

Marketing Dynamics in Saudi Higher Education: Evaluating the Role of Top Management and Market Orientation on Institutional Performance

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Abstract

Despite significant investments by the Saudi Arabian government to elevate its education to international standards, the outcomes of the higher education system don't align with various stakeholders' expectations. This study examines the key role of market orientation in higher education, a concept less explored in academia compared to the business sector. The research evaluates the impact of top management's emphasis and internal market orientation on the broader market orientation within Saudi's higher education landscape. Additionally, it probes the direct and innovativeness-mediated effects of market orientation on institutions' perceived performance. Data obtained from 263 valid responses to an online questionnaire, underwent exploratory and confirmatory factor analyses to ensure construct validity and reliability. Structural equation modeling further illuminated the relationships, confirming the influence of top management's emphasis on internal market orientation and its subsequent impact on market orientation. Notably, market orientation showed a direct positive effect on perceived performance, with innovativeness acting as a mediator.

Keywords: Market Orientation, internal-Marketing Orientation, Management Emphasis, Innovativeness.

Introduction

Market Orientation (MO) is a foundational element of strategic marketing in today's organizations, with its application varying based on an enterprise's ability to prioritize customers and other stakeholders. The exploration of MO, including its primary dimensions like customer orientation, competitor orientation, and efforts coordination, has been extensively researched, drawing from foundational works by Kohli and Jaworski (1990), Narver and Slater (1990a), and others. While initially centered on for-profit contexts, the MO discourse has, over the years, expanded to encompass non-profit sectors, including Higher Education Institutions (HEIs), as highlighted by Caruana, Pitt, and Berthon (1999) and Hakala (2011b). The multifaceted relationship between MO and firm performance is further nuanced by various internal and external factors, as indicated by Hemsley-Brown and Oplatka (2006, 2010) and Hsieh, Tsai, and Wang (2008).

In the face of globalization, commoditization, and competition, modern non-profit organizations, including Higher Education Institutions (HEIs), are grappling with significant challenges (Maringe and Gibbs, 2009). To navigate these challenges, many have adopted Market Orientation (MO) strategies, a cornerstone of strategic marketing (Kotler and Levy, 1969; Pitt, Caruana, and Berthon, 1996). MO, with its Behavioral and Cultural models, has been extensively studied in the business context, revealing generally positive correlations between MO and performance (Kohli and Jaworski, 1990; Narver and Slater, 1990). However, the application and impact of MO in HEIs, especially in developing countries, differ from their business

counterparts. For instance, while U.S. HEIs exhibit higher market orientation than those in the U.K., many institutions in developing regions remain product-oriented (Nicolescu, 2009; Shaw, 2005).

As HEIs globally transition from government subsidies to market-orientation, there's a shift from social to market knowledge, leading to the creation of marketable services (Mitra, 2009). These institutions, facing challenges like high competition and funding shortages, are increasingly recognizing the need for marketing strategies, akin to those in the business sector (Fernández, Santaolalla, and González 2009; Altbach, Berdahl, and Gumpert 2005). Yet, research on MO in HEIs is limited, with a focus predominantly on private universities, leaving gaps in understanding MO's broader application in the educational sector (Caruana, Ramaseshan, and Ewing, 1998; Flavián, Longás, and Lozano, 2011).

A significant debate in HEI literature revolves around identifying the primary customer, given the broad spectrum of beneficiaries. While graduates are seen as the products of HEIs, their employers are often considered the primary customers (Philip Kotler and Fox, 1995; Nicolescu and Paun, 2009). This perspective underscores the importance of aligning graduate skills with employer needs, a gap often debated among stakeholders. Recognizing this, some studies have begun to incorporate employer orientation in MO constructs, emphasizing its role in improving HEI outputs (Webster, Hammond, and Rothwell, 2010).

Most MO studies in higher education have focused on external components, often overlooking influential market components. This research aims to provide a comprehensive view, integrating both internal and external MO perspectives in the context of HEIs. By doing so, it seeks to harness the strengths of both the cultural and behavioral approaches to MO, emphasizing the importance of market intelligence in enhancing organizational competitiveness.

The relationship between MO and performance, a hot topic in MO literature, has shown predominantly positive correlations in the business sector. This positive influence extends to various performance indicators, from overall performance to specific areas like new product development (Cravens and Guilding, 2000; F Langerak, 2003). In the HEI context, similar positive impacts of MO on performance have been observed, underscoring the need for further exploration, especially in regions like Saudi Arabia (Caruana et.al, 1998; Hammond et.al, 2006).

For HEIs to achieve performance excellence, faculty members must be both enthusiastic and academically capable (Voon, 2007). This highlights the role of internal marketing in fostering a positive institutional image and ensuring high teaching and research standards. Furthermore, innovativeness, recognized as crucial for enhancing organizational performance, is seen as a mediator in the relationship between MO and HEI performance (Jiménez-Jimenez, Valle, and Hernandez-Espallardo, 2008).

In summary, while the relationship between MO and organizational performance is well-studied, its application and impact in HEIs remain under-researched. This study seeks to address this gap, focusing on Saudi Arabian HEIs, and exploring the role of both internal and external stakeholders in MO. The research aims to understand the unique challenges and opportunities of MO in the higher education context, especially given the evolving demands of stakeholders in the region.

This research offers valuable insights into Market Orientation (MO) within the context of Higher Education Institutions (HEIs) in Saudi Arabia. It empirically examines the role of top management in influencing both Internal Market Orientation (IMO) and MO in HEIs. While global challenges like increased competition, internationalization, and institutional branding affect both business and educational sectors, there's been limited exploration of MO in higher education. This study bridges this gap by introducing comprehensive MO constructs tailored for the educational context, emphasizing overlooked stakeholders like graduate employers. By integrating both cultural and behavioral MO perspectives, the research presents a synthesized model assessing the impact of MO on perceived performance, both directly and through

innovation as a mediator. The findings offer practical recommendations for academic leaders and marketing professionals in HEIs, aiding in addressing global challenges and meeting accreditation standard.

Literature Review

Market Orientation (MO) has been approached from various perspectives over the years. Shapiro (1988) made an early attempt at defining the concept, but the most influential definitions emerged from Kohli and Jaworski (1990) and Narver and Slater (1990). Kohli and Jaworski (1990) emphasized the intelligence process, highlighting the importance of information generation, dissemination, and responsiveness (Hunt and Morgan, 1995; Ruekert, 1992). They later expanded their definition to include both vertical and horizontal dissemination of intelligence (Kohli, Jaworski, and Kumar, 1993) and recognized the significance of competitors and other influencing forces (Jaworski and Kohli, 1996). Conversely, Narver and Slater (1990) approached MO from a cultural perspective, focusing on creating a value-driven culture targeting the customer (Deshpande, Farley, and Webster, 1993). Despite the differences, both approaches acknowledged the importance of broadening the MO concept to include various stakeholders, emphasizing the need for a comprehensive understanding of MO in the context of Higher Education Institutions (HEIs).

Market Orientation in Higher Education Context

After this overview of MO history and its most dominant perspectives in business context, this section intends to explore MO in the context of HEIs as investigated by prior scholars. This consisted of the applicability of MO in HEIs and the notable developed perspectives of MO in HEIs discipline. Finally, this section discussed market intelligence as a vital component in MO in the behavioral perception.

This section covered the attempts of prior scholars to come out with new approaches to handle measurement of MO in the context of HEIs. SERVMO and UMO are two developed scales based on aforementioned literatures, whereas, Mahrous and Kortam (2012), in their qualitative study, focused on a very narrow scope of MO in HEIs, which, was the use of student feedback upon educational and learning services that they received as a part of market knowledge, disseminate it and react to fill the gaps.

Service-Driven Market Orientation

Voon (2008) introduced the Service-driven market orientation (SERVMO) scale, which was designed to measure MO dimensions based on Narver and Slater (1990) and correlate them with perceived service quality using Parasuraman, Zeithaml, and Berry's (1988) service quality scale. SERVMO gauges student perceptions of institutional service quality, essentially measuring MO from the customer's perspective. The multidimensional scale encompasses components like Customer Orientation, Competitor Orientation, Inter-functional Orientation, Long-term Orientation, Performance Orientation, and Employee Orientation. The emphasis of SERVMO is on service excellence, quality, and the importance of employee competence and empowerment in achieving student satisfaction and loyalty in HEIs. However, criticisms of SERVMO include its sole focus on students' perspectives, neglecting the fact that students might not be able to assess all aspects of higher education services (Brennan and Eagle, 2007; White, 2007). Additionally, not all potential stakeholders of HEIs are considered in the SERVMO model (Brennan and Eagle, 2007).

