A Proposed Model for the Relationship between the Key Competitive Forces and the Differentiation Strategy in the Egyptian National Universities
The Mediation Effect of Market Orientation

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Abstract

Purpose: The purpose of the paper is to investigate the impact of the key competitive forces which are the intensity of rivalry, bargaining power of suppliers, bargaining power of buyers, Government regulations, and Technology forces on the differentiation strategy in the Egyptian national universities considering the mediation effect of market orientation.

Design/methodology/approach: This paper used a quantitative research design. The census method was adopted. A self-administered questionnaire was developed to collect data from all academics and administrators who hold leadership positions at the four main Egyptian national universities namely: Elgalala, International King Salman, Elmansora, Elgededa and Elaalam, Egededa. Data was analyzed through SPSS-Statistics software 23.0 versions and Amos Application-25.

Findings: The findings of this research indicated that the direct impact of the intensity of rivalry, the bargaining power of suppliers and the technology force on the differentiation strategy have been proved while it was not confirmed for the bargaining power of buyers and the government regulations indicating the importance of the mediating variable which is market orientation in enhancing this relationship.

Originality/value: This study is the first to look at the relationship between the key competitive forces and the differentiation strategy whether directly or indirectly by mediating market orientation in the higher education industry in both Egypt and the Arab region.

Keywords: Competitive Forces, Intensity of Rivalry, Bargaining Power of Suppliers, Bargaining Power of Buyers, Government Regulatory, Technology Force, Market Orientation, Egyptian National Universities.

Paper type: Research paper

Introduction

Undoubtedly, the Egyptian higher education sector is currently facing severe pressures in light of the rapid trend towards internationalization of higher education institutions which has promoted these institutions to rapidly change the traditional patterns of management that have prevailed for a long time to become more compatible with the market mechanisms, therefore, more effective in maximizing the ability of these institutions to enhance their competitive advantages.

In this line, Porter’s five forces model which was introduced (1979) is still one of the most applied strategic frameworks in business areas as it helps organizations particularly those operating in volatile envi-
environments to gain a deep understanding of their industry's structure and its competitive driving forces (Porter, 1979; Porter, 1980; 1985; Porter, 1991; Porter, 2008; Karagiannopoulos et al, 2005, Omsa et al, 2017). However, during the last two decades, some scholars have advocated that Porter's original model appears to be incomplete in dealing with the most complex organizations as in the case of higher education institutions because it neither describes the key driving forces of this industry nor visualizes the dramatic shifts in its governing mechanisms thus, it requires some adaptations to become more useful to analyze this highly dynamic industry and develop its key competitive strategies (Karagiannopoulos et al, 2005, Michael, 2005, Naidoo 2005; Wong, 2005; Levy, 2006).

In response to such great controversy, a wide range of contributions have been introduced and enabled those interested whether scholars and practitioners to reidentify a set of influential factors that drive the competitive positioning of higher education institutions. The recommended factors include three key components of Porter’s original model namely: the intensity of competition among the key competitors (institutions that vie for the same value-creating opportunities), the relationships with students (customers) and relationships with suppliers (lecturers). In addition, (Michael, 2005 & Porter, 2008) suggest government regulations as a key complementary force upon which the governing policies and strategies will be built. Also, technological developments have become an influential factor in positioning institutions competing in this field, so those two weighty forces: government regulations and technology force cannot be dismissed. (Mintzberg and Rose, 2003; Michael, 2004, 2005; Naidoo 2005; Wong, 2005; Levy, 2006; Porter, 2008: Naidoo, 2008; Dorri et al., 2012; Mathooko, & Ogutu, 2015).

Based on a deep analysis of these recommended five competitive forces and considering their interactive nature, Egyptian HEIs could easily reconceptualize their activities as commercial transactions, the lecturer as the commodity producer and the student as the consumer. Moreover, Muniapan, 2008) argues that to become highly competitive these institutions must be rationally market-oriented. The underlying rationale for a more marketized system is that more competition leads to more efficiency, higher quality, more innovation and more differentiation (Dill, 2003; Jongbloed, 2003; Naidoo, 2005, 2008; De Boer et al., 2009; Kim 2012).

This study seeks to present and test a conceptual model that analyzes the relationships between the key competitive forces that currently shape the higher education industry and the differentiation strategy considering the mediation effect of market orientation. The study is built on the theories of competitiveness introduced by (Porter 1979, 1980) and the marketing theory presented by (Levitt, 1960; Jogaratnam, 2017). In addition, it tries to respond to the dramatic shifts in the higher education setting which promote the ongoing claims to reconceptualize these institutions operating in this field as entrepreneurial businesses in terms of marketization, competitiveness and profitability (Pringle & Huisman, 2011; Dorri et al., 2012; Anand, 2012; Mathooko, & Ogutu, 2015, Pringle).

