Porter's five competitive forces framework and other factors that influence the choice of response strategies adopted by public universities in Kenya

Introduction

The business world today is undergoing rapid transformation, and is operating in a highly turbulent and dynamic environment that calls for businesses to plan and anticipate any uncertain future by crafting appropriate and sustainable response strategies. However, the attractiveness of a particular strategic response is partially a function of the amount of risk it entails (Wheelan and Hunger, 2008) since attitude towards risk exerts considerable influence on strategic response. In Kenya, public universities have adopted coping strategies similar to those applied by business enterprises in response to environmental and managerial challenges that they face (Mathooko, 2013; Mathooko and Ogutu, 2013), among them Porter's generic competitive strategy. Porter's (1985) five forces analysis that is grounded on microeconomics and has been successfully adopted by business enterprises is one of the most applied strategic framework used today (Pringle and Huisman, 2011). This framework believes the success of an organization's competitive strategy depends on the positioning of the organization within its environment, particularly its industry, and its ability to defend itself against competitive forces, or influence them in its favour (Hua, 2011). Higher education industry today is in the business triangle that is constantly subject to external pressures, like competitive forces from the domestic as well as international education providers, from both public and private higher education institutions (HEIs) (Anand, 2012). Collis (1999a,b) predicted that higher education will be fundamentally different in the 21st century and was among the first researchers to apply techniques developed within the field of business strategy to the higher education arena. More than a decade later, little empirical information is available on the application of Porter's five competitive forces (PFCF) framework in the higher education industry. In higher education, institutional or system strategy is best crafted when decision-makers understand the context in which their organizations operate. The Porter's framework value is rooted on the forces of competition bathed in the traditional dynamics of economics (King, 2009). From the perspective of higher education industry incumbent, a synthesis of PFCF model is invaluable in gaining and maintaining an overall strategic plan. The analysis helps create a comprehensive picture of the forces that shape an industry and helps managers have a wider competitive horizon than a day-to-day myopic operational outlook (King, 2009).

Acceptance of PFCF framework is prevalent in the world of for-profit organizations with reservation on the applicability of private sector concepts to non-profit organizations. Goold (1997) evaluated the relevance and potential usefulness of the framework in the non-profit arena. He concluded that '*the meaning and relevance of the framework is, therefore, dubious…….the industry attractiveness concept seems not to transfer well into the non-profit environment'*. Times have changed and this study attempts to challenge this assertion. This framework has only sparsely been applied in the analysis of higher education industry (Collis, 1999a,b; Martinez and Wolverton, 2009a,b; Hua, 2011; Pringle and Huisman, 2011; Anand, 2012; Ronquillo, 2012) albeit some in review context with little empirical evidence. The current market forces of higher education industry have challenged the very functioning of HEI in its present form and style. Challenged with entry of new HEIs empowered with new business ideas, plans and strategies have created a totally different environment in the higher education sector that has threatened the very existence of the older HEIs (Anand, 2012). In the recent past, there has been many changes to the landscape of global higher education industry including: decrease in government funding, increase in demand for higher education, changing demographics, new models of higher education, economic development and growth, technological development in information communication technology (ICT), globalization of higher education and changing government policies and regulations in higher education (Mathooko, 2013). These changes have created many opportunities, which have attracted private sector to enter the higher education industry, to exploit the opportunities so created. (Anand, 2012).

Higher education institutions in Kenya are operating in a high velocity environment which reflects rapid, frequent environmental change that continually disrupts the competitive structure of the industry. As a result, top managers of these institutions actively construct and enact their environments through experimentation and innovative strategies and are likely to develop proactive logics (strategy to environment) (Nadkarni and Barr, 2008). The higher education industry, like any other industry is highly competitive and, therefore, has to operate like a business enterprise to sustain the competition (Anand, 2012; Mathooko and Ogutu, 2013). In higher education industry, three key factors of sustainable competitive advantage have been identified, namely, branding and image, the physical aspect of higher education including location and facilities, and the mode of delivery (Hua, 2011). The HEIs business environment is formed by its relationship with students (customers/buyers), lecturers and trainers (suppliers), the intensity of competition among the institutions that vie for the

same value-creating opportunities which affects the ability to generate income, all of which are influenced by government regulations (Anand, 2012; Martinez and Wolverton, 2009a,b). This justifies the application of PFCF framework in higher education industry.

Porter's five forces model pays particular attention to five forces that influence any industry: threat of new entrants, intensity of rivalry, threat of substitutes, bargaining power of buyers and bargaining power of suppliers (Porter, 1985). The model can help universities as they define the parameters within which new rules, participants and markets continue to emerge. In Kenya, there have been political utterances, calling upon universities to be competitive. However, a clear understanding of the competitive nature of higher education in Kenya is lacking. Indeed, the turbulency and dynamism of the environment in which HEIs operate has led to the current competitive nature of higher education. Colleges and universities compete for students, research support, faculty members and financial contributions, and this competition is becoming both increasingly aggressive and global (Dill, 2005). Pringle and Huisman (2011) indicated that, based on the language used in policy documents as argued by previous researchers on higher education in Canada calls for an analysis of higher education as an industry. Interestingly, many researchers do not think of higher education as an industry and, by extension, in terms of profitability, nor do they consider the possible application of Porter's analytical framework (Pringle and Huisman, 2011). This is despite the commodification of higher education in many countries. Although Porter's framework has in the past typically been reserved for business and private enterprises, the changes taking place in the external environment in which public universities in Kenya operate warranted this study, to look at the higher education in Kenya as an industry. Understanding and being able to analyse the impact of the five underlying forces will be beneficial to HEIs in formulating various strategies (Anand, 2012). The public HEIs in Kenya have evolved into business entities and this development makes the PFCF framework appropriate for this study. Moreover, higher education in Kenya has been reconceptualized as a commercial transaction, the lecturer as the commodity producer and the student as the consumer, leading to commodification of higher education as had been foreseen by Naidoo (2005). This commodification of higher education in Kenya especially adopting competitive activities intended to generate income has culminated from reduced government funding (Mathooko, 2013) among other reforms in higher education. It is this concept of generating income and profits that supports the application of Porter's five forces analysis to higher education in Kenya. Further, Porter (2008) indicated that other factors may come into play and have direct effect on these five forces. Ndiao (2001) reported that in NGO the choice of response strategies is influenced by past strategies, vision and mission, leadership, corporate culture, management attitude towards risk, timing, pressure from stakeholders and, need and desire of key managers. Understanding the industry's structure is, therefore, essential for effective strategic positioning, so that institutions can defend themselves against competitive forces and shape them in their own favour (Porter, 2008). Previous research has indicated that public universities in Kenya face managerial and environmental challenges (Mathooko, 2013) and have adopted various response strategies to cope with the challenges (Mathooko and Ogutu, 2013). The current study is an extension of the same and seeks to understand how Porter's five forces among other factors shape the choice of response strategies adopted by public universities in Kenya.

Theoretical framework

Porter's five competitive forces framework and higher education

Porter's model (1985) is grounded on microeconomic and has to date shaped strategic management practice in the corporate world. It is built upon the assumption that the external environment is a significant influence in strategy development. The five forces are: threat of new entrants, intensity of rivalry, threat of substitutes, bargaining power of buyers and bargaining power of suppliers.