University Market Orientation

Camino and Ayala (2010) introduced the University Market Orientation (UMO) as a unique approach to address Market Orientation (MO) within Higher Education Institutions (HEIs). Contrary to the prevalent view of MO as a culture or behavior promoting the marketing concept (Kohli and Jaworski 1990; Narver and Slater 1990a; Webster and Hammond 2008; Ma and Todorovic 2011), they defined MO as a competitive strategy. Their UMO model proposed a one-dimensional construct comprising six components: student, worker, competitor, company-donor, environment orientations, and inter-functional coordination.

This expansion integrated previously unaddressed stakeholders like donors and workers but overlooked significant ones like graduate employers. Criticisms of UMO include its unclear integration of MARKOR and MKTOR perspectives and its reliance on survey methods, limiting in-depth results. Despite its shortcomings, UMO is a key step towards a comprehensive MO framework in higher education. Mahrous and Kortam (2012) later explored MO by focusing on student feedback as a part of market knowledge in HEIs.

The Applicability of Market orientation in Higher Education

Marketing concepts have increasingly been applied to the higher education sector, with many scholars suggesting that higher education institutions (HEIs) can benefit from strategies used in the business sector (Kotler and Levy 1969; Nicolescu 2009). However, the direct application of these concepts in HEIs requires adaptation due to the unique nature of education (Nicolescu, 2009; Maringe and Gibbs, 2009). The shift in literature has moved from debating the appropriateness of marketing in HEIs to more specific marketing topics, such as branding, segmentation, and customer satisfaction (Stewart, 1991; Ivy, 2008; Chapleo, 2011). Market Orientation (MO), operationalizing the marketing concept (Kohli and Jaworski, 1990), has been explored in various sectors, including higher education (Caruana, Ramaseshan, and Ewing 1998; Flavián and Lozano 2006). While some studies have adapted existing MO constructs for HEIs, others, like Voon (2008) and Rivera-Camino and Ayala (2010), have developed new ones. Geographical differences in MO application have been noted, with European HEIs, especially in the UK, leading in MO adoption (Nicolescu, 2009). Lastly, the relationship between professionalism and MO has been explored, suggesting that while professionals value their expertise, they can also benefit from MO strategies, enhancing performance and satisfaction (Hampton, 2009).

Table 1: Market orientation in HEIs literatures.

Authors, Year	Country	Institution	Method	Respondent	Instrument
Stewart (1991)	n/a		QUAN	Student	4Ps
Caruana <i>et al.</i> (1998a)	Australia and New Zealand	University	QUAN	Head of school and department	MARKOR
Caruana <i>et al.</i> (1998b)	Australia and New Zealand	Public sector and university	QUAN	Head of school and department	MARKOR
Hammond <i>et al.</i> (2006)	USA	Business school AACSB/ACBSP	QUAN	Heads of school	MKTOR
Webster and Hammond (2008)	USA	Business school AACSB	QUAN	VPs and deans and Marketing department heads	MKTOR
Hammond and Webster (2011)	USA	Business school AACSB	QUAN	VPs and deans and account department heads	MKTOR
Voon (2007)	Malaysia	University	QUAN	Marketing student	SERMOV (MKTOR) Deshpandé' and ferly 1998
Brown and Oplatka (2010)	UK / ISRAEL	University	QUAN	Faculty members	MKTOR
Flavian and Lozano (2011)	Spain	University	QUAN	Full time online program student	MKTOR

Authors, Year	Country	Institution	Method	Respondent	Instrument
Flavian and Lozano (2007)	Spain	Public university	QUAN	Faculty members (marketing lecturer)	MARKOR
Ma and Todorvic (2011)	USA	Academic departments	QUAN	Department chairs	MKTOR
Camino and Ayala (2010)	Spain	University	QUAN	Professors	UMO
Kuster and Valenzuela (2010)	Mexico	Public university	QUAN	Teachers, directors and heads of courses	Flavian and Lozano, 2001 based on MARKOR
Mahrous and Kortam (2012)	Egypt	3 business schools	QUAL	Business schools' leaders	NA

The Research Conceptual Framework

This section intends to provide a comprehensive discussion for the sake of clarifying the concepts that back the proposed model of MO in the context of HEIS in Saudi Arabia. This covered IMO and MO. The later comprised sub-dimensions, namely, student orientation, employer of graduates, competitor orientation and inter-functional coordination. IMO be focused on internal customer for HEIs, which is employee. Market intelligence actions such as intelligence generation, dissemination and responsive impeded implicitly in sub-dimensions of IMO and MO as way of integration of both cultural and behavioral perspectives of MO. The role of top management emphasis, IMO, MO and innovativeness in the model addressed and the development of hypotheses is provided.

Market Orientation synthesized model for Higher Education Institutions

Based on the initial efforts of MO guru in the early 1990s (Kohli and Jaworski, 1990 and Narver and Slater 1990), this study is synthesizing both perspectives to explore the strengths of each approach. Kohli and Jaworski approach of market intelligence incorporated as sub-components in each of MO's components, namely, student orientation, employer of graduates' orientation, competitor orientation and inter-functional coordination. MO components discussed in more detail in the following sub-sections.

Student Orientation

Higher Education Institutions (HEIs) have increasingly recognized students as key internal stakeholders. Stewart (1991) emphasized the importance of surveying students about the services they receive, and both AACSB (2005) and MBNQA (2005) suggested that recognizing students as customers can lead to performance excellence. However, Ma and Todorvic (2011) argued that while students are important, relying solely on them for information might not be sufficient. Instead, a broader range of external stakeholders, such as government agencies and private corporations, should be considered.

A debate has emerged regarding how students should be identified: as students, customers, clients, or partners. Armstrong (2003) proposed the "student-as-client" model for undergraduates and master students, suggesting that the term "client" is more fitting in the HE context than "customer." This debate is especially pertinent in business and management-focused HEIs.

HEIs cater to different types of students: prospective students, current students, and graduates. Each group offers unique insights into the institution's quality. For instance, current students can provide feedback on teaching quality and facilities, while alumni's success in the job market can indicate the institution's overall effectiveness. Tetřevová and Sabolová (2010) suggest a "proactive" strategy for HEIs, addressing the needs of all these stakeholders.

The table (Table 1) provided by the researcher, compiled from Armstrong (2003) and Ferris (2002), highlights the differences in treating students, customers, junior partners, and clients in both HEIs and business contexts. It underscores the nuanced roles and expectations associated with each term.

Market Orientation (MO) theories can help HEIs better engage with these stakeholders. Kohli and Jaworski's (1990) approach to MO, which emphasizes information gathering, distribution, and appropriate response, can be adapted to the HEI context (Albert Caruana et al., 1998). While students are essential, they aren't the sole customers of HEIs. Narver and Slater's (1990) MO approach emphasizes "customer orientation" as a key component, suggesting that students should be viewed as one segment of a broader customer base. James (2001) further posits that while students' expectations are crucial, they might not be the best judges of all aspects of HE quality. However, their feedback on tangible components, like teaching methods, should be considered in institutional decisions.

In summary, while students play a crucial role in HEIs, it's essential to view them as part of a broader stakeholder ecosystem. Whether seen as customers, clients, or partners, their feedback and experiences are invaluable for institutions aiming for excellence.

Competitor Orientation

Competition has been recognized as a key factor in the development and implementation of Market Orientation (MO) in early literature (Day and Wensley, 1988b). Slater and Narver (1994) and Kohli and Jaworski (1990) highlighted the moderating role of competition in the relationship between MO and performance. To provide greater value to customers, organizations should not only focus on customer needs but also maintain a keen competitor orientation (Narver and Slater, 1990; Kohli and Jaworski, 1990). Voon (2008) emphasized that merely being customer-oriented isn't sufficient; understanding competitors and differentiating services is crucial.

In the higher education context, competition has become increasingly significant due to trends like globalization and commercialization. The reasons for adopting these business-centric concepts vary across countries, but often include financial constraints, reputation enhancement, or seeking institutional autonomy. Despite the traditional view opposing competition in higher education (Brown and Oplatka, 2010), the Council of Industry and Higher Education (CIHE, 2005) in the UK has provided guidelines emphasizing ethical competition and marketing practices. They advocate for honest collaboration and competition among HEIs, underscoring the importance of aligning with the evolving environment while upholding stakeholder interests.

