadband ISP industry. While subscribership has become saturated, usage and speed have been rising. Competition is moderate (Comcast has about 64% share in its service territory,³² against the regional

telecom incumbents and satellite TV providers).

Cash Cows Of these, Comcast has a good number: Cable TV networks; several cable channels; theme parks; voice telephony wire-line service; and film production.

Question Marks The video cloud industry's growth rate is very high. However, Comcast's presence in that segment is, in particular,

through the TV industry's consortium Hulu, which does not have a large market share. Another question mark is Telemundo, a Hispanic video channel with a market share of about 28% of Spanish-language TV, compared to rival Univision's 78%. But the growth rate of the market segments as a whole is high.

Dogs Focus Features (the artsy film production subsidiary of Universal) generated about \$25

31 Ingham, Tim. "Over 100 million people now pay for music streaming, beating the number of Netflix subscribers for the first time." *Business Insider*. January 17, 2017. Last accessed July 11, 2017. ► <http://www.businessinsider.com/midia-report-music-streaming-subscribers-overtook-netflix-subscribers-the-first-time-2017-1?r=UK&IR=T>.

32 Assuming Comcast's share in its franchise areas is same as national average of cable industry.

million annually in profits, but with a declining tendency. Despite the prestige of its films such as *Brokeback Mountain*, it is a low-return business. In contrast, Universal Pictures is focused on producing mass-appeal movies. While the downsides are small, the market is limited, as is the growth potential and the profit potential. Another “dog” used to be NBC’s small and declining radio broadcasting

business, where many years ago it had been the undisputed market leader. These radio stations and networks were sold off.

Another dog is Universal Networks International (UNI). Specialty channels are not a growth business, and UNI’s market share is small relative to rivals Viacom, Time Warner, Disney, and Discovery. With its specialty cable TV channels Syfy, Diva, Studio, Universal Channel,

13th Street Universal, Movies 24, Hallmark, and KidsCo, UNI has not produced much by way of compelling content, and is known for showing reruns of once-popular shows. This collection of channels does not demonstrate a growth potential.

Comcast’s overall deepening strategy should focus on the “stars” and “cash cows” while divesting the “dogs” and being selective about the “question marks.”

14.4.2.3 Assessing Customers and Competitors

There are several steps to determine consumer demand. First, there is data gathering. Second, the data is then analyzed in a variety of ways often referred to as “market analytics” or “data mining.” A more detailed discussion about these factors is provided in ► Chap. 9 Demand and Market Research for Media and Information Products.

Analysis of Competitors

Competitor analysis requires the estimation of two factors:

1. Determine who competitors are, and who they might be in the future. This, in turn, requires the definition of the market. Defining the market is easier said than done. For example: Who are the automaker Porsche’s main rivals? Lamborghini? BMW? Yes, to some extent. But according to the Porsche’s CEO, another major rival is the watchmaker Rolex. Both companies compete in the market for the disposable income of high-income, prestige-seeking, middle-aged males, and for those who wish to give them expensive gifts.
2. Determine what information is required about these rivals, and build a competitor analysis capability to obtain such information.

Identifying Competitor Strengths

There are various steps to gathering information about competitors. With online data in plentiful supply it has become easier to collect what companies say about themselves and what others report. Companies discuss their plans, successes,

and products through advertising, press releases, conference presentations, and analyst calls. Company representatives are quoted or write in trade and in professional magazines. They publish technical papers, apply for licenses and patents, and are subject to litigation that generates court records. Companies issue annual reports and prospectuses. They are covered in articles and interviews, consultant reports, court documents, and press releases.

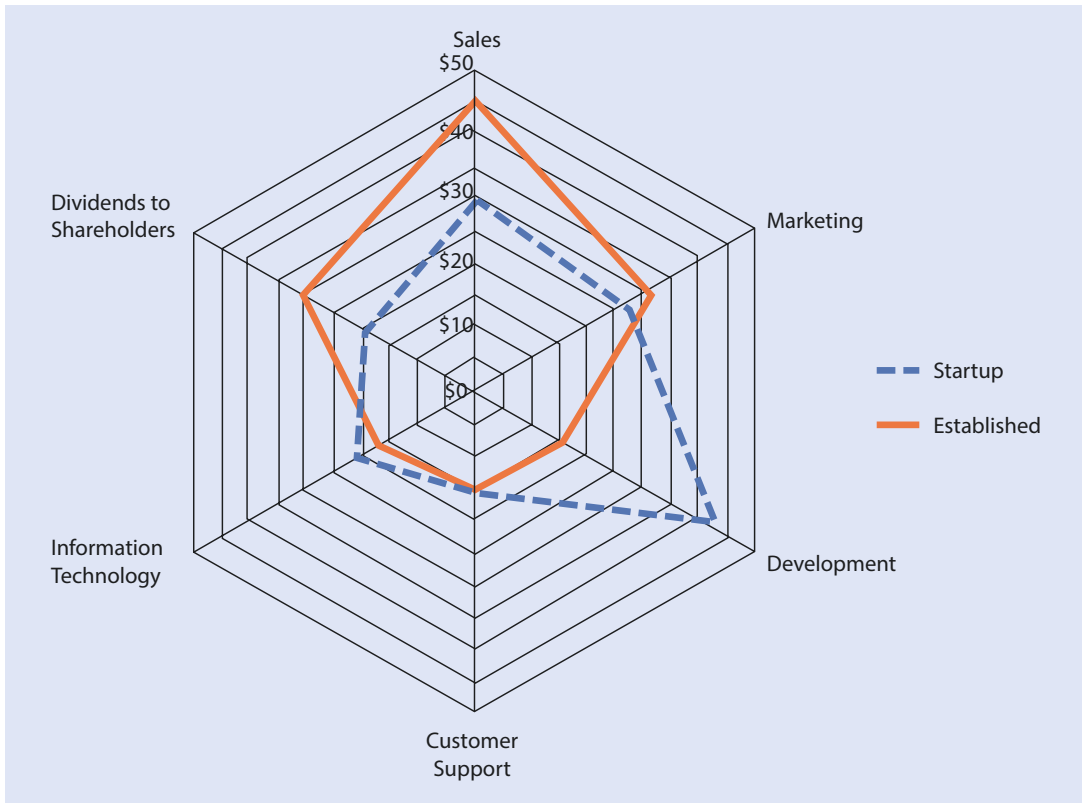
The information collected will tend to be extensive and needs to be presented to managers in an accessible format such as comparison grids and radar charts.³³ A radar chart (also known as a web or spider chart) allows the presentation of several quantitative variables on several axes (see ■ Fig. 14.4).

On this radar chart we observe that the established firm has strength in sales, marketing, and dividend payouts (and thus investor satisfaction and presumably access to low-cost capital). In contrast, the start-up firm has strength in product development but weakness in dividends, sales, and marketing.

Analyzing Competitive Dynamics: Oligopoly Analysis

When it comes to market concentration, perfectly competitive markets are relatively easy to analyze, as are pure monopolies at the other extreme of market concentration. But much of business really is somewhere in-between, with

33 Fleischer, Craig S. *Strategic and Competitive Analysis: Methods and Techniques for Analyzing Business Competition*. Upper Saddle River, NJ: Prentice Hall, 2003.



■ Fig. 14.4 Radar chart

markets dominated by a handful of competitors partly competing, partly cooperating. Such oligopolies have different dynamics: a move made by one player brings about a direct response by the other players. Augustin Cournot, a French economist, philosopher, and mathematician, was an early contributor to oligopoly theory. Cournot believed that oligopoly firms collaborate to charge one price and jointly get monopoly profits, with the firms then splitting the monopoly profit. This type of oligopoly analysis was continued by the developers of game theory which analyzes behavior within an oligopoly as a series of strategic moves and counter-moves.

Games require management to understand other players' motivations, look for opportunities to cooperate, retaliate against firms that do not cooperate or deviate from an agreed strategy, and provide for a resumption of cooperative behavior.

In 1994, three game theorists won the Nobel Prize in Economics.³⁴

The problem with game theory is that most real circumstances deal with multiple players, which calls for a more complicated analysis of potential outcomes and is thus often impractical. The analysis works best for two to three player scenarios. This has hampered the development of game theory as a management technique for strategy.³⁵ But it can sharpen management thinking. Game theory forces a firm to give systematic consideration to its own strategic alternatives. A firm needs to assess how each competitor perceives its own self-interest.

³⁴ One of the winners was John Nash. Nash defined an equilibrium point at which "no player can improve their position by changing strategy."

³⁵ Crainer, Stuart. "Not Just a Game." *Management Today* 66, no. 28 (July 1996): 66.

14.4.2.4 Case Discussion

Comcast and Game Theory

In some areas of the country, Comcast's main video competitor is the satellite TV platform DirecTV network, owned by AT&T. The two companies both can choose to charge subscribers a high or a low price. If both companies choose high prices for video service, they will both earn \$10 billion in revenue. (All of these numbers are hypothetical.) If both companies choose low prices, they will both earn only \$5 billion in revenue. If one company chooses a high price and the other chooses to underprice it, the company with

high prices will lose business and earn \$1 billion in revenue and the company with low prices will get most of the business and earn \$15 million in revenue.

Therefore the company with the initially higher price would quietly lower it, and both firms would end up at \$5 billion. This would be the competitive (i.e. non-cooperative) equilibrium price.

The optimal strategy would be for both companies to set the high price, maximizing their revenues. But how to keep the other firm from undercutting the high price

in order to gain market share, thus requiring a counter-move?

Knowing this and knowing that its rival knows it too, leads both firms to engage in a "tacit agreement" in which both firms set prices high and avoid price competition. This is the essence of game theory: when deciding on a strategy, a company must take into account the effects of its own behavior on the behavior of other companies. The situation becomes more complicated when multiple rounds and companies are considered.

14.4.2.5 Assessing Society and Government

To design a strategy a company must examine the broader societal environment. Factors include demographic and economic trends, political tendencies, and generational shifts in taste and style. Otherwise, the firm might miss its market or face a competitor better at reading the signs.

Beyond the broad trends is also the concrete presence of government. Given the public importance of media, almost any strategic move by a major media company leads to some interaction with government. A company therefore needs to understand government priorities and shifts that could affect the industry. This needs to go beyond political news and incorporate an understanding of forces, drivers, and players. Global companies have to understand this outside their home country, too. Policy changes are not started by faceless bureaucrats but normally need a certain socio-cultural intellectual environment, as well as a stakeholder constellation, from which they then spread.³⁶ A good example is the emerging "information activism" movement, discussed in

► Chap. 7 Intellectual Asset Management. That movement includes groups that advocate "open sources," net neutrality, privacy protection, unlicensed spectrums, municipal free Wi-Fi connectivity, and many more.