Threat of new entrants

Porter (2008) describes the threat of new entrants as directly related to the barrier to entry for that particular industry and argues that it is not necessarily the actual entry of new competitors but the threat of new entrants to the industry that drives competition and impacts the industry's profitability. The threat of new entrants will depend on whether or not the industry presents high or low barriers of entry. Due to the relatively loose governmental regulations in higher education sector, the sector is seeing an increase in the number of private HEIs, resulting in increasing competition in the sector (Anand, 2012). According to Martinez and Wolverton (2009a), the potential for the entry of a new competitor into existing higher education marketplace depends on several factors among them: (1) economies of scale – this refers to an organization's ability to increase productivity or decrease its average cost of production by more efficiently employing resources over time. If existing providers can create economies of scale, then the threat of new entrants decreases; (2) capital requirements – this pertains to the monetary infrastructure requirements needed to produce or deliver a good or service. The high level of capital investment required for traditional universities means that new institutions are

less likely to enter the traditional higher education market. However, in some instances technological investment (online delivery) can replace physical infrastructure and thus change the cost of doing business; (3) competitor reaction – competitors often react negatively to new or potential entrants (4) buyer resistance – new market entrants face two forms of buyer resistance (a) a failure to accept the new goods and services as equal to or better than current ones and (b) an unwillingness to bear the cost of switching to the new goods and services. As the number of providers grows, the competition increases, and more competition leads to more efficiency, higher quality, more innovation, more differentiation and more choice for consumers (De Boer et al., 2009 as cited by Pringle and Huisman, 2011). Technology promises to be the vehicle for easier entry into the higher education arena, in particular, the internet facilitates distance learning by allowing access to materials and interaction with faculty without the physical proximity of the student and the HEI (Collis, 199b). Moreover, technology allows for the replication of the educational experience at very low marginal cost. Probably one of the most controversial barriers to entry into specific areas of higher education is the requirements and restrictions imposed by accrediting associations/bodies. These organizations, while promoting curriculum standards, affinity group branding and visible education outcome metrics also cleverly protect the incumbent members with 'accredited by' license (King, 2009).

With respect to threat of entry in relation to higher education (Pringle and Huisman, 2011) looked at the supply-side economies of scale. This implies that adding more places (increasing supply) can theoretically decrease the cost per student and, therefore, offer the same product (education) for less (tuition cost). On demand-side benefits of scale, they argue that this discourages entry by limiting the willingness of customers to buy from a newcomer and by reducing the price the newcomer can command until it builds up a large base of customers. Further, students generally want to earn degrees from those institutions that are likely to command more respect in the marketplace – such degrees are more likely to lead to employment, and newcomer institutions are unlikely to have earned sufficient reputation and respect from the industry (Pringle and Huisman, 2011). With respect to switching costs in relation to higher education, switching costs are affected by other factors such as location. Students will often consider location and convenience above and beyond any other cost (Martinez and Wolverton, 2009a). Higher capital investment, whether infrastructure or technology (online providers) as a requirement for entering an industry will reduce the threat of new entrants (Pringle and Huisman, 2011). Established HEIs have a clear incumbency advantage that is not available to potential new entrants to this industry. First, they already have established a reputation and established buyers (students). Further, they have the administrative and complex scholarly faculty and political connections that enable them to function relatively smoothly and sustain their reputation (Pringle and Huisman, 2011). In the past, barriers to entry in higher education were high, primarily because of the cost of building a campus and the long time needed to build reputation to attract students and faculty. However, technology promises to be a vehicle for easier entry into higher education arena, because much of the educational experiences can be replicated by technology at very low marginal costs (Collis,1999a,b). The barriers to entry such as high capital and high fixed costs are quite high and act as the strongest protecting force for the higher education industry (King, 2009).

Bargaining power of suppliers

In industry analysis, suppliers are defined as those organizations or individuals that provide the materials, information or knowledge to allow an organization produce its goods and/or services (Martinez and Wolverton, 2009a). In higher education, labour should be recognized as a supplier and should be viewed through the lens of a supplier. The biggest supplier power in HEIs is, however, highly skilled labour in form of lecturers, researchers and administrators (Pringle and Huisman, 2011). Where the teaching staff (faculty) has unions or associations, they wield a great deal of power. The power wielded by teaching staff will, however, depend on whether they are tenured or not, status and reputation of the university and the discipline. In some disciplines, there is more qualified faculty than positions, thus decreasing supplier power, particularly at the front end of the hiring process (Martinez and Wolverton, 2009a,b). With the increasing number of HEIs and limited trained faculty members, the suppliers have high bargaining power (Anand, 2012).

Bargaining power of buyers

In HEIs, the buyer is the student or parent, in the sense that they purchase education from an institution. The power of the student increases as the services offered become more standardized, which allows them to more readily compare offerings and make more informed choices, thus lowering the switching costs (Pringle and Huisman, 2011). The more options the buyer has to choose from, the more power the buyer has. New substitutes and new entrants erode the monopoly that traditional universities have enjoyed (Collis, 1999a,b). Porter (2008) argues that buyer power is needed, given that many buyers do not purchase in volumes that are large relative to the size of a single vendor, as is clearly the case of the higher education industry. Higher education is not a perfect market, and

information and choices are two parameters by which to analyse the bargaining power of buyers (Martinez and Wolverton, 2009a). Information allows buyers to compare services in terms of quality and breadth of offering. Indeed, academic reputation, physical aspects, institutional advertisements and brand image are common higher education selection criteria (Hua, 2011). Choice is inextricably tied to the profile of industry players. In an industry where options are plentiful, customers have more choices and buyer power increases (Martinez and Wolverton, 2009a). The services that are unique and provide a sustainable value to students will add to the bargaining power to the students. The increasing number of HEIs in Kenya in the recent past has provided students wider options of not just selecting the courses of their choice, but also institutions they would like to study in. This is anchored on the fact that the competitive advantages that drive buyer choices in higher education have been identified as product differences and brand identity, the brand identity being created via strategic and effective marketing communication (Hua, 2011). Buyer power increases as the degree of backward integration by customers rises. To the extent that firms become suppliers of higher education themselves as they introduce lifelong learning programmes for employees, they reduce the ability of HEIs to capture value (Collis, 1999b).

Threat of substitutes

A substitute performs the same or a similar function by a different means (Porter, 2008). The threat of substitute is high if the substitute provides a cost-effective trade-off compared to the original product. For the higher education industry, the most powerful and growing force is the threat from the number of substitutes, particularly from distance education and online programmes, which have increased and increasing in numbers and with ICT, the competition is a global one (Anand, 2012). The mode of course delivery often distinguishes a substitute offering from a duplicate offering. If the offering makes significant use of technology relative to existing delivery avenues or reduces the time it takes to complete the course, then it is distinct enough to qualify as a substitute rather than a new entrant (Martinez and Wolverton, 2009a). According to Martinez and Wolverton (2009a,b), the threat of substitutes is defined by three attributes: time, convenience and application, with time being the most important factor driving students to seek substitute products. Convenience is responsible for driving the adult learner to seek out alternative modes of delivery, such as distance/online market and delivery methods of weekend and evening classes. Thus, competitors that offer substitutes often combine convenience, time and application, largely because of expanded delivery options made possible by technology. The availability of and demand for substitutes for higher education is increasing. Perhaps most significant is that many employers no longer regard the one-time provision of an undergraduate (or graduate) degree as sufficient for the lifetime learning needs of their work force. Increasingly, they are meeting these ongoing training needs in-house or with a third party supplier (Collis, 1999a).