Furthermore, the study is in line with the Egyptian’s government growing orientation towards establishing and promoting national universities which are a strong competitor to private universities and thus escalate the intensity of competition in this industry. Therefore, the study attempts to bridge the gap by identifying the key competitive forces of the higher education industry in general and of the national universities in particular and also it sheds light on how could these forces drive the competing institutions towards adopting the differentiation strategy.

The research is structured as follows; the theoretical review will be presented. Next, the statement problem and research objectives will be formulated. Then, theoretical research hypotheses will be stated, and the research methodology and statistical analyses will be presented. Conclusions, limitations and orientations for future research are presented in the final section.
Theoretical framework and previous studies

In this section, we will review in detail the relevant literature related to the independent, mediating, and dependent research variables.

The key competitive forces of the higher education industry

In understanding the industry's structure and sustaining an effective strategic positioning organization could apply Porter's five forces model which was introduced (in 1979) since it is still one of the most common strategic paradigms used today for this purpose (Porter, 1989; 1991; 2008; Karagiannopoulos et al, 2005). (Porter, 1985) believes that the success of any organization's competitive strategy depends mainly on how it has positioned itself within its environment, especially on its ability to influence the competitive forces in its favor or defend itself against these forces.

According to Porter’s model, the potential for a firm to be competitive and profitable is a function of the interaction between the five distinct forces driving competition, which are: rivalry among the existing players, bargaining power of buyers, bargaining power of suppliers, threat of substitutes and entry of competitors. Additional complementary factors including government regulations and technology developments must be considered in positioning HEIs because they currently are key drivers of competition in this industry, therefore Porter's five forces require adaptations to be more useful in the construction of competitive strategies for educational organizations (Michael, 2005). Based on a deep and comprehensive analysis of these key five competitive forces an organization becomes more able to develop its generic competitive strategies and that is through the rational reconfiguration of its value-chain activities. The key competitive forces also offer valuable details on how companies could mitigate the risk of the new entrants as well as how to cope with the substitute products (Porter, 1991; Karagiannopoulos et al., 2005).

In this line (Mcelwee & Pennington,1993) confirm that Educational strategists must pay significant attention to two of Porter’s Five forces which are the entry of competitors and the bargaining power of buyers in light of the rise in the internationalization of the educational institutions and the expansion in the virtual universities so more option choices will be available to students today. However, Porter's five forces model can help HEIs redefine the parameters within which new rules, participants and markets continue to emerge.

Market Orientation

Theoretically, the market orientation concept has been built on the marketing theory (Levitt, 1960; & Jogaratnam, 2017) which entails that the services and goods provided by an organization must satisfy the requirements and needs of customers through the successful creation of superior value (Slater & Narver, 1998; Vieira, 2010; Fang et al., 2014; Yoganathan et al., 2015). The core of a market-oriented approach is that an organization’s culture, beliefs and shared values should reflect the strong linkages between the customer and provider Thus, the firm will be more able to immediately respond to the rapid changes in the market (Blankson & Cheng, 2005; Ho et al., 2010). There have been two main perspectives that deeply approached the concept of MO, the first is the behavioral perspective which was introduced by (Kohli & Jaworski 1990), it entails three behavioral elements that consistently work together in forming the basis for market-orientated organization, the first is market intelligence which is driven by the capability of a firm to gather, identify and evaluate customer preferences/needs and the second is an intelligence dissemination that involves the extent of market information distribution inside organizations weather formally or informally and the final is the level of responsiveness that tackle the ability of the firm to respond to the generated and disseminated information. The second popular concept that is commonly applied in this area is a cultural perspective which was advocated by (Narver & Slater, 1990). According to this perspective, three main cultural elements sound as drivers of market orientation namely, customer orientation, competitor orientation and inter-functional. customer orientation identifies the ability of a firm to gain a deep understanding
of target buyers, while competitor orientation refers to the extent to which a firm possesses deep awareness of competitors’ weaknesses, strengths, long-term capabilities and strategies, and the final element is the inter-functional component that implies a firm’s capabilities of integrating its resources to create superior value for the target customers. By utilizing these three main elements a firm will be more knowledgeable of customers’ current and potential needs; competitors’ current and potential strategies and more capable of promoting information sharing among employees when external market changes occur (Demirbag et al., 2006; Vieira, 2010; Eggers et al., 2013; Shehu & Mahmood, 2014; Hussein et al., 2016; Buli, 2017).

**Differentiation Strategy:**

Differentiation strategy is one of Porter’s generic competitive strategies that aims at establishing a profitable and sustainable competitive position against the forces that regulate industry competition. There are at least two different types of differentiation strategies: those based on product innovation and those based on intensive marketing and image management (Porter 1980; Miller et al., 1996). According to both approaches Customer loyalty and inimitable uniqueness will enable an organization to create a sustainable competitive advantage and strong identity in a specific market and that will be driven by providing differentiating products in terms of quality, innovation, responsive customer service, perceived prestige and the delivery system. (Porter, 1980, 1985; Mainardes, & Ferreira, 2011; Kaplan, & Pucciarelli,. 2016; Alzoubi, & Emeagwali,.2016). (Adidam et al., 2012) argues that to successfully adopt this strategy the firm should be equipped with strong research and development capabilities, professional marketing campaigns, high-quality relationships with distribution channels and continuous improvement and innovation.