Beyond the strategic importance of such big picture understanding, it also helps a company compete with a rival by navigating the political, regulatory, and legal environment more effectively. It also helps in identifying tactical allies. Some advocacy groups might become allies on certain issues. When Comcast sought to acquire NBCUniversal, it brought several citizen activist groups to its side by promising to offer a low-cost broadband Internet service to poor households for less than \$10 per month, at an 80% discount.

14.4.3 Internal Assessment

14.4.3.1 Core Competency and Competitive Advantage

Complementing the *external* approach of competitive advantage with its market structure orientation is the approach of an *internal* assessment—the core competency/resource-based view discussed earlier.

36 Sigma. "SIGMA Global Sensor." March 31, 2005. Last accessed July 11, 2017. ► http://www.sigma-online.com/en/SIGMA_GlobalSensor/.

14.4 · The Strategic Plan

There are several ways to assess core competencies:

1. Look at a firm's successful "core product" and work backward to identify the factors underlying the success.
2. "Benchmarking" the best practices by competitors and best-in-class companies and compare them to the company's own operations and activities. The superior performance by others can be analyzed for their causes and therefore for how to match that performance.³⁷

14.4.3.2 Internal Assessment: Leadership Resources

A key resource for a successful organization is leadership at the top. Any strategic plan must center on the ability of the leadership team to deliver it. A company's strategy has to be congruent with the strengths of its leader, and his or her ability to manage that strategy and the transition to it.

Effective leaders must possess many essential attributes: experience, judgment, integrity, determination, ability to learn, inspire and influence others, to gain trust, to trust others, to set an example,³⁸ to take calculated risks, to assume responsibility, and to grow in the job.

Leaders in the media and information industries need to have experience in the several fields and locations in which they operate: content production centers such as Hollywood or Broadway; financial markets such as London and New York; technology clusters such as Silicon Valley; marketing centers such as Madison Avenue; and political and bureaucratic capitals such as Washington and Brussels. They must have an artistic appreciation of content, a visionary perspective on technology and be familiar with it,

be good with numbers, efficient in operations, and sensitive to their numerous sub-audiences.³⁹

There is no individual alive who possesses all of these qualities. In that sense, all leaders are imperfect.

14.4.3.3 Case Discussion

Comcast—Leadership

Brian Roberts, son of the company's co-founder, became president of Comcast in 1990, CEO in 2002, and Chairman in 2004. Roberts maintains a low national profile. In terms of performance, since 1990 Comcast revenues grew from less than \$1 billion to \$69 billion. Roberts has been an aggressive dealmaker. In 2001 he helped Comcast acquire AT&T broadband for \$72 billion. In 2013, Comcast bought NBCUniversal for \$46.7 billion. Failed merger efforts include Disney (2005) Time Warner Cable (2014), and 21st Century Fox (2018). Roberts has been at the forefront in his field, foreseeing changes in technology and positioning the company accordingly.⁴⁰

14.4.3.4 Internal Assessment: Human Resources

Human resources are discussed in ► Chap. 5 Human Resource Management for Media and Information Firms. Issues to consider are compensation and advancement, creative resources, relations with unions and constraints, and so on. The future of media and tech companies is dependent on hiring creative and productive people and training and encouraging them. Such people are the primary asset. They are connected to each other and to the organization through a specific culture. A strategy that clashes with its culture will be ineffective.

37 Rigby, Darrell K. and Barbara Bilodeau. "Management Tools and Trends 2013." *Bain & Company*. May 8, 2013. Last accessed July 11, 2017. ► <http://www.bain.com/publications/articles/management-tools-and-trends-2013.aspx>.

38 Lynch, Richard. *Corporate Strategy*. Upper Saddle River, NJ: Prentice Hall, 2003, 371.

39 Sánchez-Tabernero, Alfonso. "The Future of Media Companies: Strategies for an Unpredictable World." In *Strategic Responses to Media Market Changes. Media Management and Transformation*. Ed. Robert G. Picard. Jönköping, Sweden: Jönköping International Business School LTD., 2004.

40 Lee, Edmund and Alex Sherman. "Comcast CEO Roberts Emerges from Malone Shadow as King of Cable." *Bloomberg News*. February 15, 2014. Last accessed July 11, 2017. ► <https://www.bostonglobe.com/business/other/2014/02/15/comcast-ceo-roberts-emerges-from-malone-shadow-king-cable/9BvpCcYbf93ZfJBi1LjxTP/story.html>.

14.4.3.5 Case Discussion

Comcast—Human Resources

Does Comcast possess the internal human resources to deal with a strategic decision that would, for example, move it into areas it has not been active before, such as mobile communication, or international cable and video distribution?

Comcast is an entertainment/TV distribution firm, not a tech company. However, its network operations and requirements increasingly require tech-savvy people. This skill set would be considerably more in demand if the company chose to enter mobile communications and

integrate it with its cable/ISP functionalities.

In the past, Comcast had not much of an international involvement. This changed with the acquisition of NBCUniversal, which had marketing involvements and partnerships around the world. Approximately 12% of Comcast's workforce are Hispanic,⁴¹ partly due to its ownership of the Telemundo video channel. Thus, Comcast is likely to have a base in human resources to expand into international video distribution, in particular in the Spanish-language markets.

Comcast has also a union issue to deal with. In 2002, only 2% of Comcast's workers were unionized. In its network platform operations, Comcast moved to treating its cable installers as independent contractors rather than as full-time employees.⁴² At the acquired division NBCUniversal, on the other hand, there are many craft unions for actors, directors, stagehands, and so on. This suggests that cost-saving measures through staffing reductions might be harder to implement in the content-production segments of the company.

14.4.3.6 Internal Assessment: Financial Resources

A strategy is likely to require investment, whether to fund an acquisition, an expansion, new products, or marketing. An exception might be strategies to outsource activities, but even here a process needs to be created for which resources must be allocated. A strategy needs to be budgeted over a period of several years, and the net cost must be within the financial resources available to the organization. Such resources may come from retained earning, additional invest-

ments from the outside, bank loans, and the sale of assets. This is discussed in ► Chaps. 6 Financing Media, Information, and Communications and 13 Accounting in Media and Information Firms. Factors to consider are debt and debt ratios; the cost of capital; the capital structure; access to funders such as banks, Venture Capital firms, angels, private investors, and public equity; and access to governmental financial support. Also to consider are risk profiles and the portfolio of projects, and the impact on the market valuation of company.

14.4.3.7 Case Discussion

Comcast—Financial Resources

Comcast was \$40 billion in debt after the acquisition of NBCUniversal in 2012. It also had a major need for increased capital expenditure to upgrade its cable infrastructure.

Comcast's debt-to-enterprise value ratio (a measure of the company's debt over a theoretical value

of what it would cost to acquire the company) was 25.9%.⁴³ In comparison, these ratios for Comcast's peer companies were AT&T 34.8%, Charter 50%, Verizon 37.3%, Time Warner Cable 53.5%, and Liberty Media 23.4%. For the cable and satellite industry as a whole, the average is around 37.5%. Comcast

is thus well below the industry average, which would indicate an ability to take on additional debt. Comcast given its enterprise value, could afford to borrow an additional \$22 billion to be at the industry average. If it were to go up to the debt level of its rival Charter, this number would be doubled.

41 Comcast NBC Universal. Comcast Diversity & Inclusion Report 2014. 2014. Last accessed July 11, 2017. ► http://corporate.comcast.com/images/Comcast_Diversity_Report_060214.pdf.

42 Sole-Smith, Virginia. "Consider the Cable Guy." *Slate*. April 15, 2016. Last accessed July 11, 2017. ► http://www.slate.com/articles/business/the_

grind/2016/04/more_cable_and_internet_installers_are_independent_contractors_and_the_hours.html.

43 Data on debt from company 2015 annual reports; and debt of \$49 billion on enterprise value from YCharts. "Comcast Enterprise Value." Last accessed July 11, 2017. ► https://ycharts.com/companies/CMCSA/enterprise_value.

A second major avenue would be to finance through equity. Comcast could issue more stock, but its shareholding structure is already quite complex: control has been held by the Roberts family with a small minority of the shares issued though super-voting class B shares. In terms of share offerings to the public, Comcast has actually gone in the opposite direction,

by using its corporate cash to launch in 2014 an \$11.5 billion share repurchase program. It could reverse course and issue that stock to the market. This treasury stock accounts for approximately 15% of the entire shares outstanding. A rapid selling would therefore yield probably \$21.5 billion. But this would depress the share price and affect shareholders including top

management and the Roberts family, as well as dilute their control.

Conclusion: Comcast has the ability to raise significant money for strategic initiatives through debt. Added debt would still leave it below the industry average. Financing through equity is also possible but would lower share price and reverse its policy of repurchasing shares.

14.4.3.8 Internal Assessment: Technology Resources

A business strategy needs to consider technology requirements and resources. This is discussed in ► Chap. 3 Production Management in Media and Information. Strategists can make an internal assessment of company technology by reviewing:

- The patent portfolio of the company and of its rivals;
- The trends of technology;
- Management's strategy for protecting its technologies;
- The company's competitive technological advantage;
- Financial requirements for further R&D.

14.4.3.9 Case Discussion

Comcast—Technology Innovation Resources

Comcast's public statement is that: "Technology and innovation are at the core of everything Comcast does." Actually, Comcast's potential weakness is that it is not a tech company, and that it has no strong tech presence in a business that is technology driven.

In response, Comcast created the Comcast Labs where, it claims, thousands of engineers work on future technologies. The Labs intend to create a start-up-like climate to foster innovation, especially in the field of end user devices. But a head count of Comcast Labs' staffing does not indicate a major in-house resource commitment. The Labs have 40 PhDs and 10 Distinguished Fellows out of about 135,000 Comcast employees in total. Compared to its competitors, this figure is low. For example, there were about 700 researchers at Bell Labs, and there once had been 25,000 employees during its heyday.

Yet this does not mean a lack of innovativeness. Comcast, of large US ISPs was the first to introduce the new-generation Internet protocol IPv6 to end users. But IPv6 was not developed by Comcast and was not an exclusive technology but wide open. Products developed by Comcast Labs are the X1 Platform for interactive TV experience. This enables the delivery of video-on-demand, together with digital video recorder (DVR) service and live viewing. Viewers can use a smartphone as a remote control via voice, motion, and touch commands. It integrates social media websites, weather, and texts on the same television screen.