Intensity of rivalry

Rivalry among competitors can be brought about by price discounting, new product introduction, advertising campaigns and service improvements (Porter, 2008). In the higher education industry, the intensity of rivalry depends on the object of the competition: students, teaching staff (faculty), donors or government-based funding and research funds (Martinez and Wolverton, 2009a). It is influenced by two structural factors: (a) the profile of existing institutions – this is defined by the number of institutions in the pool, which will then determine the degree to which each institution must compete for students, faculty, government-based funding and research money (b) industry context – the higher education is strongly influenced by political, economic, social and technological variables. The political and economic context of the higher education industry is intricately connected, especially for public universities (Martinez and Wolverton, 2009a). Due to a high concentration of similar HEIs and a perceived incentive to compete on price, it is likely that HEIs revenue will be reduced and this is likely to create financial management challenges to the management of HEIs, now and in the future (Anand, 2012). Distance learning has removed the capacity constraints that universities have traditionally operated under, so physical facilities no longer need limit the size of the student body (Collis, 1999b). Porter's classic model identifies five forces that determine industry competition but it does not explicitly include government as one of those forces.

In fairness, Porter does mention that government can exert legitimate influence in any given industry. In higher education, government influence surfaces in nearly all five forces, indicating that perhaps government itself should be defined as a sixth force – a force of equivalent importance to the original five (Martinez and Wolverton, 2009a). For this reason, in the higher education industry, PFCF framework has been modified to include extent of complements (Collis, 1999a) and government (Martinez and Wolverton, 2009a). Porter's framework provides a template by which to view the 'seven' forces of the higher education industry. Figure 1 tailors Porter's framework and provides a general industry analysis of higher. It serves as a template that individual institutions can use to create unit-level analysis of their industry.

FIGURE 1

Other factors

Porter (2008) acknowledged that additional factors like economic downturn and the rise in technology will have a direct effect on the five forces, and by extension, therefore, will also have a large role to play in influencing the higher education industry, just like corporate entities. Response strategy decision-makers after comprehensive examination are often confronted with several viable alternatives than the luxury of devout obvious choices. Ndiao (2001) reported that in NGO the choice of response strategies is influenced by past strategies, vision and mission, leadership, corporate culture, management attitude towards risk, timing, pressure from stakeholders and, need and desire of key managers. However, the attractiveness of a particular strategic alternative is partially a function of the amount of risk it entails (Wheelan and Hunger, 2008). Attitude towards risk exert considerable influence on strategic response. Wheelan and Hunger (2008) further argue that the attractiveness of a strategic alternative is affected by the perceived compatibility with the key stakeholders in a corporation's task environment. Higher education is strongly influenced by political, economic, social and technological variables (Martinez and Wolverton, 2009a). Funding of higher education depends on the economics of the time and the political party in power which will in turn influence the choice of response strategies. Technology is a major influence on the intensity of rivalry, and those institutions which have invested in the use of advanced technologies for teaching or research have enhanced their competitive position (Pringle and Huisman, 2011). Pringle and Huisman, (2011) further indicated that applying Porter's framework in higher education as in business, the power of buyers and the threat of substitutes can potentially shift over time; technology and governmental policies are powerful drivers of such shift.

Statement of the problem

Irrespective of the nature of challenge encountered by an organization, appropriate response strategies have to be put in place to counter them and enable the organization achieve sustainable competitive advantage. It is argued that after environmental analysis, an organization will choose a strategy in response to the opportunities and threats it is facing. However, the response strategies applied have to be chosen carefully because not all response strategies lead to improved performance. In Kenya, universities have experienced various changes in their external environment, prompting responses from players in the higher education sub-sector with the objective of mitigating risks and taking advantage of opportunities. This has triggered research in the area of strategic management through application of clear and sustainable response strategies (Mathooko, 2013). In the past, industry analysis studies on strategic response to environmental changes/challenges have been conducted mainly in for-profit organizations. Thus, despite the rapid increase in the number of public universities and university colleges in Kenya, no comprehensive study has probed the factors that influence the choice of response strategies and whether those adopted by the business enterprises are applicable to HEIs. In providing information on the knowledge gap, the study was guided by the following research question: to what extent does PFCF framework and what other factors influence the choice of the strategies adopted by public universities in Kenya in response to changing environment?

Importance of the study

In planning higher education in any country, correct information is required in order to formulate appropriate policies. Therefore, the findings from this study are particularly important to a number of stakeholders. First the Ministry of Education, Science and Technology will have detailed knowledge of the factors influencing the choice of response strategies adopted by public universities in Kenya and may use the findings of the study in strategic policy formulation. Practitioners and strategic management consultants of relevant ministries, Commission for University Education (CUE) and management of public universities would find the results particularly useful in their line of work as they attempt to respond to environmental and managerial challenges, and planning issues. The results are of value to scholars and academicians as a source of reference and as a basis for further research in university management, besides contributing to literature and theory by providing empirical evidence in the field of strategic management in HEIs.

Research methodology

The research design adopted for this study was descriptive design and the study was a survey in form of a census. For the purpose of this study, the population constituted all public universities in Kenya. Currently there are 31 universities in Kenya, including 22 fully-fledged universities and nine university colleges. In light of this small number and the fact that the respondents were members of the university top management team, the study was conducted in form of a census.

Data collection method

The study collected both primary and secondary data. The primary data were collected by carrying out a cross-sectional survey of the entire population as well as observations and unstructured interviews with students and university staff. Secondary data were collected from published works, print media and, universities and government documents in public domain. Primary data were collected using a Likert-type scale by administering a structured questionnaire. The Likert-type questions/items in the questionnaire were closed so as to permit more direct comparability of the responses and eliminate question/statement variability. The questionnaire included a 5-point Likert-type scale, indicating the extent to which individual questions or statements (items) were operationalized to reflect the intended variables and enable respondents to provide quantifiable information, that is, [1] – not at all; [2] – to a little extent; [3] – to a moderate extent; [4] – to a great extent and [5] – to a very great extent. The respondents were selected using a non-probabilistic sampling technique, in particular judgmental purposive sampling, that is, the conscious selection by the researcher of certain participants to include in the study (Burns and Grove, 2005). For this reason, the respondents to whom the questionnaire was administered comprised all vice-chancellors and deputy vice-chancellors of the public universities and, all the principals and deputy principals of the public university colleges in Kenya. This was guided by the fact that they are the ones who carry out the various managerial functions, experience challenges posed by the changing environment and craft coping strategies, and hence know better the factors that dictate the choice of response strategies. Distribution of the questionnaire was a combination of mail and 'drop-and-pick-later' methods to ensure reduction in biasing errors, greater degree of anonymity for respondents, greater accessibility to geographically dispersed respondents and to reduce distorted self-reports and social desirability.

Reliability and validity of the questionnaire

In order to ensure validity and reliability, the questionnaire was composed of carefully constructed statements/items to avoid ambiguity. The questionnaire was pre-tested to evaluate it for clarity, style, meaningfulness and ease or difficult of completion. Revision of the questionnaire was made based on the feedback so as to ensure consistence and quality prior to final distribution. This ensured that the questionnaire was clear and well-understood by potential respondents.