In the higher education context, three attributes: namely: time, convenience and application are considered the influential drivers of competition and differentiation and all of them are highly related to the mode of course delivery. In addition, market orientation, innovation and corporate social responsibility are powerful recipes for improving the institution’s reputation thus its competitive position (Martinez & Wolverton, 2009; Anand, 2012; Dahan & Şenol, 2012).

**Research Problem**

In Egypt, the new national universities are currently operating under various pressures and facing multiple challenges that raised concerns about the future of this sector and the key competitive forces that drive its industry. In addition, this sector is witnessing dramatic changes in the concepts and approaches that govern its dynamism for example an expansion of market orientation and the growing trend toward internationalization, therefore Egyptian national universities have to rethink all the industry aspects and also have to redefine their strategic priorities seeking to sustain their competitive position in the Egyptian market.

This study will focus on analyzing and identifying the key competitive forces of the Egyptian national universities and track their impact on the differentiation strategy directly or indirectly by mediating the market orientation.

**Research Objectives**

This research aims to address the following objectives:

1- To Identify the impact of the key competitive forces namely: intensity of rivalry, bargaining power of suppliers, bargaining power of buyers, Government regulations and Technology force on differentiation strategy in Egyptian national universities.

2- To identify the mediating effect of market orientation on the relationship between the key competitive forces and differentiation strategy in Egyptian national universities.
Research Hypotheses

Intensity of rivalry and differentiation strategy

Intensity of rivalry is the central force of the competitive environment in the higher education industry as it is highly related to the object of the competition particularly students and teaching staff (faculty). However, it is influenced by two main factors which are: the profile of existing institutions and the industry context (Porter, 2008; Martinez & Wolverton, 2009a). In the last decade, global nature has significantly controlled the profile of existing players in this industry in terms of the mobility of staff and students, the increase in international cross-border investment, and the expansion in distance learning which in turn causes a significant increase in higher education institutions. Such intensifying competition has pressured the key players to take more competitive actions seeking to strongly position and differentiate themselves (Collis, 1999b; Martinez & Wolverton, 2009; Koç & Yılmaz, 2010; Anand, 2012; Khan, 2015; Özkan, 2015; Aydin, & Bayir, 2016; Gök & Gümüş, 2016). On the other hand, the educational industry has been subject to dramatic shifts in the environmental context within which it operates and competes. According to (Hill & Jone ,2012), the intensity of rivalry among higher education institutions is largely a function of four fundamental factors, which are industry competitive structure, demand conditions, cost conditions, and the height of exit barriers in the industry. The higher education industry has a clear fragmented structure as it consists of a large number of small or medium-sized firms none of which is in a position to determine industry price. A fragmented industry structure represents a threat rather than an opportunity. Moreover, the high exit barriers restrict the freedom of these universities to exit the market with any change in circumstances and also the high fixed costs of this industry trigger the need to grow volume by providing incentives to cut prices and/or increase promotional spending in trying to drive up demand to cover fixed cost.

In dealing with such a volatile environment most universities have to adapt their traditional models which are highly driven by teaching and research to take more value creator roles by offering different specializations and unique packages of services that are unavailable at competitor institutions (Çiftçi, 2015). In addition, the threat of new entrants in the higher education industry that could be attributed to the relatively loose governmental regulations escalated the intensity of competition, as a sequence raised the potential of differentiation in terms of the programs provided, the technology adopted and the packages of services (porter, 2008; De Boer et al., 2009; Pringle and Huisman, 2011; Anand, 2012). So, the following hypothesis can be formulated:

H.1. It is expected that the intensity of rivalry will have a positive effect on the differentiation strategy in Egyptian national universities.

Bargaining power of suppliers and differentiation strategy

According to the Porter model suppliers are defined as those organizations or individuals that provide materials, information and knowledge to allow an organization to produce its goods and/or services (Porter, 1985; King, 2008; Martinez & Wolverton, 2009a). In the higher education industry labor should be viewed as a supplier whose power depends on his skills in the form of lecturers, researchers and administrators (Pringle & Huisman, 2011; Wolff et al., 2014).

Despite the importance of academics in this industry high schools and private foundations could also be seen as the main suppliers who provide the key inputs required to facilitate the university’s main operations (Martinez & Wolverton 2009; Huang, 2012; Mathooko & Ogutu 2015). However, Baumol and Saini (2014) indicate that the higher education industry can be assessed as a highly labor-intensive sector, so labor is the most influential factor. In this context bargaining power of suppliers refers to their ability to raise prices or reduce the quality of inputs” (Porter, 1980; Nderitu, 2016). The power wielded by teaching staff depends basically on multiple factors, for instance, the power of the unions or associations to which
they belong, the disciplines in which they specialize and their competencies and profiles, in addition to the reputation of the university they work for (Martinez & Wolverton, 2009a,b). In general, the bargaining power of suppliers in the higher education industry is high given the increasing number of limited trained faculty members, the remarkable shortage of highly skilled academic staff and the low cost of switching works. However, a lot of studies concluded the critical role of faculty members in sustaining the universi-
y’s competitive advantages and this is through their ability to provide valuable products in the different related areas such as research and development, community contributions and marketing, especially with the absence of alternatives that provide the same features. (Mintzberg and Rose, 2003; Yamamoto 2006; Duczmal,2006; Hacıfazlioğlu & Özdemir, 2010; Anand, 2012; Çokgezen, 2014), so we can formulate the
following hypothesis.