Employer of Graduates Orientation

The debate surrounding the primary customer of higher education institutions (HEIs) is complex due to the broad range of beneficiaries. While graduates are often viewed as the products of HEIs, employers are seen as the consumers (Philip Kotler and Fox, 1995; Nicolescu and Paun, 2009). The gap between graduate capabilities and employer requirements has been a point of contention (Nicolescu and Paun, 2009). Although original MO studies in the 1990s didn't focus on employers, subsequent research emphasized the need to broaden MO's scope to reflect HEIs' multifaceted nature (Hammond, Webster, and Harmon 2006; Webster and Hammond 2008).

Modern HEIs play a crucial role in equipping graduates with relevant skills for the labor market. Governments increasingly pressure universities to liaise with employers and enhance graduate employability (Boden and Nedeva, 2010a). To be more employer-oriented, HEIs should foster strategic relationships with employers, regularly evaluate academic knowledge against market demands, and involve employers in course design and delivery (Nicolescu and Paun, 2009; Velde, 2009; Mason, Williams, and Cranmer, 2009). Given the significance of employer orientation in contemporary HEIs, it's essential to incorporate this dimension into the MO construct.

Efforts Coordination

Efforts coordination within an organization is crucial for maximizing value to customers and stakeholders. Porter (1980) emphasized that every individual in an organization contributes to this value, suggesting that collective performance is more impactful than individual efforts. Inter-functional coordination, a method of sharing information among organizational functions to achieve a common goal, has been highlighted in literature as essential for addressing diverse customer needs in unpredictable conditions (Danese, Romano, & Vinelli, 2004). Auh and Menguc (2005) and Kanovska and Tomaskova (2012) found that such coordination positively influences innovation. However, while interdepartmental conflict can increase innovation costs, it can also enhance product quality through internal competition (Xie, Song, & Stringfellow, 1998). Shapiro (1988) argued that all organizational functions, not just marketing, should generate and share market intelligence. Both Narver and Slater (1990) and Kohli and Jaworski (1990) emphasized the importance of inter-functional harmony. In the context of HEIs, research like that of Mahrous and Kortam (2012) and Kuster and Valenzuela (2010) has shown the benefits of inter-functional coordination for successful MO practice.

Performance Indicators in Higher Education Institutions

Performance indicators in Higher Education Institutions (HEIs) are essential for assessing institutional effectiveness. While pinpointing these indicators can be challenging, there's consensus that an institution's objectives can serve as performance metrics (Ball and Halwachi, 1987). Generally, preserving, transmitting, and extending knowledge are universally accepted objectives. Each institution or department then sets its mission and objectives, which subsequently guide the development of measurable performance indicators (Neely, Gregory, & Platts, 1995). Johnes and Taylor (1990) suggest that evaluating universities requires understanding their intended outputs, necessary inputs, and the relationship between the two. In Saudi Arabia, the Ministry of Higher Education's AFAQ plan aims to transition to a knowledge economy, emphasizing infrastructure development, knowledge transfer, research, and international collaboration (AFAQ, 2005). Various Saudi HEIs have set objectives aligning with this national policy. Common objectives across institutions include research and graduate employability. Based on this, the researcher identified two primary performance indicators: research and employability, while also considering teaching quality, research quantity, and institutional prestige.

Research

Research plays a vital role in any HEI reputation. To measure research performance, HEIs use a self-assessment as well as third party. The dimension and criteria that they consider to measure vary depending on their own goals and targets. According to the THES (1986), assessment of research performance in an academic institution may contain analysis of publications, citations, research income, number of research students, submission rate for research degrees, external academic staff appointments (editorship of journals, membership of research council). More recently, QS published its stars criteria for university performance 2012, which contain research with the following sub-criteria: 1) Academic reputation, 2) Citations per paper, 3) Papers per faculty, 4) Arts-related outputs and 5) Prolific academic experts. Research reputation tends to be significant in judging HEIs in Saudi Arabia. MOHE is giving generous incentives to any faculty

members who successfully to register a patent or publish scientific paper in journal with high impact factor to insure quality in the whole process.

Employability

Employability refers to graduate ability to find an appropriate job in a particular time (Harvey, 2001) There are continuous debate about employability as higher education performance indicators (Boden and Nedeva, 2010b; Graves, 2011; Jeremy et al., 2000; Mason et al., 2009). However, Tomlinson (2007) indicated that the students are the responsible of the employability due to their understanding of labor market and various approaches with which they treat their future careers, The majority of scholars considered employability as one of the modern HEIs interests (Harvey, 2001; Cranmer, 2006; Støren and Aamodt, 2010). Harvey (2001:98-100) divided employability to first, individual employability, which is defined as “propensity of students to obtain a job”. Second, institutional employability, which is “the effectiveness of the institution in developing employable graduates”. Cranmer (2006) concluded that high level of employability could be obtained by employers’ involvement in developing curriculums and employability skills. Further, Støren and Aamodt (2010) affirmed that the study program is responsible for finding and doing a satisfactory job. Based on that, this research used employability as a dependent variable that reflects college top management perception about their graduates’ ability to secure a proper job in particular time as a performance indicator.

Hypothesis Development

The Role of Top Management Emphasis to Enhancing Market Orientation in higher Education Setting

There is a wide consensus about the vital role that senior executives play in any organization. In their theory of upper echelons, Hambrick & Mason, (1984) suggested that organizations are an echo of its top administrators. Kamath et al (2011), reveal that the top management initiative is very essential to enhance creativity using knowledge as strategic asset. Throw-out the previous chapters we concluded that managers have essential role to direct their organizations toward satisfying customers and other stakeholders to keep their organization profitable or sustainable in the market. Chakrabarty (2013) asserted that perceived top management emphasis positively affected customer-oriented selling. The study underscores the importance of salespeople’s perceptions of top management factors for implementing the marketing concept. Knight & Cuganesan, (2014) that top management team have positive affect to organizational ambidexterity, which refer to “an organization’s ability to be aligned and efficient in its management of today’s business demands while simultaneously being adaptive to changes in the environment”(Raisch & Birkinshaw, 2008 p. 307). In the context of marketing prior studies, confirm the importance of top management emphasis to foster transition to embrace market values and to enhance employees’ attitude. Kohli and Jaworski, (1990) consider top management emphasis as antecedent to market orientation in business sector. More than decade later, Hammond and Webster, (2006) found that top management emphasis is significantly affect the extent of HEIs orientation towards its beneficiaries in the USA. Another studies conducted among Spanish public universities, suggested that the level of MO applied by professors in marketing disciplines were influenced by the amount of managers emphasis toward university stakeholders(Flavián & Lozano, 2006). Kasper et al., (1999), added that one of the significant priority to market-oriented service organizations is to satisfy their employees’ needs and wants. In addition, reveal that the company's culture influences the adoption of the IMO concept(Gounaris, 2008). His results disclosed that the hierarchal type of organization significantly affect its degree of IMO. Therefore, there is undeniable role of managers in building the basis for IMO (Wieseke, Ahearne, Lam, & Dick, 2009). Hence, this study hypothesized that:

H1. Top management emphasis on market orientation affect positively internal market orientation in the context of HEIs in Saudi Arabia.

H2. Top management emphasis on market orientation affect positively market orientation in the context of HEIs in Saudi Arabia.

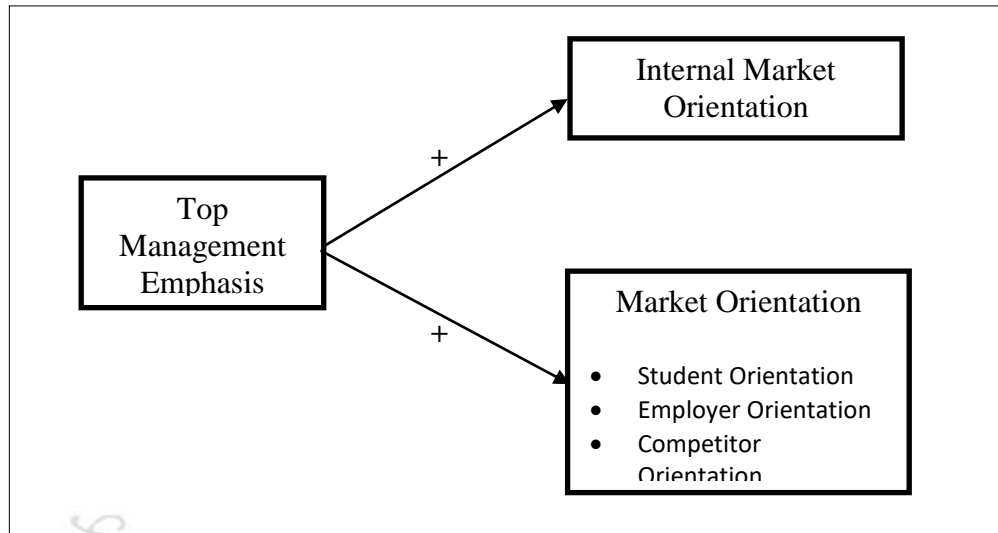


Figure 1: The role of top management emphasis on Market Orientation

The Role of Internal Market Orientation to Enhance Market Orientation and Performance in Higher Education Setting

To achieve performance excellence in HEIs, Voon (2007) suggested that the faculty members’ should be enthusiastic in performing their job and have high academic capability to transfer quality knowledge to their students and to engage in innovative and original research. Based on The Malcolm Baldrige National Quality Award (NIST, 2010), “Human recourse focus” is a fundamental criterion, which examine the empowerment of employee, and how the personnel activities is associated with the educational institute’s purposes and goals.