Comcast was also leading in the development of PowerBoost technology. PowerBoost, officially, makes excess network capacity available to customers to raise their connection speed above the speed they are paying for. But it also enables the company to throttle down speed available

to heavy users or certain types of content providers (this created major controversies). Flux Scout is a tool that helps to improve video and audio quality.

Comcast's film studio, Universal, has significant content creation capability for computer-generated graphics for films. Universal's special effect films include *Jurassic Park*, *King Kong*, *Jaws*, *The Mummy*, and *Gladiators* (co-produced).

Comcast increasingly put resources into R&D. Its new headquarters building, Comcast Tower 2, includes its Innovation and Technology Center. That said, internal technology resources are likely to remain a constraint, and the company will often have to go outside to solutions provided by vendors or commission proprietary developments. The question then is, should Comcast devote more resources to technology R&D, and for what kind of products?

14.4.3.10 Internal Assessment: Intellectual Assets

Intellectual assets are key assets for the media and IT sectors. Strategies to create and monetize them were discussed in ► Chap. 6 Financing Media, Information, and Communications. Issues are patent and copyright portfolio, license require-

ments and dependencies, and strength of protection. To conduct an internal assessment analysis of its intellectual assets, a company must first identify these assets, find any gaps, and dispose of any unneeded assets. A patent audit map and other tools discussed in ► Chap. 6 Financing media, Information, and Communications.⁴⁴

14.4.3.11 Case Discussion

Comcast—Intellectual Assets

Comcast holds a number of patents, mostly in the fields of electric digital data processing (140 patents). It received 350 US patents over 20 years, that is about 17 US patents/year. This is low compared to technology companies but it has been growing. In contrast, when it comes to copyrights, Comcast holds a vast number for its films and TV shows. NBC grants licenses for use of its content (“outbound licensing”) and acquires licenses to content by others (“inbound licensing”).

For example, through 2010, Universal received about \$22 million per year from Netflix through its licensing contract. That figure grew to \$275 million per year in 2011. Universal also entered in 2011 into a movie-licensing contract with

Amazon.com. Amazon paid NBC Universal \$50 million for the license to 2000 movies and 7000 TV episodes that will be made available to Amazon Prime subscribers over the course of the agreement.⁴⁵

Inbound licensing is costly but important to the TV network and its stations. The NBC networks must often obtain license shows produced by others. Also significant are licenses for sports events. This was previously presented in ► Chap. 7 Intellectual Asset Management. In that chapter’s case discussion, NBCUniversal is covered in detail.

Football For its NFL package, NBC’s contract was renewed for the seasons 2013–2022 for an annual fee of \$1.05 billion.

Soccer In 2012, NBC acquired the rights to broadcast English Premier League Soccer in the USA for 2013–2014 for \$250 million. With this deal, NBC became the exclusive English and Spanish-language media rights holder to all 380 Premier League matches across all platforms and devices in the USA. Its aim was, in particular, to reach the Latino audience in the USA.

Olympic Games The Olympics have long been NBC’s signature programming event and part of its brand. NBC bought the rights to carry in the USA the six Olympic Games from 2022 to 2032 on all current and future distribution platforms. It paid \$1.12 billion per Game (Summer as well as Winter Games, with the latter less valuable).

14

14.5 Strategy Options

14.5.1 Generic Options

In principle, there are innumerable strategic options, far too many to be discussed individually. Most can be categorized within three fundamental strategy types, and about two dozen basic sub-options or mixed options. The three basic types of media and tech strategies are *product strategies*; *marketing and distribution strategies*; and *scope strategies*.

14.5.1.1 Product Strategies

Product strategies focus on the design, quality, and production process:

- Product creation and innovation;
- Production cost leadership;
- Content and quality;
- Product differentiation.

14.5.1.2 Marketing and Distribution Strategies

Marketing and distribution strategies focus on reaching buyers and placing the product. They include:

- Branding;
- Advertising and promotion;
- Pricing;
- Customer relations;
- Distribution platforms.

44 Kline, David and Kevin G. Rivette. *Rembrandts in the Attic*. Cambridge, MA: Harvard Business Review, 1999, 68.

45 Letzing, John and Nathalie Tadena. “Amazon, NBCUniversal Reach Licensing Agreement.” *Wall Street Journal*. July 28, 2011. Last accessed July 11, 2017. ► <http://online.wsj.com/article/SB10001424053111904800304576474363664306294.html>.

14.5.1.3 Scope Strategies

Scope strategies deal with the scope of the firm's products. They are separated into two dimensions, *widening* and *deepening*.

Widening strategies are:

- Economies of scale;
- Product line expansion;
- Globalization;
- Mergers & acquisitions

- Diversification;
- Vertical integration;
- Alliances and collaboration.

Deepening strategies, on the other hand, focus on:

- Specialization;
- Differentiation;
- Customization.

14.5.1.4 Case Discussion

Comcast—Scope Strategies

Comcast, with its extensive resources, has many avenues open to its future. At the same time, it is being closely watched and constrained by government regulators. Among the most likely scope strategy for Comcast is to expand its product offerings to include mobile communications. This would be part of adding the element of mobility to its existing “triple play” of video, voice telecom, and Internet. Providing quadruple play helps recruit and keep customers. It raises the cost of exit by customers and hence reduces churn. It can use Comcast's existing infrastructure. However, this means moving outside of Comcast's existing geographic cable footprint. It would be entering entirely new territories if it wants to be a national rather than regional mobile service provider, or it would have to enter into alliances with other cable and mobile companies. It would also require the acquisition of spectrum licenses from the government. This raises regulatory problems and is costly. How would Comcast go about entering mobile service? What are its options?

- *Acquisition of an existing mobile carrier.* Comcast could buy out one of the two smaller mobile companies such as Sprint or T-Mobile, who themselves seek to merge. AT&T offered \$39 billion to buy T-Mobile in 2011. Softbank paid in 2013 \$20 billion to buy Sprint. (Dish Network offered \$25.5 billion.) In addition, Comcast would

have to make major further investments for spectrum and infrastructure. Thus, this is a very expensive option.

- *Partnerships.* A cheaper option would be to partner with one of the two smaller mobile companies to compete with AT&T and Verizon in the wireless telecom market. It would have to make concessions to its partners. There is some mutual advantage in that the partnered mobile operator would zoom ahead and become a solid #3 market participant. However, Comcast would not have full control over the operations of the new company.
- *Create a new wireless company and enter the market.* Comcast could start its own mobile network. But that would require major investment and might not be successful. It would be a risky undertaking. While Comcast could support it with its own infrastructure sales organization in its service territory, it would have to create a presence in the rest of the country.
- *Joint venture with other cable industry partners.* Alternatively, Comcast could partner with other cable providers such as Charter to create a new national wireless company. However, to be the fifth and newest wireless provider is difficult.
- *“Mobile-light” strategy.* Comcast could provide Wi-Fi based wireless service. It launched an

app called “Voice2Go” which uses any cellphone carrier's 3G/4G network or available Wi-Fi connections to make free calls and to send free messages. However, this is only possible for Comcast voice customers in its own franchise areas. This would reduce the potential market.

- *Mobile virtual network operator (MVNO) (resale).* Comcast could start its own MVNO company (reselling other mobile operators' services under its own name) by buying out minutes and data from well established companies such as Verizon. It would have to make major marketing investments to create a brand recognition, especially outside its cable footprint. Alternatively, Comcast could buy out an existing MVNO such as H2O or Cricket.
- *Strategic alliance.* This would go beyond a cooperation in mobile communications and mesh Comcast's wider activities with those of another company. For example, it could join with Verizon in a way that makes it an MVNO using Verizon's wireless network, while contributing its NBCUniversal and Hulu content channels to Verizon's own multichannel provider FIOS, and collaborating with Verizon's telecom and ISP operations to form a national wireline footprint. A logical conclusion might then be for the firms to take the next step and seek a mega-merger.

Conclusions The market for wireless services is already competitive and it would be difficult to compete successfully with the more established companies, especially Verizon

and AT&T. But Comcast, without mobile, is at a competitive disadvantage to these rivals. The most promising route for Comcast is to offer MVNO services under its own brand

name, in a partnership with an existing mobile company. Meanwhile, it should be watching for buying, merging, or joint venture opportunities with T-Mobile or Sprint.

14.5.2 How to Select Among Strategies

Given the proliferation of strategic options, the question now is: How to select among strategies? The selection of strategies can be undertaken in several ways, based on intuitive judgments grounded in experience or, alternatively, based on an analysis of the costs and benefits of each alternative.⁴⁶ Tests for good strategy require at least two rounds. First, to make sure of their general fit. And second, to apply a more rigorous selection. The initial tests for fit include:⁴⁷

1. *Constraints tests.* Do the firm's financial, human, technology, and leadership resources permit the strategy? Are there governmental constraints?
2. *Originality test.* Does the strategy differentiate the product from rivals or is it a "me-too"?
3. *Purpose test.* Does the strategy address the vision of its leader?
4. *Consistency test.* Is the strategy consistent with the organization's other activities, its brand image, and culture?
5. *Risk test.* Are the risks within the tolerance of the company?
6. *Flexibility test.* Does the strategy lock the firm into a fixed direction or does it permit flexibility if the environment changes?

This first-stage selection will probably still leave several options to choose from. Therefore, in a second stage of analysis, a deeper analysis must be undertaken.

14.5.2.1 Non-analytic Methodologies

Non-analytic selection methods are based on good judgment and experience. Selection can be based on pre-formulated rules-of-thumb, known as "heuristics," such as "content is king."

14.5.2.2 Soft-analytic Tools

The soft-analytical approach uses fairly basic analytical tools, less oriented toward quantification, data, and equations, and more oriented toward a structuring of options to create a disciplined process of evaluation. A classic example is the SWOT analysis described earlier in the chapter.

14.5.2.3 Hard-analytic

The hard-analytic method is based on statistics, finance, operations research, economics, electrical engineering, or computer science models. The quantitative approaches can be superior, in theory, in that they allow for objective comparisons. They are systematic and data-based. But there are severe limits to quantitative approaches, given that many success factors are not quantifiable. Or, they require data that is just not available.⁴⁸ The quantitative approaches thus may provide a fictitious exactitude. Yet, they also provide a disciplined way to organize the analysis. And like the practice of medicine, they combine hard science with good judgment and experience. There are several quantitative methods for comparing strategies, including financial

46 Beach, Lee Roy and Terrence R. Mitchell. "A Contingency Model for the Selection of Decision Strategies." *The Academy of Management Review* 3, no. 3 (July 1978): 439.