Data Analysis

The data were subjected to descriptive statistics that is, the mean for central tendency and standard deviation for variability. The data were subjected to further statistical analysis procedures within the Statistical Package for Social Scientists (SPSS). The secondary data from secondary documents was analyzed using content and logical analyses techniques. The study also sought to determine whether significant difference existed with respect to the variables tested in relation to the age of the university and the university status (old, new and university colleges). This was accomplished by utilizing inferential statistics and analyzed using SPSS. The t-test statistic and Analysis of Variance (ANOVA) statistic for comparison were used specifically to find whether there was any significant difference between and among the variables.

Results and discussion

The choice of response strategies by organizations, especially private ones is influenced by many factors, among them the Porter's Five Competitive Forces (PFCF). The questionnaire was distributed to 91 respondents and positive responses were received from 63, yielding a 69.4% response rate.

Influence of Porter's five competitive forces (PFCF) framework

The PFCF framework/model is defined by the following forces: the threat of new entrants, supplier power, buyer (customer) power, the threat of substitutes and intensity of industry rivalry (Porter, 1985). Overall, all the five competitive forces safe, for buyers' power influenced the choice of response strategies adopted by public universities 'to a great extent' (Table I). However, threat from new entrants had the highest influence since it influenced the choice of response strategies to the greatest extent (4.1) compared to the others, followed by the bargaining power of suppliers (teaching staff) with 3.7.

TABLE I

In the analysis of higher education systems, many models and frameworks are based on governance, steering, or coordination models (Pringle and Huisman, 2011). The language used in the present-day policy documents (knowledge economy and competitive position among others) calls for an analysis of higher education as an industry and this is supported by results from this study. Other researchers have in the past indicated that PFCF is applicable in HEIs. The findings from this study are in agreement with those reported for universities elsewhere. In their work, Pringle and Huisman (2011) argued that PFCF framework can be applied in the higher education industry (university sector) in

order to achieve a competitive position for the higher education system. Ronquillo (2012) has also reported that PFCF model is applicable in the analysis of competitiveness in universities in Australia similar to that in business entities, and has distinct attributes and capabilities which are presented to their clientele if they are to have a strong market and competitive position. Indeed, universities world over are challenged by alternative substitute modes of learning. Porter (2008) describes the threat of new entrants as directly related to the barrier to entry for that particular industry. It may not necessarily be the actual entry, but the threat of new entrants to the industry that drives competition. Contrary, to observations by Pringle and Huisman (2011) for HEIs in Ontario, Canada, it appears that there are low barriers of entry into the Kenyan higher education industry, particularly for universities intending to launch business, humanities and social science degree programmes. This assertion is supported by the observation that threat of new entrants affected the choice of response strategies 'to a great extent' (Table I). The supply of qualified and competent manpower is a big challenge, and hence suppliers (lecturers) have a big bargaining power and 'to a great extent' influenced the choice of response strategies.

A substitute performs the same or a similar function by a different means (Porter, 2008). When the threat of a substitute is high, industry profitability suffers. This is so in Kenya where public universities have tended to be 'for-profit' organizations given reduction in government funding. The threat of substitute is high if the substitute provides a cost-effective trade-off compared to the original product. For the higher education industry in Kenya, the most powerful and growing force with respect to substitute is the threat from distance education and online degree programmes which have increased and continue to increase in numbers, particularly from foreign universities operating in the country. This contributed to the choice of response strategies 'to a great extent' (Table I) and is supported by previous studies (Anand, 2012; Pringle and Huisman, 2011). Martinez and Wolverton (2009a) concluded that threat of substitutes in higher education is defined by three attributes: convenience, time and application. They consider time to be the most important factor driving students to seek out substitute products, arguing that students do not want to invest four to five years to obtain a bachelor's degree, nor do professionals want to leave the workforce for two years to complete a traditional master's degree. As a result, many students are demanding alternatives that decrease the completion time for a degree, the most popular being credit transfer/waiver and trimester system (Mathooko, 2013). Similarly, convenience is largely responsible for driving adult learners to seek out alternative modes of education. In addition to the distance/online market, the delivery methods of evening and weekend classes as observed in this study and modularized programmes are increasing (Pringle and Huisman, 2011). Kenyan universities that have sought to respond to this group by offering convenience and decreased time have become the industry standard and gained competitive advantage. Rivalry among the universities influenced the choice of response strategies 'to a great extent' (Table I), particularly between public and local private universities. Customers (students and parents) will look for programmes with decreased completion time, delivered at times and in ways that are customized to individual needs, for example, evening and weekend classes. In this regard the competitors that offer substitutes often combine convenience, time and application, largely because of expanded delivery options made possible by technology and also fair credit transfer/waiver.

Universities can decrease the threat of substitutes by entering substitute market (Pringle and Huisman, 2011). Already only a few universities led by the University of Nairobi have entered the distance education market, albeit not popular. It has been reported elsewhere that institutions that focus on online delivery, have reduced physical capital requirement by offering programmes only over the internet. High technological investment has in some instances replaced physical infrastructure and thus changed the cost of doing business ((Martinez and Wolverton, 2009a). Public universities in Kenya are slowly adopting this model to circumvent the challenges of physical infrastructure observed earlier (Mathooko, 2013). Thus, the new business models emerging in higher education world over are brick (physical campus), brick and click (physical as well as virtual campuses) and click only (virtual campus) (Pathak and Pathak, 2010).

In higher education industry, the intensity of rivalry depends on the object of the competition: students, teaching staff, donors, government funding or research funds (Pringle and Huisman, 2011). With increasing number of universities in Kenya, the intensity of rivalry is bound to be high, leading to reduced 'profit'. It must be acknowledged that university culture has changed, transforming education into a commodity (commodification of higher education). The results show that this contributed 'to a great extent' the choice of response strategies, based on the desire to run public universities as corporate entities. Due to the high concentration of universities, and perceived incentives to compete on price (tuition fees), it is likely that universities' revenue will be reduced and this is likely to create financial management challenge to the management of universities in the future (Anand, 2012). In Kenya, universities offer more or less similar programmes and, therefore, rivalry will increase because more providers must compete for the same student segments and inputs, including teaching staff and funding, a situation that has also been reported in Canada (Pringle and Huisman, 2011). As the

number of providers grows, the competition increases and more competition leads to more efficiency, higher quality, more innovation, more differentiation and more choices for consumers (Pringle and Huisman, 2011). Fumasoli and Lepori (2011) indicated that small universities which cannot profit from mass enrollment, a coherent action is the only way to compete and try to steer their own trajectory – that is, differentiation when faced with competitors endowed with much large power, resources and legitimacy like the older universities. The power of students increases with the number of options they have to choose from. Combined with the further increase in the number of private universities, students and parents will have more choices and competition for buyers will grow. This is further complicated by the growth of online substitutes, especially from older and foreign universities.