H.2. It is expected that the bargaining power of suppliers will have a positive effect on the differ-
entiation strategy in Egyptian national universities.

Bargaining power of buyers and differentiation strategy

In HEIs, the buyers are the students who want to have some special knowledge in their respective areas. Moreover, the student’s parents are an important category of customers since they have a significant influence on their children’s decisions about their career paths, therefore, universities must also consider parents’ expectations regarding the quality of the products and services provided by them. (Kim, 2002; Huang, 2012, Omsa, 2017). As long as the purpose of higher education is to prepare students for the future, employers also should be recognized as the final consumers of the “products” (the students) Michael et al. (1997).In general, the more options the buyer has to choose from, the more power the buyer has especially with the presence of substitutes which erode the monopoly that traditional universities have long enjoyed (Collis, 1999a; Pringle and Huisman, 2011). According to (Porter, 2008), powerful customers can gain more value by demanding better quality or service. In addition, in an industry where options are plentiful, the unique services could mitigate the bargaining power of students (Martinez & Wolverton, 2009a). Hua (2011) refers to brand identity as a key driver of competition through which higher educational institutions could maximize the potential of the differentiation strategy. Indeed, academic reputation, physical aspects, personalizing customers’ experience, institutional advertisements and brand image sound as common criteria of differentiation from the buyer’s point of view. Thus, we can develop the following hypothesis:

H.3. It is expected that the bargaining power of buyers will have a positive effect on the differ-
entiation strategy in Egyptian national universities.

Government regulations and differentiation strategy

According to (Porter, 2008), government regulations affect significantly any given industry and that was also confirmed by (Collis, 1999; Martinez & Wolverton, ( 2009a) who emphasized the importance of government regulations which have an equivalent importance to Porter’s five original forces therefore, PFCF framework should be modified to include an extent of complements and on the top government regulations (porter, 2008; Martinez & Wolverton, 2009a). Recently it is clear that Egyptian higher education institutions are operating under flexible and promoting governmental regulations which led to a significant increase in the number of the key players, consequently sparked the tune of competition among them. In addition, the growing tendency towards the commercialization of educational services which coincided with significant changes in the funding policies of these institutions has ignited the competition in this sector and extended the scale of asymmetry of their accreditation system (OECD, 2009; Anand, 2012).

In response to such complexity restricted measures have been established by those involved parties aiming to regulate and control the operational activities of the competing institutions in terms of the admission requirements and the performance indicators that will be guided. According to these measures higher
education institutions have to maintain compatibility with the quality standards in all the related areas such as education, student services, scientific research, and strategic planning. these measures are regularly subject to continuous review to be more compatible with international standards. (Widuri & Suranto, 2019). In brief, government regulations act as a catalyst that promotes these universities to implement the differentiation strategy (Anand, 2012, Nderitu, 2016).

Drawing on the previous discussion, we will state the following hypothesis:

H.4. It is expected that government regulations will have a positive effect on the differentiation strategy in Egyptian national universities.

Technology force and differentiation strategy

Despite that, technology has not been incorporated in the Porter generic typology, it promises to be a prime driver of proceeding and dominating in the higher education arena. Advanced educational applications in particular, internet services and distance learning options have a wide range of potential whether in terms of facilitating access to educational services or stimulating virtual interaction with faculty without the need for the physical proximity of the students (Collis, 1999b). Moreover, higher education institutions could capitalize on educational technology to enhance the quality of the academic curriculum, promote the branding and protect the intellectual properties of the incumbent members, therefore it is a major determinant of differentiation (King, 2008; Pringle & Huisman, 2011; Kumar, 2011). According to (Hua, 2011) three key elements of differentiation have been identified in the higher education industry namely: branding and image, location and facilities, and online mode of delivery, as noted all of them revolve around technology.

Drawing on the above discussion, we can formulate the following hypothesis:

H.5. It is expected that the technology force will have a positive effect on the differentiation strategy in Egyptian national universities.

Mediating effect of market orientation

Under the pressures of the intensity of rivalry and given the high bargaining power of suppliers and buyers higher education institutions today have to turn quickly to a market orientation perspective, particularly with the apparent absence of restricted barriers to entry. it seems to be that the concentration of the competing institutions could only derive from their superiority in providing unique services or products that can satisfy the requirements and needs of customers (Levitt, 1960; Jogaratnam, 2017). A market-oriented approach is essentially built on enhancing the customer-provider linkage which must be strongly rooted in an organization's culture, beliefs and shared values, Thus MO enables higher education institutions to perceive early the unanticipated forces and respond immediately to changes, so they become more able to create superior value for customers (students). (Blankson & Cheng, 2005; Ho et al., 2010).