47 Lynch, Richard. *Corporate Strategy*. Upper Saddle River, NJ: Prentice Hall, 2003, 24.

48 Liberatore, Matthew J., Thomas F. Monohan, and David E. Stout. "A Framework for Integrating Capital Budgeting Analysis With Strategy." *Engineering Economist* 38, no. 1 (September 1992): 31–43.

14.5 · Strategy Options

metrics, return on investment, net present value, and cost–benefit.⁴⁹

A structured approach to selecting strategies would incorporate several steps. Often, a quantification will be difficult, in that case one must make reasonable assumptions:

- Define options;
- Screen out options unlikely to meet objectives;
- For the remaining options, estimate the costs of each;
- Estimate the revenues of each option;
- Estimate the investment requirements for each option;
- Calculate the return on investment for each option (it should be above a “hurdle rate”—the minimum rate needed to be earned).⁵⁰

There are multiple ways to compare projects with each other in order to select the optimal one. One survey of chief financial officers showed their use of these techniques for making capital budgeting decisions: 75% reported that they use always or mostly net present value (NPV) or the related internal rate of return (IRR); 55% use the hurdle rate or payback period, in which the time needed to cover the investment is calculated and compared with that of other projects; 50% use sensitivity analysis, in which the various variables that affect profitability are changed to identify best-case and worse-case outcomes and their probabilities; and 25% use real options, in which the investment is disaggregated into several stages.⁵¹

Strategic planning enables the company to narrow down its search for investment opportunities. With its strategy determined, a company will use project analysis to select specific investment opportunities within the categories specified by the strategic plan. Such a project analysis also serves to verify the conclusions of a strategic plan.

Net Present Value Analysis

The NPV technique is the most common method of comparing projects, and can be equally applied to broader strategies. It involves discounting the net cash flows for a project or strategy, minus the net investment. The discount rate used most frequently is the company’s cost of capital

$$NPV = \left(\sum_{t=1}^N \frac{R_t}{(1+r)^t} \right) - I$$

where

- R_t = net revenue in period t
- r = discount factor
- N = time period
- I = investment

The problems are to find the correct discount factor and how to estimate future revenue streams. If a company concludes that the riskiness of a new project is equal to that of its current combination of projects, it can use its current cost of capital to determine the discount rate for the new project. On the other hand, if the company determines that the new risk is different, it can use the capital asset pricing model to calculate the expected returns, based on the risk rating of the project.⁵² See the discussion in ► Chap. 6 Financing Media, Information, and Communications.

49 Thamhain, Hans J. *Management of Technology: Managing Effectively in Technology-Intensive Organizations*. Hoboken, NJ: Wiley, 2005.

50 Phillips, Jack, Wayne Brantley and Patricia P. Phillips. *Project Management ROI: A Step by Step Guide for Measuring the Impact and ROI for Projects*. Hoboken, NJ: Wiley, 2011, 352; Schoeffler, Sidney, Robert D. Buzzell and Donald F. Heany. “Impact of Strategic Planning on Profit Performance.” *Harvard Business Review*. March 1974. Last accessed July 11, 2017. ► <https://hbr.org/1974/03/impact-of-strategic-planning-on-profit-performance>.

51 Graham, John and Campbell Harvey. “How Do CFOs Make Capital Budgeting and Capital Structure Decisions?” *Journal of Applied Corporate Finance* 15, no.1 (Spring 2002): 8–23.

52 Brealey, Richard A. and Stewart C. Meyers. *Capital Investments and Valuation*. New York: McGraw Hill, 2003, 185–219.

14.5.2.4 Case Discussion

Comcast—Net Present Value and Return on Investment of Strategy Options

Suppose that Comcast's CEO Brian Roberts offers his board of directors three strategic options for growth. The examples are hypothetical.⁵³ Comcast's assessment criterion is to choose the strategy that is estimated to show the highest measures of NPV and return on investment (ROI) over six years.

Option 1: Acquisition of the Large Regional Telecom Firm CenturyLink

The goal would be to establish a presence in the central part of the USA. Synergies and economies of scale make this venture a low-risk strategy, with a discount rate of 4%. The initial investment is—hypothetically—\$2000 million. Cash flows in the subsequent years is estimated as \$550 million, \$75 million, \$900 million, and \$1100 million.

$$\text{NPV} = -\$2000 + (\$550)/1.04 + (\$750)/(1.04)^2 + (\$900)/(1.04)^3 + (\$1100)/(1.04)^4$$

$$\text{NPV} = 962.4; \text{ROI} = (962.4 / 2000) * 100 = 48.1\%$$

Option 2: Vertical Integration: Acquisition of Discovery Communications

Vertically integrating Discovery Communications (owners of the Discovery Channel and 28 other content brands) would allow the company to secure ownership of content production and cable channels and enable it to deny them to competitors. Ownership of these companies could also lower its content acquisition costs. Resource synergies between a distributor of content and producer of content make this strategy a low-risk moderate-returns investment. The annual cash flow has a discount rate of 4% and an

initial investment of \$1,750 million. Net cash flows are estimated as \$500 million, \$800 million, \$850 million, and \$900 million.

$$\text{NPV} = -\$1750 + (\$500)/1.04 + (\$800)/(1.04)^2 + (\$850)/(1.04)^3 + (\$900)/(1.04)^4$$

$$\text{NPV} = \$1,081.8 \text{ million}; \text{ROI} = (1081.8 / 175) * 100 = 61.82\%$$

Option 3: Product Upgrade:

A third alternative strategy is to increase Comcast's internal ability to increase content production. But content production is a high-risk, high-returns strategy. The risk-appropriate discount rate is 40%, with an initial investment of \$2000 million. Net cash flows in subsequent years are estimated as \$1000 million, \$1350 million, \$1750 million, and \$2000 million. The NPV is then:

$$\text{NPV} = -\$2000 + (\$1000)/(1.4) + (\$1350)/(1.4)^2 + (\$1750)/(1.4)^3 + (\$2000)/(1.4)^4$$

$$\text{NPV} = \$561.4 \text{ million}; \text{ROI in\%} = (561.4 / 200) * 100 = 28.1\%$$

By these numbers, Comcast's optimal strategy would be the vertical integration into content creation and packaging by an acquisition of Discovery Communications. That strategy has the highest NPV, at \$1081.8 million. In terms of ROI the vertical integration strategy is also the best selection. Its ROI, over the six-year period, is 61.8%, in contrast with the Century Link option whose ROI is 48.1%, and that of internal diversification, at 28.1%.

14

Decision Tree Analysis

A methodology to choose among determinative options is to use a “decision tree,” in which various outcomes are presented with their probability as well as their cost and payoff. This is represented in a graph that shows a flow chart with decision points and possible consequences, including cost,

benefits, probabilities, and chance events. One can then identify the option with the highest expected benefit. A decision tree analysis offers structure and clarity in presenting information to decision makers.⁵⁴ On the other hand, a disadvantage is its formalism,⁵⁵ breaking everything into yes–no, either A, B, or C type decisions.

53 Based on Jan, Obaidullah. “Capital Asset Pricing Model.” *Accounting Explained*. Last accessed July 14, 2017. ► <http://accountingexplained.com/misc/corporate-finance/capital-asset-pricing-model> and Shapiro, Alex. “The Foundations of Finance: The Capital Asset Pricing Model (CAPM).” Last accessed July 14, 2017. ► <http://pages.stern.nyu.edu/~ashapiro/courses/B01.231103/FFL09.pdf>.

54 The numeric example is taken from Quinlan, J. R. “Decision Trees and Decisionmaking.” *IEEE Transaction on Systems, Man, And Cybernetics* 20, no. 2 (March/April 1990): 339–346.

55 Quinlan, J. R. “Decision Trees and Decisionmaking.” *IEEE Transaction on Systems, Man, And Cybernetics* 20, no. 2 (March/April 1990): 339–346.

14.5.2.5 Case Discussion

Comcast—Decision Tree

Suppose three potential generic strategies exist for Comcast:⁵⁶

- Product upgrade (internal production);
- Vertical integration M&A with content media (Discovery communications);
- Globalization by entering the European DBS market.

The probability of each decision alternative is derived from the risk analysis study of each step, derived from data where it exists

and from expert opinion through brainstorming.

$$EMV = \sum_{n=1}^N \text{Value}_n * \text{Probability}_n$$

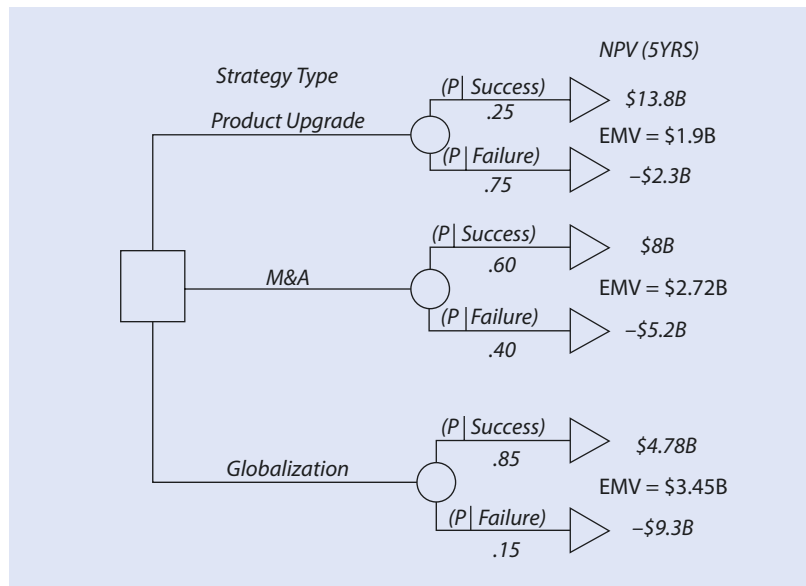
The EMV (expected monetary value) is the “total of the weighted outcomes (payoffs) associated with a decision” and is a useful tool for “choosing the most valuable option.”⁵⁷

Comcast has \$2 billion and can invest in a long-term strategic plan

or reward shareholders with dividends. It can utilize the decision tree analysis to determine the optimal generic strategy for the company (Fig. 14.5). This is the outcome in terms of the payoff, weighted by the probability for each stage to occur.

The strategy that emerges from the decision tree analysis of Fig. 14.5 that shows the highest composite value is Globalization (EMV = \$3.45 billion). Although it also has the greatest potential downsides (−\$9.3 billion), the probability of success is high.