Martinez and Wolverton (2009b) argued that the amount of power wielded by suppliers (teaching staff) may vary greatly between institutions, depending on the status and reputation of the university, and by extension, the talent they recruit. Many professors at elite institutions are highly respected and considered thought leaders in their field. As such, they have even more power than their peers, because the prestige they provide their university makes them very difficult to replace (Pringle and Huisman, 2011). Whether this situation is applicable here in Kenya remains to be established. Further, Duczmal (2006) states that without a strong academic faculty no higher education institution can be successful, because it is the academic. teaching and research staff that defines a university and provides the legitimacy for the credentials the university confers. If the faculty is unionized, supplier power increases (Martinez and Woverlton, 2009b). In Kenya, the teaching staff is unionized and, therefore, supplier power is high. The supplier power of teaching staff not only varies by institutional type but also by discipline. In some fields, for example, humanities and social sciences, there are more qualified teaching staff than positions, thus decreasing supplier power, while scarcity in others increases supplier power. The teaching staff power was high and influenced the choice of response strategies 'to a great extent' (Table I). Porter (2008) argues that supplier power is strong if (1) it is more concentrated than the industry it sells to (HEIs), (2) industry participants (students) face switching costs in changing suppliers, (3) suppliers offer products that are differentiated and (4) there is no substitute for what a supplier group provides. All these would support the position that, on balance, despite some erosion in the power of the supplier, the teaching staff maintains a strong bargaining position and degree of power in the higher education industry (Pringle and Huisman, 2011) and as found in this study both full-time and part-time lecturers have high bargaining power. Ideally, the teaching staff bargaining power remains high because currently there are no realistic substitutes. In his study of universities in the Gaza strip, Farahat (2011) reported that PFCF framework is applicable in universities, and this was attributed to similarities among universities according to their experience, resources, education quality and reputation. Rivalry, for example, among universities, given the low entry and exit barriers is good for improvement of quality. It is clear from the results presented here that public universities strategic responses are influenced by PFCF framework (Table I).

Further, the influence of PFCF framework on the choice of response strategies was not significantly different ($p<0.05$) between the old and new universities (Table II). This implies that the influence of PFCF framework in the adoption of response strategies is not dependent on the age of the public university but rather is dependent on the environment in which the universities operate. Porter (2008) acknowledged that additional factors like economic changes and rise in technology will have a direct effect on the five competitive forces and by extension, therefore, will have a large role to play in influencing the higher education industry. It should be noted that the change in the higher education sector in Kenya created many opportunities, which attracted the private sector to enter into the higher education industry, to exploit the opportunities created from increasing demand and decreasing government funding, hence increasing the intensity of rivalry. Due to the low entry barrier into the higher education industry in Kenya and not so tight government regulations in the industry, there has been an increase in the number of private universities in the recent past, offering the same products as the public universities, hence increasing competition in the industry.

TABLE II

The marketing concept has been adopted in non-marketing concepts, such as, relationships between universities and students. Svensson and Wood, (2010) observed that students are seen as customers of knowledge at many universities, and universities regard themselves as suppliers of knowledge to these customers. Higher education industry like any other industry is highly competitive and, therefore, has to operate like a business enterprise to sustain the competition. The business of higher education has become complex with emergence of new substitute modes of learning and delivery in form of e-learning, open and online universities (Anand, 2012). With the decreasing government funding in higher education system, most of the revenue is generated from student fees and with universities being providers of higher education service products to the customer – the student after payment of course fees, will demand value for the money.

In the recent past, many universities and university colleges have been established in Kenya, each of which is expected to position itself in the industry. There was no significant difference

($p<0.05$) in the extent to which PFCF framework influenced the choice of response strategies among the three categories of public university, that is, old, new and university colleges (Table III).

TABLE III

The utility of PFCF model is that it provides an analytical framework to determine how to gain competitive advantage by strategically positioning a firm within an attractive industry environment. The PFCF model has already been applied in a wide array of businesses, including non-profit organizations. where competitive advantage is a central theme. As argued by Pringle and Huisman (2011), Porter's (1985) model is anchored on microeconomics, and despite criticism by Mintzberg (1994) and others, it is still one of the most strategic frameworks used today. Based on the results from this study and according to Ronquillo (2012), the forces can be aligned so that they may appropriately be useful in the higher education industry. The supplier in the higher education sector is referred to as the teaching staff, both permanent and part-time, buyers referred to as industry and students/parents, existing competition referred to as existing universities and colleges, substitutes could be alternative education from degree programmes or mode of delivery and new entrants refer to new universities and colleges offering the same courses. The fact that all offer more or less the same courses may explain why PFCF framework influenced the choice of response strategies in a similar manner. This is based on the fact that competition becomes strong when business entities which offer similar services and products create strategies and offer novel products which may be used as alternatives to the same product but at possibly the same quality at lesser cost, and public universities are no exception. This study posits that public universities in Kenya also use the same strategies, which increase their market and value and, therefore, become a threat to the other institutions because they offer more or less the same products.

Students would wish to earn degrees from those universities that are likely to command more respect in the marketplace; such degrees are more likely to lead to employment (Martinez and Wolverton, 2009b). For sure, the newcomer universities and university colleges in Kenya are unlikely to have earned a sufficient reputation and respect from the industry to guarantee jobs. Established older universities have a clear incumbency advantage that is not available to potential new entrants to this industry. First, they already have an established reputation and established buyers (students). Further, they have the administrative and complex scholarly (faculty) and political connections that enable them to function relatively smoothly and sustain their reputation as has been observed elsewhere (Martinez and Wolverton, 2009b; Pringle and Huisman, 2011).

Other factors influencing choice of response strategies

The other factors that influenced the choice of response strategies adopted by the public universities in Kenya are indicated in Table IV. Some of the response strategies used by some universities are unethical and compromise on quality. Lowering of job specification by other universities to attract staff and lowering of admission criteria for similar programmes by other universities to attract students influenced the choice of response strategies 'to a great extent' by other universities. Some private universities lower entry/admission requirements in order to attract students. For instance, Certified Public Accountants of Kenya (CPA-K) holders can take two years to complete an undergraduate business degree through credit transfer while in others, such students are admitted into the MBA programme. This has pushed public universities to craft response strategies to counter this practice, some of which are detrimental to quality. This is not only an unfair marketing practice but also compromises quality of service delivery and eventually quality of the graduates (Mathooko and Ogutu, 2013). A similar observation has been made by Gudo, Olel and Oanda (2011) in their study on the impact and issues of university expansion in Kenya in relation to quality, challenges and opportunities as well as the study of Ndiao (2001).

TABLE IV

The government plays a key role in all the PFCF. It funds higher education, disseminates information about universities through the Commission for University Education (CUE), and, formulates policies and regulations. In higher education, government can expand, create, enable or limit the market. This study has shown that statutory bodies requirements, changes in government funding, new constitution, Universities Act (2012) and reforms in the higher education sub-sector influenced the choice of response strategies 'to a great extent' (Table IV). Martinez and Wolverton, 2009a) indicated that the central government furnish students with financial aid and the availability of this expands choices and increases buyer power, it provides information about higher education to help consumers make better choices, influences industry rivalry by directly funding higher education institutions and further government can expand, create, enable or limit the market for higher education. Therefore, whatever the case, government is without question a sixth force in the higher education sector. Porter (2008) mentioned that government can exert legitimate influence in any given industry. The results indicate that the government has a great influence on the choice of response strategies and, therefore, supports the view of Martinez and Woverlton, (2009a) that the PFCF model should include government as the sixth force to create a more comprehensive view of the industry. By

dissecting the marketplace in which a university operates into strategically significant groups, such as existing rivals, potential entrants, substitutes, suppliers and buyers, an organization begins to see more clearly where its opportunities and threats lie (Martinez and Woverlton, 2009b).

The t-test analysis was used to test whether there was any difference in the other factors influencing choice of response strategies adopted by the old and new universities. The difference in strategic responses between the old and new universities is given in Table V. The location of the university had significant difference ($p<0.05$) in influencing the choice of response strategies between the old and new universities. Location of the university has been cited as a big challenge in attracting both staff and students, with those in the urban centres being more attractive to staff and students than those in the rural areas. This is likely to affect student population and staffing since most of the new universities and university colleges in Kenya have been established in rural areas.