In their comparative study of universities that had highest degree of MO, Brown and Oplatka (2010) found that the faculty members might engage in marketing activities outside the campus through their research and teaching functions. Furthermore, they consider that as an “internal marketing” activity, however, they were confused about “internal marketing” which refers to the culture of satisfying customers’ needs and wants through satisfying and encouraging employee, not only using them as a direct promoters for institutions (Ahmed and Rafiq, 2002). Instead of that, HEIs themselves should conduct an internal promotion to generate a positive image of the institution among its clients.

Küster and Avilés-Valenzuela (2010), investigated behavioral MO in public HEIs in Spain, they examine the possible effects of different hierarchical level of HEIs’ managers on each other’s degree of MO and finally on the faculty members’ degree of MO. As a result of their empirical study, Küster and Avilés-Valenzuela (2010) found that HEIs executives’ degree of MO associated with the department heads MO and heads of departments directly affect the degree of faculty members MO. Consequently, they suggested “internal marketing” as an inbound tactics for each level of managers to treat the lower level in the institution up until faculty members who are interacting directly with institutions’ clients.

Berry, Hensel, and Burke (1976), revealed Internal Marketing as a tactics to improve service quality. During that time, there was no common definition of internal marketing. This situation causes a variety of applications in the name of internal marketing, which in turn, urged the necessity for a common and clear definition to develop a valid and suitable application. Rafiq and Ahmed (2002) proposed their synthesized

definition of internal marketing. They combined their view of internal marketing with Gronroos (1981) to produce an integrated approach of defining internal marketing as:

A planned effort using a marketing-like approach directed at motivating employees for implementing and integrating organizational strategies towards customer orientation.

(Rafiq and Ahmed, 2002 p. xvii)

From this definition, we can see that there is an overlapping of MO as a cultural model proposed by Narver and Slater (1990), and IM as defined by Rafiq and Ahmed (2002), that the fundamental components of internal marketing based on the latter authors are:

Employee motivation and satisfaction; customer orientation and customer satisfaction; inter-functional coordination and integration; marketing-like approach to the above; and implementation of specific corporate or functional strategies

(Rafiq and Ahmed, 2002 p. xx)

Obviously, they mentioned two of three MO components inter-functional coordination and customer orientation as internal marketing component. A question should be posed to resolve this unclear point: who should be satisfied first, customer or employee. Alternatively, whose satisfaction depends on the others? From this point, and based on the researcher's understanding of internal marketing definition this question could be answered as the customer satisfaction, particularly in service sector, comes as a result of the perceived quality of that service, and this quality would be enhanced by eager and satisfied internal customer.

MO is known as an operationalization of "marketing concept" that started in 1960s under the emerging competition and professional management. MO proposed not to only look after current customers' needs and wants but also to generate the information of latent and expressed needs for current and future customers, disseminate them and react wisely to them. In today's complexity institutions models, the scholars call for broadening the concept of MO to cover as much as it could of the stakeholders. Hence, HEIs have to treat its employees as internal customers to ensure them to be able to convey high standards of teaching and researching products. As a result of all evidences from the foregoing, this study hypothesizes the following:

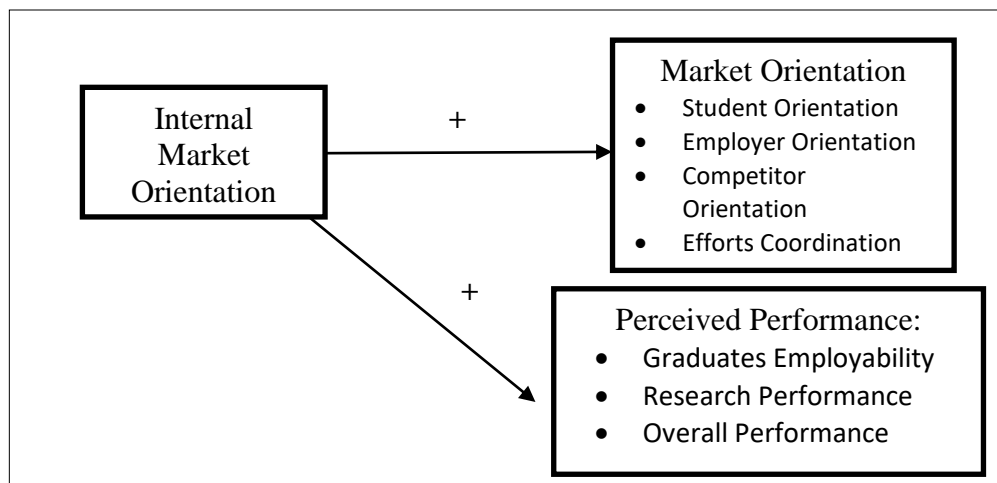


Figure 2: The Role of Internal Market Orientation

- H3.** Internal market orientation has positive influence on market orientation of HEIs in Saudi Arabia.
H4. Internal Market Orientation Has Positive Influence on perceived performance in HEIs in Saudi Arabia.
a. Internal Market Orientation → Graduates Employability
b. Internal Market Orientation → Research Performance
c. Internal Market Orientation → Overall Performance

The Role of Market Orientation to affect perceived Performance and Mediate Internal Market Orientation Effect in Higher Education Setting

The relationship between MO and performance is one of the trendiest relationships discussed in the literature of MO in business sector. In general, the positive correlations have been widely confirmed among conducted researches. On the other hand, few of them exposed weak or null relationship (Caruana, Pitt, and Berthon 1999; Lonial et al. 2008). These positive relationships were examined either directly (Chang and Chen 1998; Slater and Narver 2000; Qu and Ennew 2003; Megicks and Warnaby 2008), moderated (Appiah-Adu 1998; Baker and Sinkula 1999; Wong and Ellis 2007) or mediated (Han et al., 1998; Mavondo and Farrell, 2003; Mavondo and Nasution, 2005). In addition, the impact of MO on performance was confirmed on different dimension of macro and micro performance indicators comprises overall performance (Cravens and Guilding, 2000; F Langerak, 2003; Ogbonna and Harris, 2002) trademark performance (O’Cass and Ngo, 2007), financial performance (Lonial et al., 2008), new product development performance (Hsieh et al., 2008), selling performance (Panigyrakis and Theodoridis, 2007) and salesmen performance (Lane and Piercy, 2010). The well-established MO-performance relationship, in the business and non-business sectors, showed a positive signs in the context of higher education. Hammond, Webster, and Harmon (2006) admitted that:

Any university business school that has achieved a greater focus on students, other stakeholders, and competitors, and has achieved higher levels of organization wide coordination should, accordingly, achieve higher levels of performance.

(Hammond, Webster, and Harmon, 2006 p. 74)

Such quotation shed light on the strong conclusion that the multi-dimensional construct of MO emphasis a greater level of organizational performance.

Table 2: Performance (indicators) linkage to Market orientation (dimension) in the prior studies

Author	MO Dimension	Performance Indicator
Caruana <i>et al.</i> (1998)	MO	Overall performance
		Obtaining non-government funding
Hammond <i>et al.</i> (2006)	MO	Overall performance
Flavian and Lozano (2007)	MO behavior	Success in teaching
		Research activities
Kuster and Valenzuela (2010)	MO	Reputation, research and employability
Brown and Oplatka (2010)	Marketing and competitor orientation	High quality of Research and teaching performance
Hammond and Webster (2011)	High levels of MO	Improve their performance
Ma and Todorovic (2011)	Faculty members degree of MO	Job satisfaction

In the context of higher education, researchers continued to assess the influence of MO on various aspect of performance. Caruana et.al (1998a, b) confirmed the existence of positive MO-performance relationship in terms of overall performance and school ability of obtaining non-government fund. Equally, Hammond et.al (2006) concluded with similar positive correlation adding “change of enrollment” as an objective indicator besides the overall subjective one. In their investigation about Spain public university, Flavian and Lozano (2007) suggested three major performance indicators, namely, teaching performance, research performance and culture spread. The latter study affirmed positive relationship between faculty members’ degree of MO and their performance in the three mentioned indicators. Further, Kuster and Valenzuela (2010) disclose that MO has positive impact on good reputation, research and employability. In the same vein, positive influence of MO is observed for job satisfaction (Ma and Todorvic, 2011).