Fig. 14.5 Decision tree for Comcast



The Imputed Value

A useful strategy tool for a firm is to calculate (“impute”) its value as a company under several strategic scenarios. For example, does a de-merger generate greater value than remaining a conglomerated firm? There may exist a potential “conglomerate premium”; or, conversely, a “conglomerate discount.” One can determine the imputed value

of each of the divisions of a conglomerated firm by estimating its market value based on a comparison with a comparable “pure play” firm (i.e. an undiversified firm) in the same industry.⁵⁸ The value of such a division is based on the assumption that each division would be valued by the stock market according to the market-to-book value of the comparable pure-play firm.

56 Anders, George. “Comcast Wins Skirmish, Girds for War.” *Wall Street Journal*, February 20, 2008. Last accessed July 11, 2017. ▶ <https://www.wsj.com/articles/SB120346320004678295>.

57 BusinessDictionary. “Expected Monetary Value.” Last accessed July 11, 2017. ▶ <http://www.businessdictionary.com/definition/expected-monetary-value.html>.

58 Nanda, Narayanan. *Finance for Strategic Decision Making: What Non-Financial Managers Need to Know*. San Francisco: Jossey-Bass, 2004.

14.5.2.6 Case Discussion

Comcast—Imputed Value

How can Comcast decide whether it should stay a multidivisional firm or divest several of its divisions and become a focused firm?

■ Table 14.3 is purely for illustrative purposes and is not a factual analysis of Comcast’s division book values and the median market-to-book values.

Comcast has a total market value of \$140 billion but an imputed value of its divisions of \$115,650 million. Therefore,

the actual market value of the conglomerate is higher by approximately 21% of the divisions’ imputed value.

According to these numbers, Comcast would reduce value for its shareholders by pursuing a divestiture strategy and becoming a focused firm.

- How do these analysis add up?
- The preceding NPV analysis finds that vertical integra-

tion into content should be a strategic priority.

- The DTA finds globalization to result in a high expected value.
- The Imputed Value analysis finds that a divestiture would reduce overall value.
- Together, these three approaches conclude that the company should strengthen its content and global roles through acquisition, and that its conglomerate structure adds value to investors.

■ Table 14.3 Value of Comcast divisions

Divisions	Comcast book value (\$ millions)	Pure-play firm median market-to-book value	Imputed value of division
Broadband internet access	20,000	2.1	42,000
Cable TV network platform	19,000	1.3	24,700
TV network	22,000	1.1	24,200
TV stations	10,000	1.6	16,000
Cable networks	3000	0.9	2700
Video on demand service	7000	0.65	4550
Voice over IP service	2000	0.75	1500
Total	83,000		115,650

14

14.6 Implementation of Strategy

Creating a strategy is difficult; but its execution is even more so. It requires an organization to develop a road map, create an organizational structure, and establish integration, coordination, communication, incentives, and controls.

■ Tools and Steps for Implementation of Strategic Plan

An implementation should be well-planned, with targets and deadlines. A “Gantt chart” comes in handy.

14.6.1 Internal Communication

Effective internal communication throughout the organization is vital. The responsibilities and accountability for key decisions and actions must be clear.⁵⁹ All within the organization should understand the basic strategy and they should “buy in” to it.

59 Alkhafaji, Abbass. *Corporate Transformation and Restructuring*. Westport, CT: Quorum Books, 2001, 17.

14.6.1.1 Case Discussion

Comcast—Implementing the Absorption of NBC Universal

Once the acquisition by Comcast of NBCUniversal became public, their two CEOs wrote a letter to all employees and reviewed the history of both companies, their combined strength, and the opportunity for innovation for the merged company. After the merger was consummated, NBCUniversal employees received gift packages including vouchers for 25 Comcast shares, worth about \$400 at the time. Beyond the financial gift, this gave them a small financial stake in the new company.

Comcast also had to address the opposition of labor unions. First, there was concern about a greater opposition to unionization by Comcast management. NBCUniversal was much more heavily unionized than Comcast. Roberts assured NBCUniversal's unions that he would deal with them no differently than the previous management. The second sensitive point was the protection of jobs. Comcast was in a delicate position when it came to layoffs.

On the one hand, the deal was sold to Wall Street investors as creating synergies by reducing duplication, which means a reduction of jobs. But this created morale issues, especially in the acquired company. CEO Brian Roberts countered rumors of widespread layoffs. He pointed to a limited overlap in this primarily vertical transaction. In the end, approximately 500 NBC employees were laid off after the merger in order to eliminate duplicated positions.⁶⁰

14.6.2 Budgeting

Firms must support a strategy through the allocation of resources. Strategy must be translated into the budget process; otherwise, short term budget considerations will overwhelm long term strategic decisions. But that is not always easy where resources are constrained and allocations are entrenched. Giving more to some activities will often mean giving less to others.

In planning a new strategy, the elements that need to be implemented are identified, with the specific activities required by each relevant business unit in addressing it. Each unit then creates its operational plan, which is “costed.”⁶¹

There are two basic approaches to fund strategy. The first is *incremental* budgeting, where one determines a growth rate for an activity, such as adding 5% to the advertising budget. The alternative is *zero-based* budgeting, where each expenditure must be justified from scratch. That technique works better for young and dynamic organizations. Some firms combine the two approaches, with a percentage of the budgets assured but with a substantial remainder zero-based each year.

14.6.3 Monitoring, Control, and Feedback

The implementation of a strategic plan includes monitoring of internal performance and business outcomes. It also includes a monitoring of external imports.⁶² Financial measures are important for companies, but other indicators, such as customer satisfaction, are essential as well. One technique for an evaluation is the “balanced scorecard” approach. This is a strategic planning and management tool originated by Robert Kaplan and David Norton. It adds non-financial performance measures to traditional financial metrics. The system uses a set of metrics to measure if the organization is meeting expectations.⁶³ It identifies through a set of “scorecards” what the performance objectives are, what the performance metrics are, what the company’s targets are, and what initiative it is taking to meet those targets.

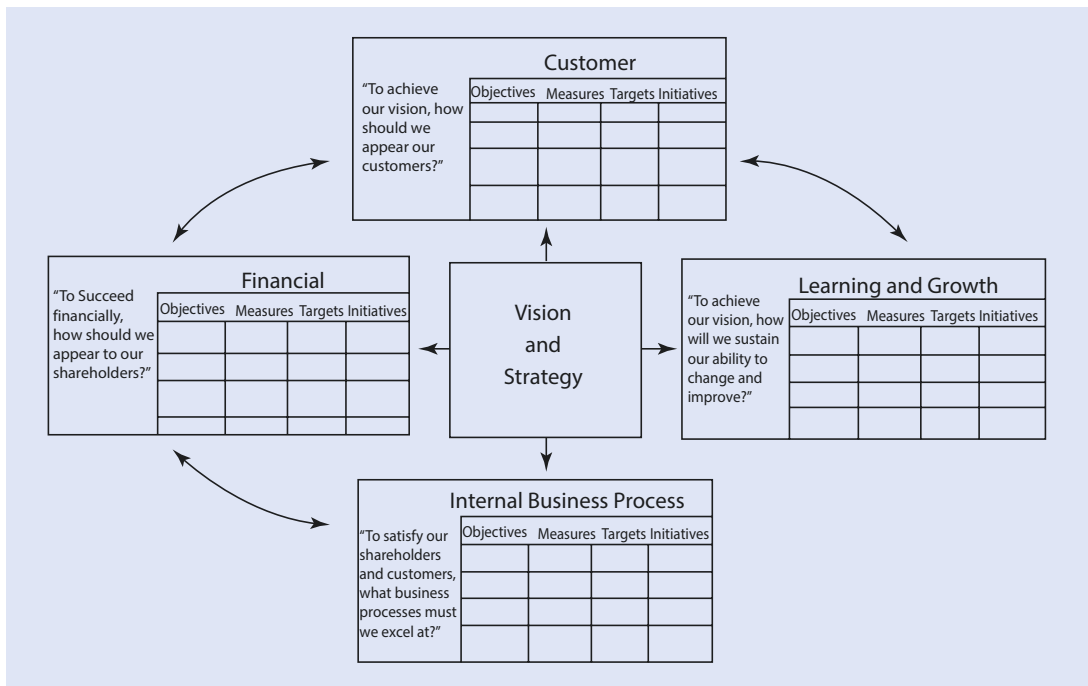
■ Figure 14.6 shows an example with four scorecards for performance (financial; customer relations; internal business processes; and learning and growth). For each, a set of objectives is defined, together with measures, targets, and planned initiatives.

60 James, Meg. “NBC cuts about 500 employees.” *Los Angeles Times*. November 12, 2012. Last accessed July 11, 2017. ► <http://articles.latimes.com/2012/nov/12/entertainment/la-et-ct-nbcuniversal-cuts-500-employees-20121112>.

61 Civicus. “Budgeting.” Last accessed July 11, 2017. ► <http://www.civicus.org/documents/toolkits/Budgeting.pdf>.

62 New Zealand Ministry for the Environment. “Measure the success of your strategy.” Last accessed July 11, 2017. ► <http://www.mfe.govt.nz/publications/rma/live-work-play-jun02/guide/success.html>.

63 Rigby, Darrell K. “Management Tools 2011: An Executive’s Guide.” *Bain & Company*. December 13, 2010. Last accessed July 11, 2017. ► <http://www.bain.com/publications/articles/management-tools-2011-executives-guide.aspx>.



■ Fig. 14.6 Balanced scorecard

For example, for the Financial Scorecard:

- Objective: become more profitable.
- Measure: percentage increase of net income.
- Targets: increase net income from 3% to 4% within the next six months.
- Initiatives: two options:
 - Either increase revenue (raise prices or sell more);
 - Reduce costs (cut costs per unit variable/ fixed or sell less);
- Choice: increase prices.

The balanced scorecard reports performance along several dimensions but does not provide an overall measurement of performance.⁶⁴ This is done in a different approach that combines a set of metrics known as “objectives and key results” (OKR). It was introduced by Intel and is used by many tech companies such as Google.^{65,66} The aim is to have an

objective grading. OKRs are typically set by the person/team themselves for themselves and not by the supervisor, and are then subject to objective measurement. At the end of a period that is being evaluated, key results are graded on a 0–1 scale. Perfect scores close to 1.0 (100%) indicate that the goals were set too easy; scores around 0.4 or lower indicate problems or lack of realism. A score of 0.6–0.7 is the sweet spot. The various scores are then averaged.

As an example, in the following we apply the OKR framework to the performance of a video channel.

Objective 1: Become the preferred video channel of target customers.

Key Results (1)

- Increase surveyed customer satisfaction from a measure of 7.3 to one of 8.3. The result after one quarter is 8.0, which is an achievement of 70% of the goal, and the grade is therefore 0.7.
- Decrease monthly churn rate from 2% to 1.7%. The actual performance is 1.85%, which is an achievement of 50%, and the grade therefore 0.5.
- Increase new monthly viewing by 1%. The result is 0.8%, achieved 80%, the grade therefore 0.8.