TABLE V

This supports the findings of Pringle and Huisman, (2011) who observed that institutions in Ontario, Canada that are located along well established public transit routes and in the metropolitan have a competitive advantage over those with poor transit links. This has led these institutions to set up satellite campuses where infrastructure is well developed as has also happened in Kenya. Students often will consider location and convenience above and beyond any cost (Martinez and Wolverton, 2009a). Students interviewed claimed that in the urban centres they can pursue two academic and/or professional programmes at different levels at the same time and that there are more opportunities in the urban universities than in rural ones not to mention that the urban universities are more endowed. Similarly, the staff felt that there are many opportunities for social, economic and career growth in the urban areas than rural areas especially with regard to consultancy. This is worrying as rural universities and university colleges may not attract the best faculty and may be viewed as inferior.

Conclusion and recommendations

The results inform that HEIs in Kenya have to operate but as business enterprises for survival, through application of strategies previously reserved for the corporate world, though their motive may not be for profit only. This calls for the HEIs to understand the key activities of operation that will help them to plan and strategize for effective and efficient functioning in order to meet their key objectives of providing human capital for the overall welfare of the society. Porter's five competitive forces (PFCF) framework influences the choice of response strategies adopted by public universities in Kenya. The application of PFCF framework in the choice of response strategies was independent of the time the university was established and its status. The government also seemed to play a key role in influencing the choice of response strategies and can be considered as the sixth force in PFCF model as has been reported by Martinez and Woverlton, (2009a) and Anand (2012). The unethical strategies adopted by some universities tended also to influence the response strategies adopted by others, especially with respect to competition for buyers (students and parents) and suppliers (faculty). This is likely to be a challenge to rural universities and university colleges, an observation previously reported for some Canadian universities (Pringle and Huisman, 2011). The public universities in Kenya need to develop strategies that address the threat of entry, substitutes, rivalry and buyer power – the four main drivers of deteriorating industry structure. Strategies that require high standards for certification and that reinforce the value of brand names should be adopted to deter entry. Rivalry can be constrained by establishment of collaboration among the public universities and also through concentration on specific discipline with a view to emerging as centres of excellence in them. Formation of strategic alliances between and among universities that have complementary resources, particularly the older ones will improve cost efficiency and reduce rivalry. As indicated by Collis (1999a,b) universities would benefit from reducing buyer power, and the best strategy to accomplish this is to brand their products. Brand names are extraordinarily valuable as signals of quality, particularly for a product like education whose worth is apparent only after it has been purchased and used. Public universities also need to develop core educational products (programmes and services) that cannot readily be imitated or substituted. Further, public universities in Kenya should embrace new technologies, delivery systems and customer needs that the turbulent and dynamic environment is generating by entering new markets such as distance, open and e-learning. Economic and political context of universities in Kenya was apparent as has been reported elsewhere Martinez and Woverlton (2009a). The university governance structure also needs overhaul to reflect the 'corporate' structure that the universities have informally adopted. Given the challenges of changing environment, government regulations, intense industry competition, rising costs, reduced government funding and more demanding and diversified customers, the survival of public universities in Kenya will depend on crafting of sustainable competitive strategies.

Policy Implication

As pointed out by Pringle and Huisman (2011) for universities in Canada, it is important for the higher education policymakers in Kenya to consider more seriously the importance of technology and the

globalization of higher education, as these factors could radically alter and disrupt the competitive landscape by lowering barriers to entry and by increasing the availability of substitute products. As is currently happening in developed world and given the increasing complexity of universities, the traditional forms of university governance are being replaced by managers, who often come from commercial enterprise. Indeed through-put, attracting funding and efficiency have become the key university performance indicators, and that university culture has changed, transforming education into a commodity. In Kenya all the public universities offer more or less similar products, indicating that with the increase in the number of public universities, rivalry will increase because more providers (some very close to one another) must compete for the same student segments and inputs, including teaching staff and funding. Therefore, the more similar the universities are in one region, the higher the rivalry among them. One of the potential policy response identified by Porter (1985) and reported in our earlier study (Mathooko, 2013; Mathooko and Ogutu, 2013) universities seeking competitive advantage may employ one of the three strategies: cost leadership, differentiation or focus strategy. For instance, the so called technical universities or universities of science and technology in Kenya should choose to differentiate their programming by offering specializations within their mandate and which are unavailable to competitor institutions and, therefore, avoid competition for teaching staff and students. The regulatory bodies can utilize these findings to develop appropriate policies to guide the higher education industry in their respective countries. The limitations of this study notwithstanding, the study makes a contribution to strategic management practice and has advanced the body of knowledge by focusing on how Porter's five forces have shaped the management of public universities in Kenya, a practice that has previously been a reserve of the corporate world. The study shows that some forces deserve priority attention for survival of the universities.

Limitation and opportunities for further research

The study was conducted for public universities only and not all the HEIs in Kenya hence generalization in all HEIs is limited. This calls for undertaking of a cross-sector study to investigate how PFCF framework and other factors influence the choice of response strategies adopted by private universities and other HEIs. Such study could potentially provide important insights into the differences and similarities between strategic management in different HEIs in Kenya. The study relied on data collected using self-reporting postal and drop-and-pick-later questionnaire, secondary data and content analysis. Ideally, it should be augmented with real-time longitudinal or periodical study to obtain better understanding of causal relationships (both degree and direction) between the Porter's five forces and the response strategies adopted and examine the changes in the relative effect of each of the Porter's forces both within and outside HEIs, since the most important current force may be the least important in the future. Majority of the data collected were quantitative and future research may attempt to collect qualitative data with a view to producing a richer narrative. In addition, the study was a cross-sectional survey and the environment being dynamic, the application of the results over a long time is limited.

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References

Anand, K.A. (2012), "Business of higher education – a business model for a higher education institution", *International Journal of Business and Management Tomorrow,* Vol. 2 No. 2, pp. 1-7.

Burns, N., & Grove, S.K. (2005). *The practice of nursing research: conduct, critique and utilization*, 5th Ed., Elsevier/Saunders, New York, NY.

Collis, D. (1999a), "When industries change: scenarios for higher education", available at www.educause.edu/ir/library/pdf/ffp9903s.pdf, accessed on 15th August 2013.

Collis, D. J. (1999b), "When industries change: scenarios for higher education", Collis, D.J. (Ed.), In *Exploring the Future of Higher Education,* Forum for the Future of Higher Education, New York, NY, 47–70. www.educause.edu/ir/library/pdf/ffp9903.pdf.

Dill, D. (2003), Allowing the market to rule: the case of the United States, *Higher Education Quarterly*, Vol. 57 No. 2, 136-157.

Duczmal, W. (2006), "The rise of higher education in Poland: policies, markets and strategies', Enschede, the Netherlands, CHEPS.

Farahat, M.F. (2012), "Competitive analysis of the higher education sector in the Gaza Strip by adapting Porter's five forces model", *Unpublished MBA Thesis, Islamic University of Gaza.*

Fumasoli, T. and Lepori, B. (2011), "Patterns of strategies in Swiss higher education institutions", *Higher Education,* Vol. 61 No. 2, pp. 157-178.

Gudo, C.O., Olel, M.A. and Oanda, I.O. (2011), "University expansion in Kenya and issues of quality education: challenges and opportunities", *International Journal of Business and Social Sciences,* Vol. 2 No. 3, pp. 203-214.