Although, a fair number of prior researches on MO in the HEIs context considered the influence upon performance, however, some researchers focus on building a new construct of measuring MO (Voon, 2008; Camino and Ayala, 2010) or concentrated on grounding MO theory in in-depth Qualitative study (Mahrous and Kortam, 2012) or to produce a comparisons among investigated ones on their degree of MO or comparing them with the degree of their counterparts in business sector within the prior researches (Hammond and Webster, 2011; Webster and Hammond, 2008). Hence, this study hypothesized that:

H5. Market orientation of HEIs in Saudi Arabia affect their perceived performance.

- a. Market orientation → Graduates Employability.
- b. Market orientation → Research Performance.
- c. Market orientation → Overall Performance.

H6. The influence of internal market orientation on perceived performance mediated by market orientation in the HEIs in Saudi Arabia.

- a. Internal Market orientation → Market orientation → Graduates Employability.
- b. Internal Market orientation → Market orientation → Research Performance.
- c. Internal Market orientation → Market orientation → Overall Performance.

H7. Market orientation has positive effect on innovativeness in HEIs in Saudi Arabia.

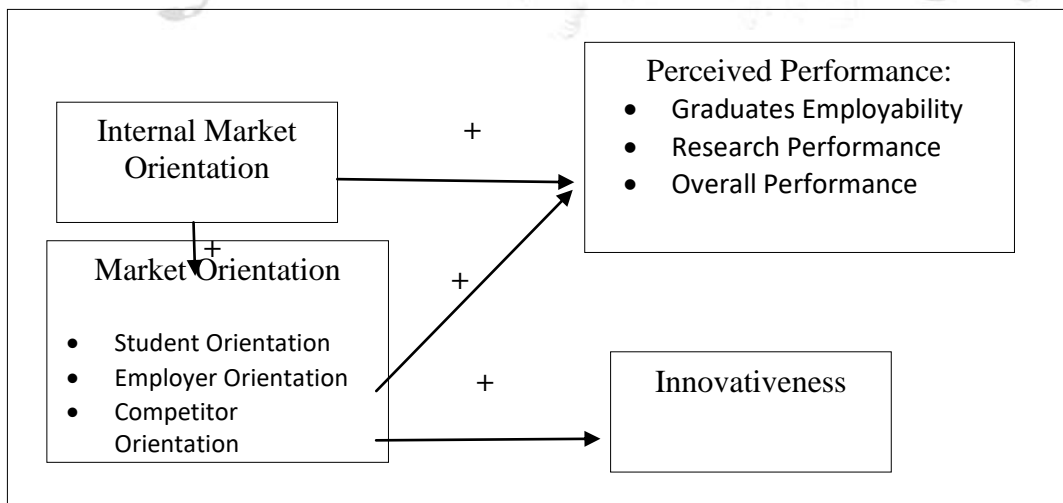


Figure 3: The Role of Market Orientation

The Role of Innovativeness to enhance performance and Mediate Market orientation effect in Higher Education Setting

MO recent researchers looked beyond the direct link between organizational resource and organizational outputs such as performance (Hult, Ketchen, and Slater, 2007). They suggest that the relationship between MO and performance should be channeled explicitly through one or more of the organizational elements that influence the performance. The predominant theory that guided this trend is the resource-based view by (Barney, 1991; Wernerfelt, 1984) which refer to impact of an organization's resources i.e., tangibles or intangibles, on its performance directly and indirectly. The existence of resource-based view (here after RBV) in the strategic orientation-performance linkage was heavily debated in Strategic Management Journal SMJ during the period from 2005 to 2007 by group of MO researchers from USA, namely, Hult, Ketchen and Slater and Conner from UK. The main debate was about the question posed by Hult et al. (2005): "how MO contribute to performance?" In response to that, Connor (2007), considered RBV as tautology, which mean that the argument made by them was meaningless. In their reaction, Hult et al. (2007) defended their ideas about RBV: "... strategic resources only have potential value, and that realizing this potential requires alignment with other important organizational elements". Accordingly, the argument made by Hult et al. (2005, 2007) was comprehensive and more in line with the recent empirical studies that were carried out later in the context of MO, innovation and performance.

Innovation has been investigated intensively in the literature of business and management (Garcia and Calantone, 2002). Although scholars gave different definitions of innovation, depending on their perspectives, however, they agreed that "openness to new ideas and propensity to and acceptance of change" is a common attribute of innovative organizations (Baregheh, Rowley, and Sambrook, 2009). Likewise, O'sullivan and Dooley (2009:5) define innovation as "the process of making changes, large or small, radical or incremental, to products, processes, and services that results in the introduction of something new for the organization that add value to customers and contributes to the knowledge store of the organization". From this definition, it seems that innovation overlaps with marketing concept in customer focus. Recently, Tot (2012:20) defined innovation management as:" the management of all the activities involved in the process of idea generation, technology development, manufacturing and marketing of a new (or improved) product or manufacturing process or equipment". He noted that there are several types of innovation such as: 1) product innovation 2) process innovation, 3) organizational innovation, 4) management innovation, 5) production innovation, 6) marketing innovation, and 7) service innovation.

There is wide consensus among scholars about the role of innovation in hiring organizations capabilities to enhance various aspects of their performance as shown in Table 2.11 below. Historically, many researchers have identified a positive link between MO, innovation and organization outcome. For instance, Jiménez-Jimenez, Valle, and Hernandez-Espallardo (2008) concluded that MO "foster" innovation, which fully mediate its impact on firm outcome. Carmen and José (2008) argue that the positive relationship between MO and museums' socioeconomic performance is partially mediated by both technological and organizational innovation. Laforet (2009) asserted that customer orientation has an influence on new product development, process innovation and innovation strategy. Medina and Rufi'n (2009) found that innovation stand-in as a mediator between strategic orientations in retailers and business outcome. Zhang and Duan (2010) show that innovation orientation and technological turbulence have positive moderating effects on MO and new product performance link among manufacturing companies in China. The same authors distinguished between two types of MO, namely, responsive innovation and proactive innovation. They suggested that responsive MO is directly related to new product success and this relationship is enhanced by stable technological environment whereas, while, proactive MO influence product innovation performance via innovativeness and with moderating role of high turbulent technological environment. Li-Hua et al. (2011) stated that Organizational learning not only emphasizes and encourages organizational outcome but also demonstrates a vital role in achieving innovation in HEIs. HEIs are undergoing a cultural transformation to play a significant role in the knowledge-based society as an entrepreneur and promoting

economic development. Innovation is a vital characteristic of entrepreneurial orientation (Lumpkin and Dess, 1996). Therefore, Etzkowitz and Zhou (2007:2) suggest that entrepreneurial universities' aim: "more than "the creation of interface mechanism between university and industry and plays a diverse role in university-pushed, government-pulled and corporate-led innovation". Furthermore, the entrepreneurial university has the capacity to complete a circulation of trilateral cooperation between academia, industry and government (Li-Hua et al., 2011).Therefore, this researcher hypothesized that:

H8. Innovativeness Has Positive Affect on HEIs' Perceived Performance.

- a. Innovativeness → Graduates Employability.
- b. Innovativeness → Research Performance.
- c. Innovativeness → Overall Performance.

H9. Innovativeness mediates the effect of market orientation on perceived performance.

- a. Innovativeness → Market Orientation → Graduates Employability.
- b. Innovativeness → Market Orientation → Research Performance.
- c. Innovativeness → Market Orientation → Overall Performance.