64 Brudan, Aurel. “Learning from practice - A brief history of performance measurement.” *Aurel Brudan*. August 7, 2010. Last accessed July 11, 2017. ► <http://www.aurelbrudan.com/tag/history-of-performance-measurement/>.

65 Yarow, Jay. “This is the Internal Grading System Google Uses for its Employees — And You Should Use it Too.” *Business Insider*. January 6, 2014. Last accessed July 11, 2017. ► <http://www.businessinsider.com/googles-ranking-system-okr-2014-1>.

66 Rotenberg, Zorian. “List of Top Companies That Use OKR Goals.” *Atim Inc*. Last accessed July 11, 2017. ► <https://www.atim.com/blog/top-companies-that-use-okrs/>.

The result for the first objective is the average of all key results: $(0.7 + 0.5 + 0.8) / 3 = 0.67$. That score is in the desirable range.

Objective 2 Become more profitable (net profit).

Key Results 2

1. Increase number of advertisements sold by 4%. The result after one quarter is 3%, an achievement of 75%, the grade therefore 0.75.
2. Decrease fixed costs by 3%. The result after one quarter is 1%, an achievement of 33.33%, and the grade therefore 0.33.
3. Decrease variable costs by 2%. The result after one quarter is 1%, an achievement of 50%, and the grade therefore 0.5.

The result for the second objective is the average of all key results: $(0.75 + 0.33 + 0.5) / 3 = 0.53$ which depicts an underperformance and which should be analyzed as to what went wrong.

OKRs can be applied to all parts of an organization, to a team, even to one person. At Google, all OKRs are internally public, including that of CEO/Founder Larry Page.

A weakness of the OKR approach is that all objectives and goals are given an equal weight in the aggregation/averaging, whereas clearly some are more important than others. For example, raising profitability seems more important to a business organization than lowering consumer churn, yet they are treated the same. (They are interrelated, of course, but that does not mean they carry equal weight.) Thus, assigning weights to goals and objectives would make sense. These weights may be subjective but so are some of the metrics and performances themselves. The key is consistency over time.

The organization should allocate its budget toward the various dimensions of performance goals based on the impact of these funds on improvement, weighted by the importance of that goal, and relative to the cost of achieving that improvement.

Any quantitative system leads to strategic behavior by the participants. They will de-emphasize goals that are low-weight or hard to change, and emphasize high-weight, low-hanging fruit in order to maximize performance scores.⁶⁷

But properly designed, this provides management with an effective incentive and feedback tool that optimizes what the organization values, beyond the financial bottom line.

14.6.4 Implementation of Strategy: Government Relations

Almost any strategic reorientation by a large organization will have some regulatory or employment implications that will result in necessary steps before governmental bodies. Rivals may use this process to block or delay a company's strategy. Hence, to implement a strategy will usually require preparatory work to pave the way with regulators. This was discussed in ► Chap. 8 Entertainment Law and Media Regulation.

14.7 Outlook

14.7.1 Constraints on Strategy

Not all economically desirable strategies are open to a company. Some require funding, technology, or partners that are not available. But even financially and technologically viable projects might be constrained by governments. Given the importance of media in society, media firms are not quite able to function like other businesses.⁶⁸ Some strategies cannot be followed simply because they would violate the law of their country of origin or place of operation, or international agreements. Such laws include:

- Antitrust, anti-monopoly, and ownership laws that affect mergers, pricing, price discrimination, business practices, and consumer protection;
- Foreign ownership restrictions and domestic content requirements;
- Laws governing marketing practices and advertising;
- Tort liability for the impact of products;
- Liability for employee actions;
- Shareholder rights and financial disclosure requirements;
- Environmental laws;
- Union contracts.

67 Duggan, Kris. "Weighting OKRs - Unnecessary Complexity." *Better Works*. August 4, 2016. Last accessed July 11, 2017. ► <https://betterworks.zendesk.com/hc/en-us/articles/211366166-1-Better-With-Kris-Weighting-OKRs-Unnecessary-Complexity>.

68 Butler, Kelley M. "Examining the benefits of corporate social responsibility." *Employee Benefit News*. May 1, 2006. Last accessed July 11, 2017. ► <http://connection.ebscohost.com/c/articles/20826550/examining-benefits-corporate-social-responsibility>.

14.7.1.1 Case Discussion

Comcast—Government Regulation as a Constraint

In Washington, the Federal Communications Commission and the Department of Justice had to approve the merger of Comcast and NBCUniversal, and later of Comcast's attempted acquisition of Time Warner Cable. They set a list of conditions for the NBCUniversal acquisition. Comcast agreed not to use its programming or networks as an anti-competitive tool. It must provide its TV programming to online distributors who want it, in addition to satellite, telecom video, and distributors who already have such rights by law and regulation. Comcast

cannot exercise corporate control over programming available on the online platform Hulu. NBC programming cannot be withheld from other cable and satellite operators, as well as online distributors, and has to be offered at fair and reasonable rates.

Comcast also agreed to carry eight new independent channels owned or managed by African Americans or Latinos. Comcast is prohibited from unreasonably discriminating in the transmission of an online video distributor's traffic to a Comcast broadband customer. Comcast is required to give other

firms' content equal treatment under any of its broadband offerings. (This resembles "net neutrality" provisions that were set years later to regulate the ISP industry as a whole.) Comcast had to agree to offer Internet service at reduced rates to low income households.

A few years later, when Comcast intended to buy Time Warner Cable (the number two cable operator), opposition to big media mergers had grown. Facing determined resistance and governmental scrutiny, Comcast abandoned the merger.

14.7.1.2 Case Discussion

Comcast—Conclusion

Comcast is a large established media company in the entertainment and telecommunications sector. For both video channels and broadband it holds the largest US market share of connecting information providers and households. With its acquisition of NBC Universal, it has added creative production into its portfolio. This vertical integration furthers its strength in the media field, giving it an advantage over other cable TV companies and other large media firms.

But what is Comcast's next path of growth? Its size will remain a target for government and Comcast must therefore tread lightly. Does that mean expanding worldwide rather than seeking market share in the USA? Or will Comcast instead launch new products domestically?

Expanding outside the USA in cable TV platforms would involve a massive infrastructure investment. The company could grow by acquiring a foreign cable TV or satellite TV company, which would already have a subscriber base and infrastructure to utilize. But this will be expensive, too. Growth opportunities are flat in most industrial countries but there are some opportunities where cable is relatively weak. For example, cable penetrations are low in Japan, Italy,

Spain, India, and China. In emerging markets demand is growing for broadband and cable services, but domestic companies do not have the capital to invest in such cost-intensive and high-risk endeavors.

Comcast's strategies to achieve or protect its competitive advantages would be to invest in barriers to entry, including by raising customer lock-in. But this is subject to regulatory scrutiny. Can Comcast differentiate its product? Actually, as the company has become wider, not narrower, in focus and hence less differentiated, it is exposed to competition by more specialized and fast-moving firms. Video distribution, at the same time, is becoming a commodity service.

In such a commodified market, can Comcast be a leader? The company has been efficient but has not aimed to be the low cost provider, nor is it likely to be able to do so. Its size gives it some advantages, of course, but the quality of content and performance are more important. Its Internet broadband service is priced at the high end, as is its cable TV service. Can Comcast then differentiate the product by an innovation strategy? To do so, Comcast would have to possess unique technology assets or R&D

resources. While it has done a good job in adopting technology it has no unique access to it.

To conclude on Comcast strategy:

- Domestically, Comcast should move decisively into mobile and thus to quadruple play, partly through an MVNO approach, and partly through acquisitions or partnerships with Sprint or T-Mobile, in collaboration with other cable companies.
- Comcast could seek a broad alliance and even merger with a telecom company such as Verizon, and share network resources and content.
- In video platforms, Comcast should extend its cable operations into selected markets in emerging countries, and to satellite TV platforms in developed markets.
- In broadband, Comcast should strengthen its technology base, both in the network/online cloud end and in the next generation of content. It should continue to upgrade the speed offered to customers, and to maintain a reputation of quality offerings.
- In content, Comcast should strengthen its position through vertical integration.

14.7.2 Conclusion: Strategic Priorities

What strategy to pursue? The classic B-School approach is to analyze and then to select the optimal direction: “Chart the Best Course.” That could be accomplished in various ways, such as by product innovation, entry into new markets, or cost efficiency. The alternative approach, and the conclusion in this chapter, is to “Build the Best Ship.” The strategy prescription of this book is: *get the parts right and the whole will work out*. The main strategic recommendation is to build the best organization. Optimal strategy will keep changing. An organization of effective sub-systems can handle the rapidly shifting needs that will inevitably occur in a rapidly changing world of media business, technology, and policy. Mutation and “strategic morphing”⁶⁹ are needed to succeed in a volatile environment. Organizations need to develop strategies that are adaptable rather than seek an illusory long-term blueprint.⁷⁰

This then is our fundamentals perspective on strategy: “The Company is the Strategy.”

14.8 Review Materials

Issues Covered


- How the strategy function applies to the media industry;
- How media strategy misjudgments affect businesses;
- What the intellectual stages that have been business strategy thinking passed through;
- What the strength and limitations of the competitive advantages approach are;
- What the strength and limitations of the core competencies and of the resource-based view are;
- How to organize the process of strategy setting;

- Who engages in strategy planning, and what the problems are;
- What strategic plans contain;
- How to conduct external and internal assessments;
- What kind of basic strategy options for information and media sector firms exist;
- How to evaluate and pick strategy;
- How to choose the best strategy;
- How to implement strategies;
- What the constraints to strategic options are that affect firms in the media industry.

Tools Covered

- SWOT analysis;
- Game theory;
- Core competencies approach;
- Resource-based view;
- Strategic morphing;
- BCG growth share matrix;
- Demand analysis;
- Competitor analysis;
- Radar chart;
- Oligopoly analysis;
- Benchmarking;
- Initial tests for fit (e.g. constraints test, originality test, purpose test or flexibility test);
- Net present value;
- Return on investment;
- Decision tree;
- Imputed value;
- Incremental and zero-based budgeting;
- Balanced scorecard;
- Objectives and key results.

14.8.1 Questions for Discussion

1.  Yahoo, once a shining star, lost market share to Google. As a consultant, you're asked to design a plan for how Yahoo may regain its competitive advantage. Discuss the general principles for creating a competitive advantage which may be the guidelines you want to apply to your strategic plan.