Hua, L.T. (2011), "Sustainable competitive advantage for market leadership amongst the private higher education institutes in Malaysia", *Journal of Global Management,* Vol. 2 No. 1, pp. 227-251.

King, M.A. (2009), "A strategic assessment of the higher education industry: applying the Porter's five forces for industry analysis". Paper presented at the Southeastern Decision Sciences Institute Annual Conference, *Available at http://* www.sedsi.org/2009_Conference/proc/proc/p080930002.pdf*, accessed on 11th December 2013.*

Martinez, M. and Wolverton, M. (2009a). Enriching planning through industry analysis. *Planning for Higher Education,* Vol. 38 No. 1, pp. 23-30.

Martinez, M. and Wolverton, M. (2009b), "Analyzing higher education as an industry", Martinez, M. and Wolverton, M. (Eds.), Innovative Strategy Making in Higher Education, Information Age, Charlotte, NC, pp. 45-62.

Mathooko, F.M. (2013), "Response strategies adopted by public universities in Kenya to environmental and managerial challenges", *Unpublished MBA Research Project Report, University of Nairobi, Kenya.*

Mathooko, F.M. and Ogutu, M. (2013), Coping strategies adopted by public universities in Kenya in response to environmental changes, *Journal of Management and Strategy (in press).*

Mintzberg, H. (1994), "The fall and rise of strategic planning", *Harvard Business Review,* Vol. 72 No. 1, pp. 107-114.

Nadkarni, S. and Barr, P.S. (2008), "Environmental context, managerial cognition, and strategic action: an integrated view", *Strategic Management Journal,* Vol. 29 No. 13, pp. 1395-1427.

Ndiao, S. (2001), "Factors that influence strategic choices in relief and development NGOs in Kenya", *Unpublished MBA Research Project Report, University of Nairobi, Kenya.*

Naidoo, R. (2005), "Universities in the marketplace: The distortion of teaching and research", Barnett, R. (Ed.), Reshaping the university: New relationships between research, scholarship and teaching, Open University Press, Berkshire, England, pp. 27 – 36.

Pathak, V. and Pathak, K. (2010), "Reconfiguring the higher education value chain", *Management in Education,* Vol. 24 No. 4, pp. 166-171.

Porter, M.E. (1980), "*Competitive strategy: techniques for analyzing industries and competitors",* The Free Press, New York, NY.

Porter, M.E. (1985), "*Competitive advantage: creating and sustaining superior performance",* The Free Press, New York, NY.

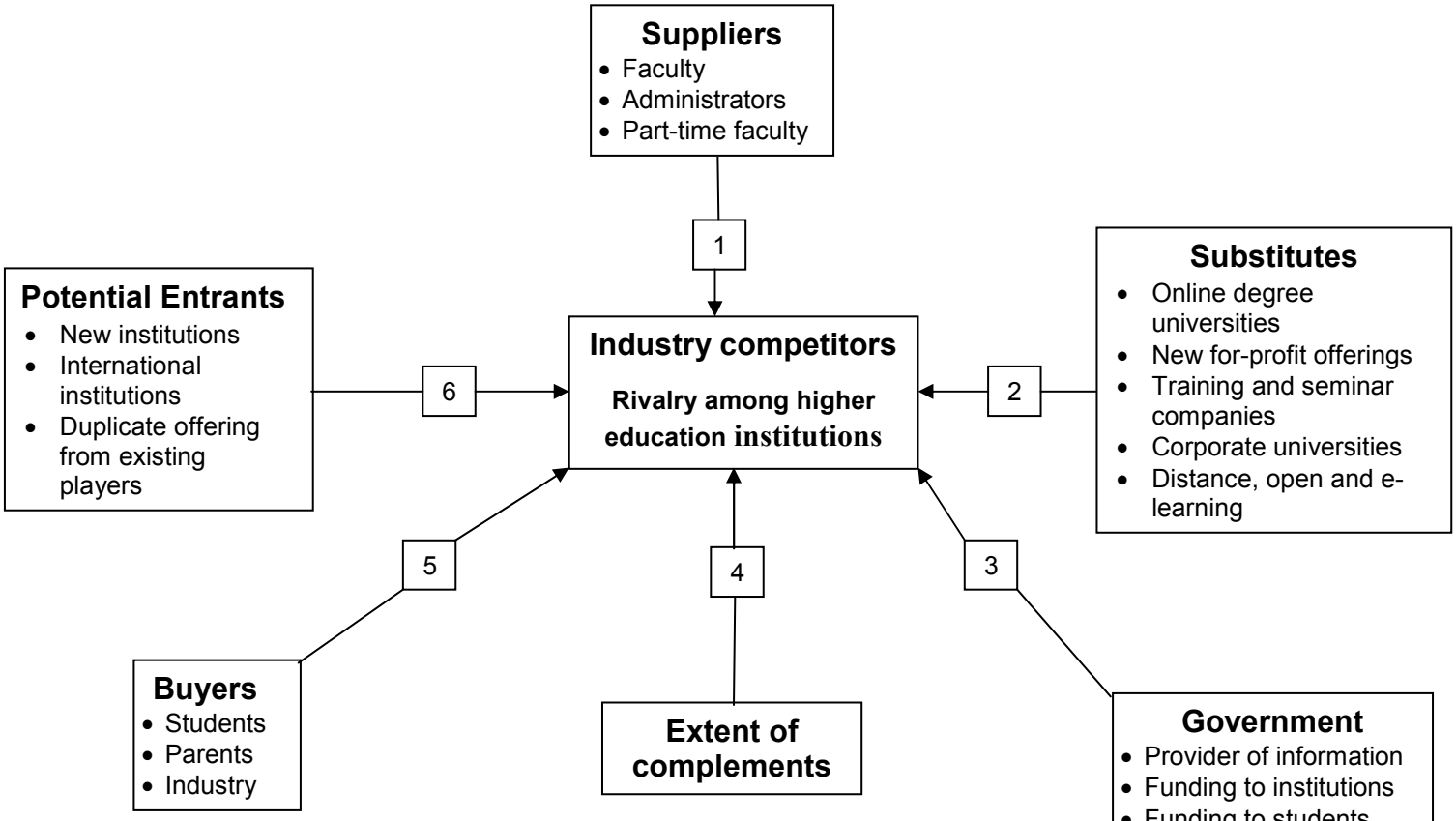
Porter, M.E. (2008), "The five competitive forces that shape strategy", *Harvard Business Review,* Vol. 86 No. 1, pp. 79-93.

Pringle, J. and Huisman, J. (2011), "Understanding universities in Ontario, Canada: an industry analysis using Porter's Five Forces Framework", *Canadian Journal of Higher Education,* Vol. 41 No. 3, pp. 34-47.

Ronquillo, T.A. (2012), "Analysis of competitiveness of Batangas State University College of Engineering using Porter's five competitive forces model", *In: Proceedings of the 2012 AAEE Conference, Melbourne, Australia.*

Svensson, G., and Wood, G. (2010), "Are university students really customers? When illusion may lead to delusion for all!", *International Journal of Educational Management*, Vol. 21 No.1, pp. 17-28.

Wheelan, T.L. and Hunger, J.D. (2008), "*Strategic management and business policy*", 11th Ed., Prentice Hall, London.