In addition, considering the profound impact of education technology and placing it as one of the most critical forces of competition and given the government regulations that prioritize quality standards and continuous improvement MO must be culturally embedded in the higher education environment to successfully embrace the necessary behaviors of maintaining superior performance. (Narver & Slater, 1990; Kumar et al., 2011; Bosso et al., 2013; Fang et al., 2014; Hilman, & Kaliappan, 2011, Gruber and Hofer, 2015; Yoganathan et al., 2015; Buli, 2017).

On the other hand, according to (Narver & Slater, 1990) and (Hunt & Lambe, 2000) MO is recommended as complementary to the marketing concept because it maintains the balance between competitor orientation and customer orientation and also could provide relevant information regarding the value creation process. However, Customer orientation and competitor orientation are highly interrelated and integral elements through them an organization becomes more able to coordinate its resources and capabilities for innovation and differentiation. (Cano et al. 2004; Zhuo et al. 2005; Gainer and Padanyi 2005; Kara et al.
2005; Hult et al. 2005; Lewrick, 2009; Ali et al 2019). In a nutshell, MO could be easily captured as a fundamental requirement to successfully pursue the differentiation strategy.

So, we can develop the following hypothesis:

H.6. It is expected that market orientation mediates the relationship between the key competitive forces and the differentiation strategy in Egyptian national universities.

Research Methodology:

Research design

This study is identified as descriptive as it describes the characteristics of certain phenomena and establishes a correlation between the variables studied. A quantitative approach has been adopted wherein the administrative questionnaire was used to collect data. The census method was applied to collect Data from the relevant respondents.

The research population and sample

The research sought to propose a comprehensive framework to investigate the relationship between the competitive forces of the higher education industry and the differentiation strategy. In addition, it tests the mediating effect of market orientation in sustaining this relationship. A relevant literature review has been utilized to build this framework and test the relations between the research variables. The research setting represented in the Egyptian national universities is in line with the expansion of this model of universities in Egypt which caused major change in the industry structure and its competitive forces. The target universities and the distribution of respondents are shown in table (1). Considering the small study population and the fact that the respondents are members of the university’s top management team, the study was conducted in the form of a census.

Research Variables and measures

The study model identified five independent variables that comprise the key competitive forces of the higher education industry, namely the intensity of rivalry, the bargaining power of suppliers, the bargaining power of buyers, the government regulations and the technology force. all these forces are conceptualized and measured depending on the relevant literature review (Porter, 1980; Porter, 2008; Martinez & Wolverton, 2009a, Koç & Yılmaz, 2010; Hua, 2011; Anand, 2012; Erdem, 2015; Gök & Gümüş, 2016; Özkan, 2015, Yükseköğretimimin et al., 2017; Widuri et al,2019). The mediating variable (market orientation ) has been identified and measured utilizing the relevant literature of (Levitt, 1960; Narver & Slater,1990; Blankson & Cheng, 2005; Ho et al., 2010; Li et al., 2010; Kumar et al., 2011; Bosso et al., 2013; Fang et al., 2014; Yogannathan et al., 2015; Buli, 2017), while the literature review of (Porter, 1980, 1985; Martinez & Wolverton, 2009; Martinez & Wolverton, 2009; Anand, 2012; Dahan & Şenol, 2012;; Alzoubi,.& Emeagwali, 2016 ) was guided in measuring the dependent variable ( differentia tion strategy). Thus, we can propose the following model (figure 1) which illustrates the key variables of the study and its relationships.

Data collection

A structured questionnaire was developed to collect the relevant data required to test the conceptual model. The respondents to whom the questionnaire was administered comprised all the academic and administrative managers in decision-making positions including the vice president for academic affairs, vice president for international relations president for research and development, dean and dean deputy, academic programs heads and all

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<th>University</th>
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<td>International king salman</td>
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<td>Elgalala</td>
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<td>Elmansora –Elgededa</td>
<td>45</td>
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<td><strong>Total</strong></td>
<td><strong>118</strong></td>
<td><strong>88</strong></td>
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Source: higher education ministry, 2022.
the managers of administrative departments including student affairs, procurement, human resource management, public relation, finance-information technology—graduate and employment-training). The choice of these respondents was driven by their involvement in all the key university activities both academic and administrate and hence, they have the relevant information and experience that are highly related to the research essence and more likely will be a reliable source of required data. so we guarantee getting complete and accurate data regarding a phenomenon of interest” (Onwuegbuzie & Collins, 2007). The complete census method was used. About (250) members were relevant to participate in our research. A total of (250) questionnaires were distributed (150) to academicians and (100) to administrators. About (215) questionnaires were retrieved, of which (9) were invalid therefore, (206) answered questionnaires were valid for analysis (118), academicians and (88) administrators, the response rate was (82%) percent as shown in Table (1).