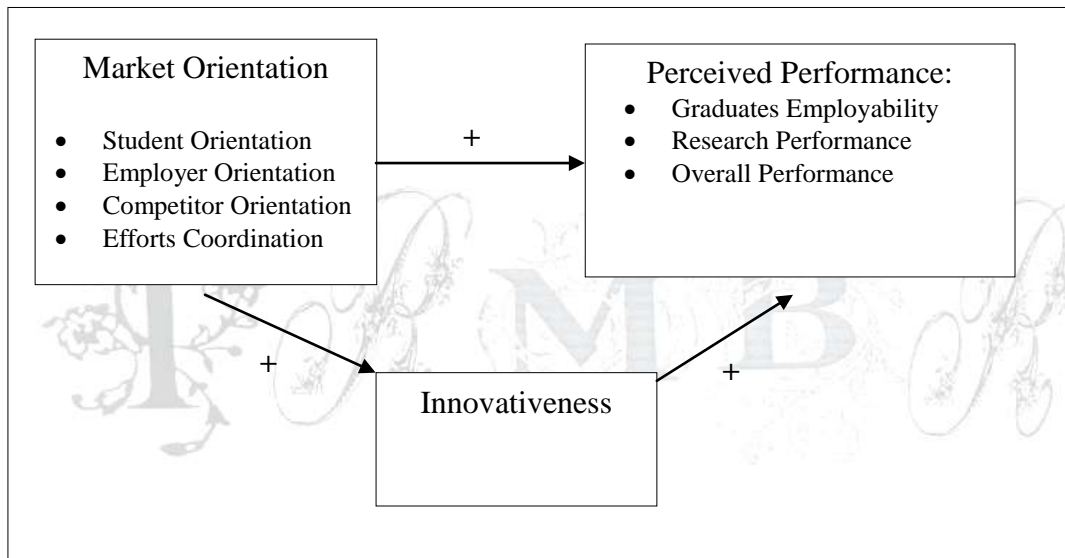


Figure 4: The Role of Innovativeness

Research Hypothesized Model

Based on the review of prior research on MO in the context of higher education, this researcher suggests the following conceptual model. Refer to Figure 2.3. The model shows that MO is affected by INMO and INMO influenced performance directly and via innovation. The model, in addition, does not neglect the supposed relationship between INMO and innovation and directly hypothesized impact of innovation on performance.

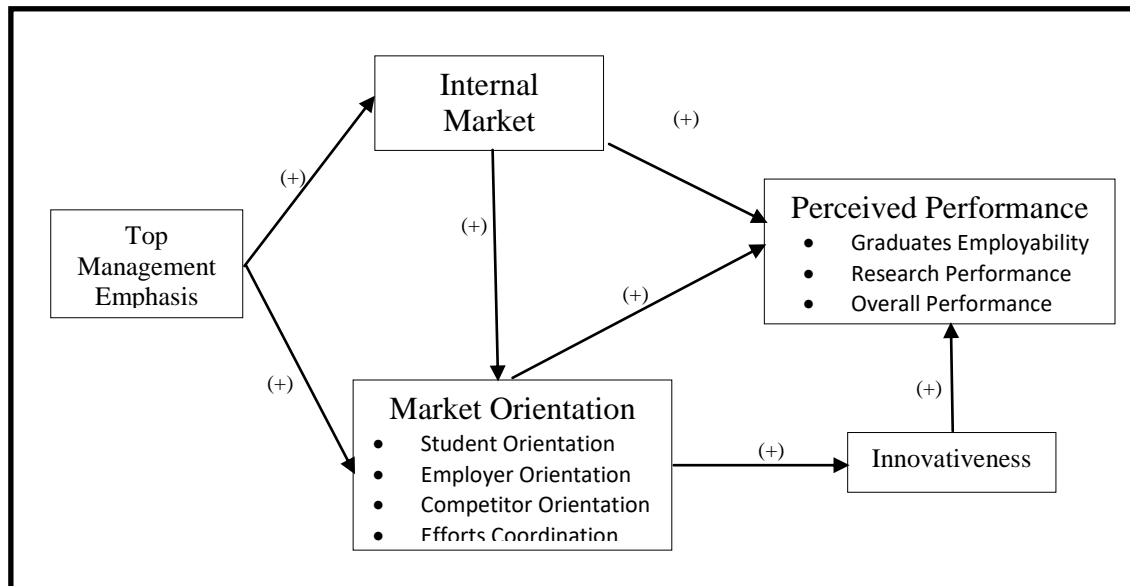


Figure 5: Research Hypothesized Model

Research Methodology

Research Design

Based on prior philosophical approaches, this section covered the essential part of this chapter, which is research design. Research design is a plan for the scholar to span the decisions from broad assumptions to precise methods of data collection and analysis (Teddlie & Tashakkori, 2009). Researcher selected the design that addressed and answered the research problem, objectives and questions (Creswell, 2007). Therefore, this research applied quantitative methods to collect data and analysis it. Elaborated discussion in the following sections and chapters.

This design seems to be the most appropriate to address this study's aims. First, the researcher conducted a survey using adopted instrument to measure internal, external MO, innovation and perceived performance of HEIs' leaders in Saudi Arabia. This adaption carried out based on the previous researches in the field of higher education (Webster and Hammond, 2011; Webster et. al, 2010; Brown and Oplatka, 2010; Hult et. al, 2005, 2007; Camino and Ayala, 2010).

Research Population

Higher education in Saudi Arabia, typically, provided through five main governmental agencies, namely, Ministry of Higher Education MOHE, Technical and Vocational Training Corporation TVTC, Ministry of Defense, National Guard and ministry of Interior. The researcher eliminated both military and security agencies, due to difficulties to obtain access to their sites, and for the fact that they are not sizeable segment in terms of students, faculties and staff information. In fact, the exact numbers of student in these academies are not available for public, perhaps because it is considered as confidential information. In addition, due to the nature of vocational education as it not research-based institution, therefore, technical colleges that under TVTC eliminated too. Therefore, the researcher only included HEIs, which are under the supervision of MOHE from both public and private sectors and Institute of Public Administration.

Sampling or population targeting

When deciding on sampling, researchers can either study the entire population or select a representative sample. Daniel (2011) provided guidelines to help researchers make this choice, emphasizing that the relevance of these guidelines varies based on each study's conditions. If the population is small, homogeneous, accessible, and the researcher has adequate resources, it's recommended to study the entire population or conduct a "census" (Daniel, 2011). For this research, the entire population of higher education institutions in Saudi Arabia under The Ministry of Higher Education was studied. Institutions were selected based on two criteria: they must be civil and their top administrators' emails should be available on official websites. This resulted in a total of 537 colleges. A list was then created with the institutions' names and email addresses for a web-based survey distribution. However, response rates in social and behavioral science research are typically below 100%. Baruch and Holtom (2008) found that web-based surveys often have higher response rates. To mitigate low response rates, the researcher opted for a web-based data collection method, surveying the entire population.

Data Collection

Survey methods traditionally involved distributing paper-based questionnaires. However, with the rise of the internet, e-mail and web-based surveys have become popular due to their cost-effectiveness and efficiency (Greenlaw & Welty, 2009). Web-based surveys reduce errors as responses are automatically added to databases. However, they can sometimes be viewed as spam (Andrews, 2003). Response rate and quality are concerns for researchers. Factors affecting these include follow-ups, questionnaire length, incentives, and presentation (Smyth et al., 2000; Deutskens et al., 2004; Rosenblum, 2008; Dillman, 2000). Web-based surveys often yield higher response rates compared to paper-based ones (Greenlaw & Welty, 2009; Barrios et al., 2010). Saudi Arabia's commitment to e-governance and the Ministry of Higher Education's emphasis on internet usage make web-based surveys feasible in the country. Given these advantages, the researcher chose a web-based survey to reach numerous Higher Education Institutions (HEIs) across Saudi Arabia's vast landscape.

Instruments Development

The design of the questionnaire was based on a review of the literature surrounding MO in the context of HEIs, thus the main assistance in designing the questionnaire was driven by the literature review, making it of vital importance (Gill et al., 1997).

Table 3: top management emphasis items

Items Sources	Code	Items
Flavian and Lozano, 2006	TME1	Our college's management makes an effort to adapt its training material to various stakeholders needs.
Flavian and Lozano 2006	TME2	Our college's management insists on choosing research areas of social interest.
Flavian and Lozano, 2006	TME3	Our college's management analyze educational alternatives to improve the courses we offer.
Flavian and Lozano, 2006	TME4	In our college's it is considered important to be aware of the needs of business Organizations in respect of employment.
Flavian and Lozano, 2006	TME5	As administration, We are committing that social needs guide the activities of teaching and research in our department.
Flavian and Lozano, 2006	TME5	As administration, We are committing that social needs guide the activities of teaching and research in our department.

The sub scales of each construct was drove from previous studies with the necessary modification to be contextual with the study. In this following tables (Tables: 3 - 11) illustrate the items and its sources in the literature. Instrument items were built on seven points Likert to enhance scale reliability and to avoid any impact on its psychometric properties (Caruana et al, 1998; Nunnally, 1978).