69 Kauffman, Robert J. Miller, Tim and Wang, Biin. “When Internet Companies Morph: Understanding Organizational Strategy Changes in the ‘New’ Economy.” *First Monday* (July 2006).

70 Sánchez-Taberner, Alfonso. “The Future of Media Companies: Strategies for an Unpredictable World.” In Picard, Robert G., ed. *Strategic Responses to Media Market Changes*. Media Management and Transformation Centre Jönköping International Business School. no. 2004–2002. 22.

2. What implementation actions are necessary to fulfill the execution of a strategy plan? Briefly describe each type of action and its difficulties.
3. A magazine publisher has drawn strategic plans for product differentiation via the addition of specialized magazines to its already extensive portfolio. What are the risks of a product differentiation strategy? What can you do to avoid them?
4. What are the necessary components of content-based strategy for a music company? How would such a strategy be implemented?
5. As a media consultant, how would you advise a broadcast radio company to seek growth—through expansion or through diversification and expansion of scope?
6. What is the planning process for capital budgeting? Describe the two budgeting techniques, incremental and zero-based budgeting, and discuss how they are applied.
7. How would a start-up apply OKR? How would a huge conglomerate?
- D. Fickle consumer demand;
E. All of the above.
3. Which of the following is *not* a theory of business strategy?
A. The strategic gameboard;
B. Game theoretic frameworks;
C. Threat matrix;
D. Creative destroyer;
E. Share development tree.
4. Which of the following is part of market assessment?
A. Define market;
B. Assess market size, growth, and trends;
C. Assess technology trends;
D. Identify major plays;
E. All of the above.
5. Which of the following is *not* part of an external assessment?
A. Audiences and customers;
B. Competitors;
C. Environment;
D. Market;
E. Human resources.
6. Which of the following is *not* a technique to determine consumer demand?
A. Bayesian networks;
B. Focus groups;
C. Econometrics;
D. Self-reporting;
E. Survey of retailers.

14.8.2 Quiz

1. Which of the following is *not* part of a director's role in strategy?
A. Make major strategy decisions in board meetings;
B. Approve fundamental transactions;
C. Review and approve corporate strategy and policy based on recommendations provided by senior management;
D. Delegate day-to-day managerial responsibilities to the senior officers.
2. What makes media and information firms have high rates of uncertainty?
A. High failure rate of content;
B. Short shelf life of content;
C. Content is too abstract;
7. Competitive advantage could be achieved by which of the following?
A. Brand identity;
B. Customer base;
C. Access to capital;
D. Globalization;
E. A, B, and C.
8. Which of the following is *not* a seller strategy for lock-in?
A. Concessions for customers to ensure they will lock-in;
B. Invest in lock-in through upfront discounts;
C. Understanding switching costs;

14.8 · Review Materials

- D. Focus on influential buyers and buyers with high switching costs;
E. Increase switching costs by selling complementary products.
9. What are the benefits of alliances?
A. Gain technologies or skills;
B. Reduce competition;
C. Realize economies of scale;
D. Gain access to new market segments;
E. All of the above.
10. How would Apple describe the new model of iPhone on the Growth Share Matrix?
A. Star;
B. Dog;
C. Cash cow;
D. Question mark.
11. How do “war game exercises” assist strategy groups in setting strategic plans for the company?
A. It sets employees up against one another, causing competition among the employees to devise the best strategy for the company;
B. It pulls in individuals from various departments allowing them to devise plans that they would have difficulty devising otherwise;
C. It allows the company to run through various scenarios in market developments, new competitors, and various governmental regulations, generate observations, and plan solutions around their observations;
D. It creates a military environment which instills attention to detail and focus, allowing for the design of high end strategic plans.
12. Limitations on the core competency approach are:
A. It is difficult to sustain non-imitable advantage;
B. That it is better suited for start-ups than for mature companies;
C. Core competencies are primarily based on patents that expire;
D. The success of Asian companies cannot be explained by the core competency approach.
13. All of the following are components of strategic planning except:
A. Reviewing the internal capabilities;
B. Identifying, analyzing, and selecting the best options;
C. Developing a plan;
D. Internal polling of whether to continue the plan.
14. What does SWOT stand for?
A. Strength, weaknesses, opportunities, and threats.
B. Successes, warnings, objectives, and techniques.
C. Strategy, weaknesses, offerings, and tactics.
D. Strength, warnings, objectives, and threats.
15. What is a prisoner’s dilemma?
A. One party’s gain is another party’s loss.
B. In the absence of collaboration everyone loses.
C. Coordination is sought in the absence of communication.
D. When a rival firm doesn’t cooperate but everyone wins.
16. Which statement about the Core Competencies approach is not correct?
A. In a dynamic environment of media and technology it is difficult to sustain a non-imitable and unusual capability in any resource.
B. A company wanting to develop core competencies should consider outsourcing non-core capabilities.
C. The approach is suitable for start-ups.
D. A company can develop core competencies by identifying its key abilities and leveraging them.

17. Which statement is true for most strategy gurus?
- A. They use statistical and analytical methods.
 - B. They use case studies.
 - C. They have a high predictive value.
 - D. They are bad at explaining the past.
18. Which statement applies to product strategies?
- A. Product strategies focus on the design, quality, and production process.
 - B. Product strategies focus on reaching buyers and placing the product.
 - C. Product strategies deal with the scope of the firm's products.
 - D. Product strategies are separated into two dimensions: widening and deepening.
19. From which area does game theory originate?
- A. Chess.
 - B. Military.
 - C. Sports.
 - D. Videogames.
 - E. None of the above.
20. What is not a possible way to achieve competitive advantage?
- A. Focus on improving brand reputation relative to the firm's competition.
 - B. Invest in research and development (R&D).
 - C. Stand ready to cut prices to deter rival entrants.
 - D. Develop strong government relations to strengthen media entry barriers.
 - E. None of the above.
21. What are possible first ways to select a strategy?
- A. Purpose tests and constraints tests.
 - B. Risk tests and execution tests.
 - C. R&D tests and originality tests.
 - D. HR recruitment flexibility tests and execution tests.

Quiz Answers

- ✓ 1. A
- ✓ 2. D
- ✓ 3. B
- ✓ 4. B
- ✓ 5. D
- ✓ 6. A
- ✓ 7. A
- ✓ 8. B
- ✓ 9. E
- ✓ 10. C
- ✓ 11. C
- ✓ 12. A
- ✓ 13. D.
- ✓ 14. A.
- ✓ 15. B.
- ✓ 16. C.
- ✓ 17. B.
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- ✓ 20. E.
- ✓ 21. A.



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15.1 The Matrix of Media Management

We have come a long way since the opening chapter of this book, and we have covered a wide ground. As we observed at the beginning, the subject matter of media management can be thought of as a two-dimensional matrix. The *vertical* dimension is that of the various industries. Most of the books in this field follow this approach.¹ Of these industries we examined:

- Distribution Platforms: the Internet, tele-
coms, TV and radio broadcasters, cable,
satellites, and media clouds;
- Content creating industries: music, film, TV,
books, newspapers, magazines, video games,
and more;
- Device making industries: media-tech, IT,
consumer electronics, and components.

In contrast, the *horizontal* dimension of the media management matrix is that of business functions—finance, marketing, distribution, market research, human resource management, accounting, strategy planning, pricing, legal and public affairs, and so on.² Each of the chapters covered a major management function, and their challenges were described and analyzed. Each of these functions is run by a high-level executive with extensive staff (for large companies) or by a multi-tasking entrepreneurial team (for start-ups).

To make a media and information company effective, each of these functions and their managers must be made to work well, and well together. Or, these functions must be outsourced to external specialist firms and professionals.

It has been the goal of this book to overcome the limitations of approaching the matrix from one dimension only, and to apply the major dimensions of a management curriculum to the entire media and information sector. In the process, communications students and media professionals will have acquired a summary of an MBA curriculum covering numerous business issues and management tools. At the same time, more

generally oriented business students and managers will have received an introduction into the media and information sector, and a “capstone” that integrates the various strands of a management curriculum as applied to one sector.

15.2 Is Management in the Media and Information Sector Different?

15.2.1 Fundamental Factors

At the outset, we asked the question whether management in the media and information sector is distinct from the one deployed more generally. The answer is yes and no. It is an industry sector, with many of the same incentives and constraints as exist in other parts of the economy. But it is also a special sector with its special fundamental economics, policy sensitivities, technology dynamics, and market organization. Media and media-tech industries are also on the leading edge of innovation and thus lead rather than follow when it comes to new organizational practices and market relations.

We anticipated and subsequently developed in detail the factors that make media management special. There are eight major and fundamental factors at work. They include extremely high economies of scale and network effects; extraordinarily rapid technological change; excess supply and price deflation; convergence of technologies; high distance insensitivity; a pervasiveness of intangible assets; the presence of economic non-maximizers; and public good characteristics with a wide range of governmental interventions.

These characteristics impact just about every media activity and media manager. In the twelve major chapters of this book we analyzed how they affect the particular functions of a media company. Many of these characteristics exist in other industries, too. But not in the same combination or intensity. Together, they create unique incentives, demands, and constraints as compared to those of industrial productions or of other services. Such particularities and peculiarities create a need for media-specific management considerations and analytical tools. In that sense, media management is indeed different.

1 For details, see the literature cited in ► Chap. 1 Introduction.

2 Footnotes 1 and 2 of Footnote 3 ► Chap. 1 Introduction.

15.2.2 Personal Motivation

There are also personal dimensions that make media management special. As we observed in the introductory chapter, management of media and information ventures has appealing cross-overs: creativity meets management; imagination meets technology; arts meet investment; business meets public policy; left brain meets right brain. Why are so many talented people interested in working in the media and media tech sector? It is a risky business, with its share of complex personalities. Yet all of us have a creative spark, which has often been submerged. We have become consumers and spectators. But managing in the media brings it back, in a way. Media integrates parts of our personalities and biographies. It's an endlessly interesting, fascinating, enthusiasm-building field. Its horizons of creativity and technology are unlimited. It creates the entertainment that forms our fantasies, shapes our styles, and sets our role models. It provides our analysis of the world around us. It is the trend-setter that affects our tastes. It represents sweet imagination, seductive opportunity, rich possibilities, glamorous pioneering style, opportunity, fortune, and fame.

15.3 Challenges for Media Managers

Information has moved from a supplementary factor to being the central business input and major output of an advanced economy. Where information was once a scarce resource, it is becoming an abundant resource. Such a new environment requires:

- *Individuals* capable of managing the production and use of information resources;
- *Organizations* capable of deploying such individuals;
- *Tools* to analyze and operate with.