<table>
<thead>
<tr>
<th>Research variables</th>
<th>Intensity of rivalry</th>
<th>Bargaining power of suppliers</th>
<th>Bargaining power of buyers</th>
<th>Government regulations</th>
<th>Technology force</th>
<th>Market orientation</th>
<th>Differentiation strategy</th>
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<tr>
<td>Measures of variables in the questionnaire</td>
<td>1-4</td>
<td>5-8</td>
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Source : The researcher

**Figure (1) study model and variable relations**

The study population is characterized by homogeneity in terms of the age of the university and the university status. Answers were organized according to 5-point Likert scales ranging from 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree (for the variables studied. Data was collected between (April and May 2022). Measures of research variables are shown in Table (2) according to the questionnaire.

**Data analysis techniques**

Data was analyzed through SPSS-Statistics software 23.0 versions and Amos Application-25 by using the following techniques:

- Mean, Standard Deviation, Skewness, and Kurtosis to conduct the descriptive statistics of sample data.
- Cronbach Alpha for testing internal consistency reliability of the measurement scales.
A Proposed Model for the Relationship between the Key Competitive Forces and the Differentiation Strategy...

- Factor Analysis for testing the construct validity of used measurement scales
- Variance inflation factor (VIF) to measures how much the variance (the square of the estimate's standard deviation) of an estimated regression coefficient is increased because of collinearity.
- Path analysis technique to test the relationships among the variables studied.

Results
Descriptive analysis

Statistical analysis has been conducted about the key scales of the study which are the intensity of rivalry, bargaining power of suppliers, bargaining power of buyers, government regulations, technology force, market orientation and the differentiation strategy. Table (3) highlights the results of mean value, standard deviation, skewness and kurtosis.

As shown in Table (3) the means for all the variables are greater than 3 which indicates that there is a high level of agreement among the respondents regarding the study variables. The arithmetic mean for these variables ranges between (3.49 - 3.10). Also, the values of skewness and kurtosis are considered in the acceptable range For the skewness index, an acceptable value range is between (-3 and +3) (Chou et al., 1995), whereas for the kurtosis index, the values less than (10) are considered in acceptable range (Kline, 2005). Thus, the variables studied reasonably meet the criteria of the univariate normality and the optimality to use path analysis technique has been confirmed.

Reliability and validity analysis:

Internal consistency reliability was measured by using the most widely used reliability method Cronbach’s α. The acceptable Cronbach’s alpha reliability is (0.7) Gregory (2004). The reliability of the scales ranged from 0.893 to .755 (see Table 4) providing support for the reliability of all constructs used in the research.

The validity has been tested by using both content validity and construct validity. Content validity is conducted depending on a panel of judges and experts in the strategic management area to check the questionnaire items, their comments and recommendations have been considered. Then to assess the psychometric properties of the scales and test the discriminant validity of the measures Confirmatory factor analysis (CFA) was conducted by following the procedures outlined by Byrne (2001), the first step consisted of testing for the factorial validity of the theoretical constructs. Two items were removed from the scales measuring market orientation construct and one item was removed from the scales measuring differentiation strategy because their loading factors were less than (0.5) after CFA’s first run. The next step was to assess convergent validity by checking the factor loadings of each item and the values of average variance extracted (AVE> 0.5). The factor loadings of the measurement items are significant and substantial, i.e. p > 0.5 (Hair et al., 2006), as well as composite reliabilities of each of the constructs and average variance

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<th>Table (3) Descriptive Statistics</th>
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<td>Variable</td>
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<td>Rivalry</td>
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<td>Suppliers</td>
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<td>Buyers</td>
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<td>Government</td>
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<td>Technology</td>
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<td>Marketization</td>
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<td>Differentiation</td>
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</tbody>
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Valid N (listwise) 206

Source: the researcher (SPSS output)

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<th>Table (4) reliability and validity test</th>
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<tr>
<td>Variables</td>
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<tr>
<td>Intensity of rivalry</td>
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<td>Bargaining power of suppliers</td>
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<td>Bargaining power of buyers</td>
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<td>Market orientation</td>
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<td>Differentiation strategy</td>
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extracted (see Table 4) Thus, the convergent validity of the latent constructs was confirmed.

**Model fit indices**

Test statistics indicate that the measurement model represents a good fit to the data where the value of the CMIN test is (202.125), DF=99 P= (0.0), CMIN / df (2.04). The fit indices were all in acceptable ranges with CFI=0.977, GFI, 0.937, TLI, 0.952 and RAMES equal to .023. Models with cut-off values above 0.90 for CFI, and below 0.08 for RMSEA are considered to have a good fit between the hypothesized model and the observed data (see table 5) (Hu and Bentler, 1999). The statistics of the variance inflation factor(VIF) which provides a measure of the degree of collinearity shows essentially no collinearity between independent variables as all the values are than less 5,1.169 for the intensity of rivalry, 1.403 for bargaining power of suppliers, 1.522 for bargaining power of buyers, 1.967 for government regulations, 1.677 for technology force and 2.235 for market orientation. (Hair et al, 2006). Previous results allow us at considering the acceptability of the research model.