Note: 1 – Bargaining power of suppliers
2 – Threat of substitutes
3 – Threat of government control
4 – Threat of complements
5 – Bargaining power of buyers
6 – Threat of new entrants

Figure I. Higher education viewed through Porter's five competitive forces framework and two other forces

Table I. Mean and standard deviation of the extent to which respondents' choice of response strategies were influenced by Porter's five competitive forces framework

Force	Mean*	Standard deviation	Verbal interpretation
Threat from new entrants	4.1	0.92	To a great extent
Intensity of rivalry in the industry	3.7	0.78	To a great extent
Threat from substitutes	3.6	0.86	To a great extent
Bargaining power of suppliers	3.7	0.60	To a great extent
Bargaining power of buyers	3.4	0.95	To a moderate extent
Overall	3.8	0.84	To a great extent

n = 63

* The analysis is based on the ranges 1 – 1.5: Not at all, 1.6 – 2.5: To a little extent, 2.6 – 3.5: To a moderate extent, 3.6 – 4.5: To a great extent and 4.6 – 5: To a very great extent

Table II. The difference between the extent to which respondents in new and old universities choice of response strategies were influenced by Porter's five competitive forces framework

Force	Category	n	Mean*	Standard deviation	t	*p*
Threat from new entrants	New**	45	3.8	0.23	0.300	0.765
	Old	18	3.9	0.94		
Intensity of rivalry in the industry	New	45	3.7	0.71	0.555	0.581
	Old	18	3.8	1.02		
Threat from substitutes	New	45	2.2	1.09	1.551	0.126
	Old	18	2.7	0.86		
Bargaining power of suppliers	New	45	3.6	0.64	0.965	0.339
	Old	18	3.3	0.56		
Bargaining power of buyers	New	45	3.3	0.97	0.109	0.914
	Old	18	3.3	0.80		
Overall	New	45	3.4	0.67	0.811	0.421
	Old	18	3.2	0.78		

n= 63

* The analysis is based on the ranges 1 – 1.5: Not at all, 1.6 – 2.5: To a little extent, 2.6 – 3.5: To a moderate extent, 3.6 – 4.5: To a great extent and 4.6 – 5: To a very great extent

**Includes new universities and university colleges

Table III. One-way ANOVA test for the differences of the extent respondents from the three categories of public universities (university colleges, new universities and old universities) choice of response strategy was influenced by the Porter's five competitive forces framework

Force	Source	Sum of squares	df	Mean squares	*F*	*p*
Threat from new entrants	Between groups	0.742	2	0.371	0.251	0.779
	Within groups	84.191	60	1.477		
	Total	84.933	62			
Intensity of rivalry in the industry	Between groups	2.284	2	1.142	1.498	0.232
	Within groups	43.462	60	0.762		
	Total	45.746	62			
Threat from substitutes	Between groups	2.375	2	1.188	0.898	0.413
	Within groups	75.358	60	1.322		
	Total	77.733	62			
Bargaining power of suppliers	Between groups	2.692	2	1.346	1.363	0.264
	Within groups	56.291	60	0.988		
	Total	58.983	62			
Bargaining power of buyers	Between groups	2.011	2	1.006	1.155	0.322
	Within groups	49.639	60	0.871		
	Total	51.65	62			
Overall	Between groups	0.987	2	0.494	0.691	0.505
	Within groups	40.685	60	0.714		
	Total	41.672	62			

Table IV. Mean and standard deviation of the extent to which other factors influenced the choice of response strategies

Factor	Mean	Standard deviation	Verbal interpretation
• Changes in the market	3.5	0.79	To a moderate extent
• Changes in government policies and decisions	3.6	0.91	To a great extent
• Location of the university	3.3	0.32	To a moderate extent
• Roles of past strategies	3.1	0.92	To a moderate extent
• Mission and vision	3.5	0.67	To a moderate extent
• Corporate culture	3.4	0.61	To a moderate extent
• Management attitude towards risk	3.5	0.94	To a moderate extent
• Pressure from stakeholders	3.7	0.53	To a great extent
• Needs and desires of top management	3.2	0.65	To a moderate extent
• Statutory bodies requirement	3.5	0.91	To a moderate extent
• Changes in government funding	4.0	0.48	To a great extent
• Limited human resource base	3.3	0.52	To a moderate extent
• Lowering of job specification by other universities to attract staff	3.8	0.56	To a moderate extent
• Lowering of admission criteria for programmes by other universities	3.6	0.73	To a great extent
• Mandate of the institution	3.7	0.55	To a great extent
• New constitution	3.8	0.68	To a great extent
• The Universities Act	3.7	0.48	To a great extent
• Reforms in the higher education sub-sector	3.5	0.79	To a moderate extent
• Conformation to the changing needs of industries	3.6	0.90	To a great extent
Overall	3.5	0.58	To a moderate extent

n = 63

* The analysis is based on the ranges 1 – 1.5: Not at all, 1.6 – 2.5: To a little extent, 2.6 – 3.5: To a moderate extent, 3.6 – 4.5: To a great extent and 4.6 – 5: To a very great extent

Table V. The difference between the extent to which various factors influenced the choice of response strategies by respondents in old and new universities

Factor	Category	n	Mean*	SD	t	*p*
• Changes in the market	New**	43	3.5	0.63	0.078	0.938
	Old	17	3.5	1.13		
• Changes in government policies and decisions	New	43	3.6	0.96	0.707	0.482
	Old	17	3.8	0.75		
• Location of the university	New	43	3.8	1.09	5.873	0.00***
	Old	17	2.1	0.96		
• Roles of past strategies	New	43	3.0	0.95	1.536	0.13
	Old	17	3.4	0.78		
• Mission and vision	New	43	3.4	1.11	0.392	0.696
	Old	17	3.5	1.01		
• Corporate Culture	New	43	3.4	1.07	0.054	0.957
	Old	17	3.4	1.06		
• Management attitude towards risk	New	43	3.5	0.98	0.105	0.917
	Old	17	3.5	0.87		
• Pressure from stakeholders	New	43	3.7	1.04	0.581	0.564
	Old	17	3.8	1.02		
• Needs and desires of top management	New	43	2.9	0.99	1.971	0.053
	Old	17	3.4	0.93		
• Statutory bodies requirement	New	43	3.6	0.83	0.783	0.437
	Old	17	3.4	1.12		
• Changes in government funding	New	43	4.2	0.89	1.216	0.229
	Old	17	3.7	1.16		
• Limited human resource base	New	43	3.8	1.08	0.061	0.952
	Old	17	3.6	0.94		
• Lowering of job specification	New	43	3.2	1.52	0.952	0.927
	Old	17	3.2	0.93		
• Lowering of admission criteria	New	43	3.3	0.56	0.287	0.775
	Old	17	3.8	0.70		
• New constitution	New	43	3.3	0.45	0.336	0.738
	Old	17	3.4	0.71		
• The Universities Act	New	43	3.6	0.74	0.799	0.428
	Old	17	3.8	0.85		
• Reforms in the higher education sub-sector	New	43	3.6	0.76	0.49	0.626
	Old	17	3.8	0.70		
• Conformation to the changing industry needs	New	43	3.8	0.44	0.115	0.909
	Old	17	3.7	0.85		
Overall	New	43	3.5	0.59	0.182	0.856
	Old	17	3.4	0.48		

n= 63

* The analysis is based on the ranges 1 – 1.5: Not at all, 1.6 – 2.5: To a little extent, 2.6 – 3.5: To a moderate extent, 3.6 – 4.5: To a great extent and 4.6 – 5: To a very great extent

**new universities and university colleges

*** Significant difference at p<0.05