Table 4: Internal market orientation items

Items Sources	Code	Items
Lings and Greenley, 2005	Emp1InMo	Face to face, In this college, we meet with our colleagues at least once a year to find out what expectations they have of their jobs for the future.
Lings and Greenley, 2005	Emp2InMo	In this college, we survey our colleagues at least once a year to assess the quality of employment.
Lings and Greenley, 2005	Emp3InMo	In this college, we regularly share with our administrators all information that affects employees working environment.
Lings and Greenley, 2005	Emp4InMo	In this college, when we find out that employees are unhappy with our supervision or management, we take corrective action. (reversed)
Lings and Greenley, 2005	Emp5InMo	It is important to understand all of the factors that affect employees' satisfaction with their employment.

Table 5: Student orientation items

Items Sources	Code	Items
Caruana et.al, 1998	St1ExMo	In this school we meet with students at least once a year to find out what courses or services they will need in the future
Caruana et.al, 1998	St2ExMo	We survey students at least once a year to assess the quality of our courses and services and/or measure their satisfaction about whole education process.
Caruana et.al, 1998	St3ExMo	When something important happens to a student or course, the whole college knows about it within a short period
Caruana et.al, 1998	St4ExMo	Data on student satisfaction, views and experiences are disseminated at all levels in this college/ department on a regular basis.
Caruana et.al, 1998	St5ExMo	We are flexible and quick when it is necessary to adapt or change our course material.
Caruana et.al, 1998	St6ExMo	We update our programs constantly based of our student needs and satisfaction analysis
Caruana et.al, 1998	St7ExMo	Our strategy for competitive advantage is based on our understanding of our students' needs.
Caruana et.al, 1998	St8ExMo	Staff in this college are eager to support students and go beyond their role definition

Table 6: Employer orientation items

Items Sources	Code	Items
Hampton et.al, 2009	Empr1ExMo	We survey industry at least once a year to measure their satisfaction about our curriculum and/or our graduates' competence.
Hampton et.al, 2009	Empr2ExMo	In this school, we meet with industry at least once a year to find out what courses or skills of graduates they will need in the future.
Hampton et.al, 2009	Empr3ExMo	Faculty members and administrative Staff are regularly provided with information about employers of our graduates' views and experiences.
Hampton et.al, 2009	Empr4ExMo	We do everything possible to adapt our teaching and research Work to the needs of labor market.
Hampton et.al, 2009	Empr5ExMo	We periodically review our course development efforts to ensure that they are in line with what industry wants particularly those potential employers of our graduates.

Table 7: Competitor orientation items

Items Sources	Code	Items
Sorensen, 2009	Comp1ExMo	In this college, We annually diagnose competitors' published goals and plans.
Sorensen, 2009	Comp2ExMo	In this college, We identify the areas where the key competitors have succeeded or failed.
Sorensen, 2009	Comp3ExMo	Our management team regularly shares information within our college/ institution concerning competitor's strategies.
Sorensen, 2009	Comp4ExMo	If a major college/department were to launch an intensive campaign targeted at our target area, we would implement a response immediately
Sorensen, 2009	Comp5ExMo	This college/ department usually responds positively to other universities' new initiatives and developments.
Sorensen, 2009	Comp6ExMo	Our College/ department always tries to be different from other Colleges/ departments to stay competitive.
Sorensen, 2009	Comp7ExMo	We strive to practice a fair and constructive competition with other institutes.

Table 8: Efforts Coordination items

Items Sources	Code	Items
Voon, 2008	EC1ExMo	All levels of administration understand how the entire institution can contribute to creative value for student.
Voon, 2008	EC2ExMo	When there are activities involving various departments in my College, we can see good coordination.
Voon, 2008	EC3ExMo	The employees of different departments in my College seem to have good relationships.
Voon, 2008	EC4ExMo	Academic and administrative staff cooperate to promote the university's image

Table 9: Innovativeness items

Items Sources	Code	Items
Zhang and Duan (2010 a,b)	INNOV1	In this college, our management actively seeks innovative ideas
Zhang and Duan (2010 a,b)	INNOV2	in this college, innovation perceived as too risky and is resisted (R)
Zhang and Duan (2010 a,b)	INNOV3	In this college, our faculty or administrative staff are not penalized for new ideas that do not success.
Zhang and Duan (2010 a,b)	INNOV4	In this college, Innovation is readily accepted in teaching (curriculum and instruction...etc.), research and/or human resource training and development.
Medina and Rufin (2009)	INNOV5	In this college, we are first to local higher education with new application in management and/or teaching.
Medina and Rufin (2009)	INNOV6	In this college, we tried to develop new services (for students, employees and/or our society) based on technological innovations in the past five years.
Medina and Rufin (2009)	INNOV7	In this college, we tried to develop innovation in its management processes in the past five years.
Medina and Rufin (2009)	INNOV8	In this college, we benefited from innovations in our management processes in the past five years

Table 10: Graduates employability items

Items Sources	Code	Items
Ma and Todorovic (2010)	Perf1	Our graduates often secure high quality private/ public position.
Ma and Todorovic (2010)	Perf2	Proportion of students employed within 12 months of graduation (excluding those not actively seeking work e.g. pursuing further study)
Ma and Todorovic (2010)	Perf3	Our graduates reputation is very good when we communicated their employers

Table 11: Research performance items

Items Sources	Code	Items
Flavian and Lozano, 2006	Perf4	Our scholars are Presenting good research work at conferences.
Flavian and Lozano 2006	Perf5	Our scholars' researches Being widely published. (quality)
Flavian and Lozano, 2006	Perf6	Our scientific articles published in important journals.(quality)
Flavian and Lozano, 2006/2007	Perf7	Our research covers societal and business demand.

Questionnaire Refinement Process

The questionnaire designed and revised through a rigorous method to eliminate and add when necessary. This process went through the following steps. Firstly, start with plethora of items collected from prior research in HEIs context. Then first refinement with used of literature on each variable to determine which group of items should be fit the desirable dimensions of the variable. Next, the first draft of questionnaire sent to group of experts from the both professional and academic position. That followed by another

refinement after receiving experts feedbacks and suggestion, which was very helpful in terms of rewording, eliminating items and changing questions. Finally, questionnaire test on a real sample of 20 person in academia in Saudi Arabia. The refinement after this step directly from respondents' feedback and after doing test of reliability and validity of all constructs in this study.

Questionnaire Translation: The official language in Saudi Arabia is Arabic, although English is used broadly in business and commerce. Consequently, the researcher decided to translate the primary questionnaire, directed at academic leaders, into Arabic language. The researcher carefully performed the translation of the questionnaire (Appendix). The researcher took into consideration the technical idioms included in the questionnaire, which required precise and careful translation. Upon completion of the final version of translation, the researcher asked number of Saudi marketing and linguistics' professors review both English and Arabic version of questionnaire.

Pilot Study

Wilson and McClean (1994) emphasize the need to conduct a pilot test and consider the findings. They argue that pilot study should include all aspects of questionnaire design, such as appearance, the covering letter, instructions, question layout, and the time taken to complete it. Bell (1993) suggests that the researcher, when conducting a pilot test, could ask certain questions, such as how much time the questionnaire takes to answer; if the instructions are clear, and whether or not there is any ambiguity in the questions. They may also ask if respondents are likely to have any objections to answering any of the questions; whether or not there are any major elements that have not been covered; if the layout appropriate; and finally, they may ask for any comments. Draw on that confirmed importance, the researcher conducted a pilot testing of the proposed scale at the academic level Saudi Arabia to assess the general quality of the questionnaire and to test the response rate that may affect the use of online questionnaire tool. The respondents asked to show their opinion about the clarity of questions at the end of their responses. The answer of filling the questionnaire duration was drawn automatically from the online-based data collection provider.

Fifty individual of our population drawn randomly using random number generated by electronic software. Then, the first wave of emails have been sent to all fifty participants in the pilot study. It required to wait one week before the researcher resend another two wave with gap of one week. After, a total of three weeks the researcher got 34 responses which 68% of the sent emails. Some of these responses was not completed therefore, the researcher consider only the responses with no missing data. Thus, only 22 responses retained as complete questioners in turn the response rate dropped to 44% which still consider satisfied and unexpected.