**Hypotheses testing**

Figure (2) presents the model that was tested through the path analysis technique, path coefficients and their significance, R2 for each dependent construct are also presented in this figure. Table (6) reveals the regression weights for all the variables considered in the research model. The concluded results indicated that the intensity of rivalry and the bargaining power of suppliers have a positive significant impact on the differentiation strategy with a P-value < 0.001. Also, the direct effect of the technology force on the differentiation strategy has been confirmed with a 0.004 P-value, while the direct effect of the bargaining power of buyers and government regulations on the differentiation strategy has been rejected. Regarding the mediation effect of market orientation, the statistics results revealed that the intensity of rivalry, the bargaining power of buyers and the government regulations were found to have a positive influence on market orientation with a p-value < 0.001. In addition, the relationship between market orientation and differentiation strategy has been proved at P-value < 0.001 so, market orientation seems to be a relevant mediator regarding these relationships while the effect of the bargaining power of suppliers and the technology force on market orientation is believed to be invalid which advocated the direct relationships between the two variables and the differentiation strategy.

### Table (5) Goodness of fit results

<table>
<thead>
<tr>
<th>P</th>
<th>CMIN / Df</th>
<th>DF</th>
<th>CMIN</th>
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<tr>
<td>0.00</td>
<td>2.04</td>
<td>99</td>
<td>202.125</td>
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<tr>
<td>0.023</td>
<td>.977</td>
<td>.937</td>
<td>0.952</td>
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Source: The researcher (Amos output)

### Table (6) Regression Weights: (Group number 1 - Default model)

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<tr>
<th>mar --- riv</th>
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<th>diff --- buy</th>
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<tbody>
<tr>
<td>2.854</td>
<td>.671</td>
<td>3.129 .655</td>
<td>.310 .131</td>
<td>.040 .750</td>
<td>.244 3.068</td>
<td>.025 .3741</td>
<td>.092 .805</td>
<td>.454 3.450</td>
<td>.025 .3773</td>
<td>.025 .3773</td>
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</tbody>
</table>

Table (6) Regression Weights: (Group number 1 - Default model)

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<td>.092 .805</td>
<td>.454 3.450</td>
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</table>

*** P-value < 0.001

Source: The researcher (Amos output)
Conclusions and discussion

First, considering the direct impact of the key competitive forces on the differentiation strategy, the findings of the study confirmed that with the intensity of competition, competing universities have to work hard to differentiate themselves by offering products that are more distinguished from competitors and also valued higher from customers, this result supports the ideas of (Anand, 2012; Khan, 2015; Aydin, and Bayir, 2016). Also, the finding is congruent with previous studies which have found that the bargaining power of suppliers exerts an important impact on the differentiation strategy ((Wolff et al., 2014; Çokgezen, 2014; Mathooko and Ogutu 2015). This result suggests that highly qualified academics are one of the most influential factors through which higher education institutions could increase the quality of their outputs especially if they possess special qualifications and enjoy a highly reliable profile, thus universities could capitalize on them to ensure their excellence in different areas such as research and development, community contribution and marketing.

In addition, the results show that technology force is relevant to directly influence the differentiation strategy and this is consistent with many previous studies (King, 2008; Pringle and Huisman, 2011; Hua, 2011). However, today’s students are more technology-conscious, they regard teaching technology as a more convenient source of learning as it enhances the quality of learning, provides different learning styles and adds a sense of enjoyment to the learning experience. The direct impact of both the bargaining power of buyers and government regulations on the differentiation strategy has been rejected according to the statistics results confirming the importance of the mediating variable (market orientation) in enhancing these relationships.

Second, Considering the mediating effect of market orientation the results revealed that, it is evident that market orientation is a powerful factor in promoting the higher education institution’s tendency to embrace the differentiation strategy which with advocated by (; Hult et al. 2005; Lewrick,2009; Ali et al 2019). In addition, the mediating effect of market orientation in sustaining the relationship between the key competitive forces and the differentiation strategy has been partially confirmed where the findings showed that the intensity of rivalry, the bargaining power of buyers and the governmental regulations are relevant to promote the MO in the higher education institutions. This result was supported by (Gruber and Hofer, 2015; Yoganathan et al., 2015; 2016; Buli, 2017). In light of the intensity of rivalry, the increased bargaining power of buyers and the escalating pressures related to government regulations market orientation tends to be imperative for survival and continuity. By leveraging on the market orientation higher education institutions become more able to identify customers’ preferences as well as competitor’s strengths and weaknesses and both must be recognized as a basic prerequisite for the successful implementation of the differentiation strategy. The results also indicated that the mediation effect of market orientation in the relationships between both the bargaining power of suppliers and the technology force and the differentiation strategy has been rejected which is congruent with the previous result which confirmed the direct impact of the two independent variables on the differentiation strategy.