The last few years have created a set of enormously powerful technology tools. These tools have only just begun to transform media and the economy. Digital technology reshapes core processes, costs, products, content, distribution, customer relations, and consumption patterns. The elements

are known and they are now making their way through the economy and society. The famed economist John Maynard Keynes observed that analyses of the future lack a scientific basis, and one therefore cannot work out long range strategies; instead, what can be done is to prepare companies for opportunities and immediate challenges.³ But the future can be gleaned in several ways. Much of it is already present to a sharp-eyed observer. “The future is already here, it is just unevenly distributed”, as William Gibson, Chief Technologist of Sun Microsystems, observed.⁴ Secondly, certain trends, such as Moore’s Law rate of progress in electronic components, will continue for some years, and one can engage—carefully—in extrapolation and projections.

The impact of the newly emerging tools has not yet been fully absorbed into economy and business behavior. New practices meet the old ones. In the process, both are being reconfigured. This environment creates incentives to rapid investment, over-supply, price deflation, and boom-bust cycles. It affects the velocity of knowledge creation, the structure of markets and of companies, and all institutions of society. It has been one of the aims of this book to identify some of these big-picture trends and their managerial implications.

15.3.1 The Search for a New Media Business Model

Traditionally there have been two basic business models for media—pay and advertising. Both are severely challenged. Impediments to the pay model are that “information wants to be free,” and thus without charges, and that piracy is hard to control. But even if access could be controlled, market forces are at work. With so much content being offered there is a relentless price deflation. It becomes difficult to charge for information directly.

3 Sánchez-Tabernero, Alfonso. “The Future of Media Companies: Strategies for an Unpredictable World.” In *Strategic Responses to Media Market Changes. Media Management and Transformation*. Ed. Robert G. Picard. Jönköping, Sweden: Jönköping International Business School LTD., 2004.

4 Chakravorti, Bhaskar. “The Future of the Future: Where Are the Breakthrough Innovations?” *Huffington Post*. April 22, 2014. Last accessed July 14, 2017. ► http://www.huffingtonpost.com/bhaskar-chakravorti/the-future-of-the-future_b_5194767.html.

The advertising model, too, is under pressure. The supply of ad space greatly exceeds demand. Competition drives down prices. There is a greater possibility of customization, but it is complex and costly. Readers and viewers can bypass advertisements. They increasingly refuse to pay for content by providing their attention. This has led to a third model of compensation—for users to “pay” by giving up information about themselves, thus making the remaining advertising more effective. Yet this direction raises issues of privacy and informational sovereignty.

Finding a revenue model is not the only challenge to digital companies. There is also a transformation of the traditional value chain.

15.3.2 The Search for a Media Industry Structure

The reduced transactions costs facilitate “virtual companies” that are based on an outsourcing or networking of their functions. Another dimension of change is the organizational structure of media and digital companies. In the past, media, information, and communications companies forged stable and profitable niches through a high market share in sub-markets, conglomeration across markets, and vertical integration. In the new environment, along the value chain, specialization, horizontal consolidation, and global expansion seem to perform better than conglomeration. Vertical integration may work at times, but it also creates internal inflexibilities and culture clashes.⁵ The new environment requires a structural change in the way that the firms are organized.

This is likely to lead, over time, to a system that combines two major types of companies:

1. Specialist firms which concentrate on particular technology elements and on focused content.
2. Integrator firms whose major contributions are to coordinate, finance, bridge, market, and collect. These could be major media companies, CE firms, major telecom network companies, or new-style information-sector firms like Google or Amazon.

Producers, distributors, and consumers of information can interact directly or in different ways, cutting out old intermediaries.

15.3.3 The Search for a New Content Model

The traditional content model was based on mass market content (blockbusters) as well as more specialized audience products. Audiences are now much more fragmented and “long tail” than in the past. The new broadband pipes will lead to new types of content, becoming participatory, individualized, and immersive. An experience, not just a show. To produce such content is complex and expensive. The economies of scale are enormous, and transmission is distance-insensitive. Together, these factors will lead to very large media firms playing an increasing role around the world as the central nodes.

15.3.4 The Search for New Government Policy and Regulation

The media and information industries are also part of the foundation of society; they set social and cultural standards and values. Information is the resource that can lead to major decisions. They create the news that is our early warning system, the culture that affects how we think of ourselves, of others, of the past, and of the future. They are part of creating the technology that changes how we live, work, shop and interact with each other. In that process, the information revolution is engaged in the transformation of media and information also disrupts many established ways. Rich and poor countries alike have problems in coping.

Media managers often underestimate their public role. Media by nature have high visibility, cultural significance, commercial impact, and political clout. As a result, they are usually in the cross-hairs of governments that want to assure various goals of public policy. Media suffuses society, and therefore society suffuses media. Hence, a media firm’s activity more than for most organizations, is subject to numerous constraints by government. Given these important and multiple

⁵ Picard, Robert G. *Media Product Portfolios. Issues in Management of Multiple Products and Services*. Abingdon, U.K.: Routledge, 2005.

roles it would be naive to imagine that media and related digital firms will be able to function purely with a bottom-line orientation like most other businesses, without a serious backlash.⁶

Governments are uncertain how to proceed. Should there be converged regulation? Separation of platforms and content? Barriers to free flow of content to protect national cultures? Support policies for upgrade investments in infrastructure? Access rules? Subsidies for the connectivity of weaker segments of society? Restrictions on ownership and mergers? Law to protect privacy and security? Censorship of hateful content and of false news? Many of the old tools of control are becoming ineffective, while new tools are not easy to conceive or implement. More fundamentally, the boom-bust cycles in the sector shows problems of instability in the media, as well as in the information, communications and technology industries. Media managers are in the middle of this transformation. They need to understand the forces in society and how they affect the regulations. They must anticipate and help shape these rules. And they must comply with them, both domestically and globally. This is a process that must be organized and managed.

An important related task deals with the rules about assets that are based on governmental processes—copyrights, patents, trade secrets, and trademarks. In an information-based sector, the protection and commercialization of such assets becomes a key managerial responsibility.

15.3.5 Understanding the Future and Understanding the Past

The media and information field is progressing at a prodigious rate. To assess it properly requires knowledge of the details, but also an understanding of the big picture. Where things have been coming from, and why. A sense of history is important for recognizing how people, companies, and governments have been acting and reacting in the face of media transformations and to learn from their successes and failures. It helps

us to understand the cultures and hence actions of companies, entire industries, and other countries. Similarly, it essential to understand the future. This requires knowledge of technology, its drivers, its leading edges, and its trends. It also means an understanding of societal dynamics and their impact on people and politics.

15.3.6 Dealing with People

Media managers need to deal with several categories of people. Most obviously, there are customers or users. They are often unpredictable in their preferences and needs. They also affect each other. As societies become more heterogeneous, and as the supply of media content and services rise, these preferences become more specialized, more demanding, and harder to ascertain. A second major category of people are those working for the media company, both inside and outside the organization. These include industrial workers, freelancers, middle-level managers, techno-geeks, and creatives. Each of these require different types of attention by managers.

15.3.7 Being Good with Numbers

As important as the nurturing of creativity and innovation is, ultimately they must be based on an economic foundation of investments, expenses, revenues, and income. Being able to plan and control activities and money is essential. This requires an understanding of statistics, finance, accounting, and information systems.

15.3.8 Globalization of Media and Information

There is a collapse of physical space where a “death of distance” creates new markets for information goods and services, enables the entry of new competitors from abroad, and expands the footprint of companies.

There was a time when media activities were organized locally and nationally, in terms of companies, content, audiences, and governmental controls. That kind of segmentation is giving way to much wider cross-national footprints of activities.

⁶ Butler, Kelley M. “Examining the benefits of corporate social responsibility.” *Employee Benefit News*. May 1, 2006. Last accessed July 11, 2017.
 ▶ <http://connection.ebscohost.com/c/articles/20826550/examining-benefits-corporate-social-responsibility>.

The challenges for managers in that environment is that they must broaden their understanding of markets, rules, competitors, audiences, and work forces far beyond their comfort level of familiarity.

15.4 Managing in the Media and Information Sector

15.4.1 How Organizations Succeed

Is there a “silver bullet,” a lever for success in this field? As we discussed in the preceding chapter, the classic B-School approach is to “Chart the Best Course.” That approach is to find the optimal strategy and try to get there. The alternative approach is to “Build the Best Ship.” This has been the prescription of this book: *get the parts right and the whole will work out*. Optimal strategy will keep changing. An organization based on a set of effective parts can handle rapidly changing strategy needs. Mutation and “strategic morphing”⁷ are needed to succeed in a volatile environment. As Charles Darwin concluded, “it is not the strongest of the species that survives, nor the most intelligent, but rather the one most responsive to change.”⁸

15.4.2 Organizational and Personal Responsibility

Beyond organizational recognition of a media organization’s role as an important factor in society, there is also a personal responsibility for a

media manager. Ultimately, companies are run by people and people have aspirations, needs, ambitions and ideals. Media managers should not forget some of the reasons they chose their occupation:

- To support creativity;
- To support an informed society;
- To keep growing personally;
- To appeal to our better self rather than our worst instincts in gathering audiences;
- To be part of change;
- To be at a leading edge of innovation in technology and creativity;
- To be responsible to others and to oneself.

As we observed in the opening of the book, the good news is that for those interested in the information resource—how to produce it, how to distribute it, how to use it—the present is the most exciting period, ever. The bad news is that it is also a period with the greatest uncertainty and risk ever. What does it take for success in the media business? Creativity, innovation, and performance, of course. But that is not enough. It requires an understanding of technology, money, markets, audiences, pricing, global business, economics, managerial accounting, government relations, and the ability to nurture and lead talent. This book aims to help those in the media, information, and media tech sector to become creative managers and managerial creatives. The aim is to make media management less daunting and less filled with blinding hype, to make the reader a more effective, more productive, and more responsible participant.

7 Kauffman, Robert J., Tim Miller, and Biin Wang. “When Internet Companies Morph; Understanding Organizational Strategy Changes in the ‘New’ Economy.” *First Monday* (July 2006).

8 Brul, Caroline van den. *Creativity by Design*. Last accessed July 12, 2010.
▶ <http://www.creativitybydesign.co.uk>



Correction to: Media and Digital Management

Correction to:

Eli M. Noam, *Media and Digital Management*,
<https://doi.org/10.1007/978-3-319-72000-5>

The book was inadvertently published with an incorrect copyright year as 2018 whereas it should be 2019. The copyright year has been updated in the book.

The updated online version of the book can be found at
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