According to the results presented above, we can present the final model in (Figure 3)
Limitations and directions for future studies:

This study is viewed as an extension of previous studies in the strategic management arena especially, in competitive analysis and industry structure streams. It is the first study that looks into the relationship between the key competitive forces and the differentiation strategy by mediating the market orientation in the higher education industry whether in Egypt or the Arab region. It seeks to understand how Porter’s five forces model along with other recommended influencing factors drive the national universities ‘s choice to adopt the differentiation strategy so It tries to provide valuable insights about the applicability of Porter’s five forces model in non-profit organizations, in particular, higher education institutions. in addition, it keeps pace with the governmental remarkable trend towards expansion of national universities.

Socially, the findings of the study contribute significantly to supporting the ultimate sustainable development goal as it provides a comprehensive paradigm through which higher education institutions become more able to deal with competitive pressures by capitalizing on the differentiation strategy and thus boosting the quality of their outputs in particular graduates who represent the core of the human capital that could boost the state ability to attaining the sustainable development goal .

like most studies our study has inevitable limitations as it examines only the four modern national universities in Egypt therefore, it is not reasonable to generalize the results to the other higher educational institutions existing in different sectors such as governmental and private. Further analysis should extend to different higher educational sectors to investigate the key competitive forces that drive its competitive positioning in the industry. Second, other mediating factors that are highly weighted in regulating the relationship between the competitive forces of the higher educational industry and its competitive position, such as strategic identity, culture and organization capabilities should be emphasized in future studies.
Appendix A.

Instrument for competitive forces, market orientation and differentiation strategy in the Egyptian national universities.

Section 1: Academic position
- Vice president
- Dean
- Deputy
- Department head

Section 2: Administrative positions:
- Human resources manager
- Finance manager
- Procurement
- Public relation manager
- Quality assurance manager
- Student's affairs

Section 3: questionnaire

With regard to the competitive forces of higher education industry, please indicate how much you agree or disagree for each of the statements below, by selecting the appropriate answer. The item scales are five-point Likert type scales with 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>Intensity of rivalry</td>
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<tr>
<td>1-The university is threatened with intensified competition which negatively affects severely on its profitability.</td>
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<td>2-The university is challenged with high exit barriers.</td>
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<td>3-The university is confronting different substitutes that are more appealing to student needs.</td>
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<td>4-The university can easily drive up demand to cover fixed costs.</td>
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<tr>
<td>Bargaining power of suppliers</td>
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<td>5-The teaching staff could easily affect the university's profit by raising their salaries or insisting on more favorable terms.</td>
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<td>6- The teaching staff of the university affects significantly its competitive position by offering high-quality and more differentiated services.</td>
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<td>7-The teaching staff could drive the decision of the choice of university.</td>
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<td>8- The university is struggling to recruit highly skilled teaching staff with highly recognizable profiles.</td>
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<td>Bargaining power of buyers</td>
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<td>9-The customers of the university (students) enjoy high power as they have different offerings and can make more informed choices.</td>
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<td>10-The parents of students are more powerful since they have an important influence on their children's decisions.</td>
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<td>11- The students can easily shift to different providers with low switching costs.</td>
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<td>12- The employers of the graduates have more influence and are highly considered in the university decisions.</td>
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<td>Government regulations:</td>
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<td>13-The governmental regulations represent one of the most important forces that affect the university's competitive position.</td>
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<td>14- The university could easily meet the quality standards imposed by the concerned governmental authority.</td>
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<td>15-The university could easily comply with the government requirements and restrictions. (performance indicators-admission standard).</td>
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<td>Technology force</td>
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<td>16-The university could successfully adapt to the rapid changes in education technology.</td>
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<td>17-The university is heavily investing in the use of advanced technologies for teaching or research.</td>
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<td>18- Technology implications allow the university to enhance its competitive advantages.</td>
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<td>Market orientation</td>
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<td>19-The university can easily share customer-oriented information throughout the organization.</td>
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<td>20-The university has a deep understanding of the weaknesses, strengths, long-term capabilities and strategies of current and potential competitors.</td>
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<td>21-The university's culture, and beliefs are focused on enhancing linkages with customers</td>
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<tr>
<td>22-The university has a sufficient understanding of target buyers to continuously create superior value for them.</td>
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<tr>
<td>23-The university can integrate its resources to create superior value for target customers.</td>
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<td>Differentiation strategy</td>
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<td>24- The university offers a wide range of differentiated programs than its competitors.</td>
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<td>25-The university offers a wider range of differentiated supplementary services than its competitors such as sports centers, modern internet services as well a state-of-the-art library.</td>
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<td>26-The university is very interested in building an Attractive brand image.</td>
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<td>27-The university is engaged in different social initiatives as a significant component of its strategic vision</td>
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</table>
References
A Proposed Model for the Relationship between the Key Competitive Forces and the Differentiation Strategy


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