Table 12: Reliability Test for Pilot Study

Scales (N=22)	Cronbach's alpha	number of items
Top management Emphasis on Market Orientation	0.871	5
Internal Market Orientation	0.832	5
Market Orientation	0.943	25
Student Orientation	0.842	8
Employer Orientation	0.868	5
Competitor Orientation	0.872	7
Effort Coordination	0.882	5
Innovativeness	0.815	7
Perceived Graduates Employability	0.753	3
Perceived Research Performance	0.735	3
Perceived Overall Performance	0.751	5

Source: Researcher's computation

First of all reliability test was performed to check the goodness of constructs and items. According to Hair et al (2006), any value of Cronbach's coefficient alpha, which is above 0.7, is acceptable, with higher value coefficient indicating better reliability. However, taking into consideration the notion of Cortina (1983) about the influence of the number of items on alpha value. The results revealed that Cronbach's alpha value for all construct ranged from ($\alpha=0.735$) for the construct of 'Perceived Research Performance' to ($\alpha=0.943$) for the construct of 'Market Orientation' (see table 12). Therefore, the results indicate internal consistency of all construct of the study thus the reliability of the instrument fulfilled at this stage.

Moreover, as suggested by methodologist Sekaran (2003) and Hair et al., (2003), content validity or face validity (Hair et al., 2003), because it emphasizes on the expert's critical eye in determining the relevance of the measurement to the underlying construct. The content validation of the survey instruments used in this study involved the critical comments and advice from the supervisor and other professional from academia. Based on the results of validity and reliability, the questionnaire showed an internal consistency and robustness to measure what it designed for. In other words, our instrument confirm the suitability of use of those construct in research environment as which confirmed earlier by prior scholar.

Findings

Data Preparation and Examination

In this section, the researcher reports the results of data screening. This step is very critical prior any further analysis. Multivariate analytical techniques relied on a number of basic assumptions. Those assumptions should be considered seriously because violation of them could result in bias (Klin, 2011), or even invalidate and skewness analysis outcomes (Hair, 2010). Therefore, the following sections are dedicated to discuss in detail the most important aspect of data screening for evaluating missing data and identifying both univariate and multivariate outliers. Examining the data for multivariate assumptions includes the test for normality, homoscedasticity and linearity.

Evaluating Missing Data & Detecting Outlier

In this study, the researcher ensured that all questions in the online-based questionnaire were answered before submission, effectively eliminating missing data. The data was automatically archived in a database, minimizing data entry errors. Outliers, or extreme data values distinct from the majority, were detected using univariate distribution by computing the standardized z score for each variable. A z score $> |3|$ indicates potential outliers for samples over 80 (Klin, 2010). No univariate outliers were found. Additionally, Mahalanobis (D2) was used to detect multivariate outliers, determining how far each case is from the center of all variables' distributions. A few outliers were detected but retained to ensure the study's generalizability (Hair, 2010).

Testing for Multivariate Analysis Assumptions

In multivariate analysis, certain assumptions like Normality, Homoscedasticity, Linearity, Multicollinearity, and Singularity must be met:

Normality

Essential for Structural Equation Modeling (SEM), it ensures data distribution corresponds to a normal distribution (Hair et al., 2010). Normality can be graphically and statistically tested using normal probability plots, skewness, and kurtosis. For this study, SPSS software confirmed the data's normality (Tabachnick and Fidell, 2000).

Homoscedasticity

It assumes equal variances between variable pairs. The Levene’s test checks if group variances are equal. In this study, a few items showed heteroscedasticity, but were deemed acceptable due to the data’s normal distribution (Hair, 2010).

Linearity

Checked both graphically and statistically, linearity ensures variables don't have multicollinearity. This study used linear regression to confirm the absence of colinearity issues (Hair et al., 1998).

Multicollinearity and Singularity

Multicollinearity arises when independent variables are highly correlated. It's detected by examining the correlation matrix (Hair et al., 2006). Singularity, on the other hand, occurs when a variable is analyzed alongside its composite measures (Tabachnick and Fidell, 2001).

Conclusion of pre-analysis examinations

In the last two sections, the data was inspected for the most important issues and assumptions to assess whether this data fit the chosen analytical techniques. First of all data was cleansed by eliminating any possibility of missing data.

The researcher used statistical as well as graphical tools to detect any outlier responses. At the level of univariate, the standardized Z scores for each variable has been tested using the rule of thumb, which is that the value of standardized variables (Z score) $> |3|$ (Klin, 2010). The result revealed that there is no evidence of outliers’ issues in our data.

Respondents profile: This section presents the descriptive analysis of respondents and their demographic characteristics. Since the unit of analysis in this research is higher education institution, the descriptive of respondents and their respective institution are provided separately. Hence, the respondents’ gender, position and academic rank were defined.

Then, respondent institutions were categorized based on their student gender, overwhelming discipline, higher degree offered, and type of ownership and college age. The final demographic described was the institution actual situation of gaining accreditation either locally or internationally or both as this a new trend in today HEIs.

Respondents’ individual characteristics: The following tables offer the demographic characteristics of the respondents. A descriptive statistics include respondents’ gender and the distribution of gender as well as respondents’ hierarchal position and academic rank in their institutions.

Table 13: Respondent’s Gender

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	165	62.7	62.7	62.7
Female	98	37.3	37.3	100.0
Total	263	100.0	100.0	

Source: Researcher’s computation

Table 14: Respondent's Position and gender

Position	Respondent Gender		Total
	Male	Female	
Dean	29	12	41
Deputy Dean	42	28	70
Head of Academic department	59	34	93
Program Coordinator	27	16	43
Administrator	8	8	16
Total	165	98	263

Source: Researcher's computation

Table 15: Respondent's Academic rank gender

Res_Rank		Res_Gender		Total
		Male	Female	
Res_Rank	Professor	16	4	20
	Associate professor	40	14	54
	Assistant professor	89	51	140
	Lecturer	16	17	33
	Instructor	4	12	16
Total		165	98	263

Source: Researcher's computation

Table 16: Institution Ownership Type

Ownership Type	Frequency	Percent	Valid Percent	Cumulative Percent
public sector	245	93.2	93.2	93.2
private sector	18	6.8	6.8	100.0
Total	263	100.0	100.0	

Source: Researcher's computation

Table 17: Student Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Boys College	75	28.5	28.5	28.5
Girls College	72	27.4	27.4	55.9
Mixed College	116	44.1	44.1	100.0
Total	263	100.0	100.0	

Source: Researcher's computation

Table 18: Student Number

Student Number	Frequency	Percent	Valid Percent	Cumulative Percent
Fewer than 200 (small)	42	16.0	16.0	16.0
From 200 to 499 (low medium)	53	20.2	20.2	36.1
From 500 to 999 (high medium)	53	20.2	20.2	56.3
1000 onward (big)	115	43.7	43.7	100.0
Total	263	100.0	100.0	

Source: Researcher's computation

Table 19: Overwhelming Discipline

Disciplines	Frequency	Percent	Valid Percent	Cumulative Percent
Medical and health disciplines	66	25.1	25.1	25.1
Engineering sciences and computer disciplines	54	20.5	20.5	45.6
Managerial, business, economic and law disciplines	31	11.8	11.8	57.4
Arts and educational disciplines	38	14.4	14.4	71.9
Multi disciplines (i.e. more than one of above disciplines)	74	28.1	28.1	100.0
Total	263	100.0	100.0	

Source: Researcher's computation

Table 20: The Highest Degree Offered

Degree	Frequency	Percent	Valid Percent	Cumulative Percent
Middle diploma (2years after high school)	33	12.5	12.5	12.5
Bachelor	133	50.6	50.6	63.1
High diploma (1 year after Bachelor D.)	6	2.3	2.3	65.4
Master	48	18.3	18.3	83.7
PhD	43	16.3	16.3	100.0
Total	263	100.0	100.0	

Source: Researcher's computation

Table 21: Local and International Academic Accreditation

Status	Frequency		Percent		Cumulative Percent	
	local	Intl.	local	Intl	local	Intl
Have an accreditation	84	72	31.9	27.4	31.9	76.0
Current candidate for accreditation	117	128	44.5	48.7	76.4	48.7
negative	62	63	23.6	24.0	100.0	100.0
Total	263	263	100.0	100.0		

Source: Researcher's computation

Exploratory Factor Analysis

This study uses a multi-scale items adapted from previous studies to measure the constructs. To understand the factor structure of the constructs better, a principal factor analysis that uses Varimax orthogonal rotation method was performed to refine our scale in order to understand the underlying factor scales of our construct better. This is to obtain the minimum number of factors that made up the common variance with a view to reduce the initial variables to a small manageable number. EFA is also a statistical method to identify the misfit items (Byrne, 2010), which could affect other multivariate techniques such as Structural Equation Modelling (SEM). Hence, "EFA is a good starting point for "more other multivariate techniques" (Hair et al, 2010; 99).

Thus, exploratory factor analysis was performed on a set of indicator used to measure each factor to confirm whether they still measured the same construct as they did in the original studies where they were adapted. To conduct factor analysis on any survey data, there are a number of criteria that must be met. The first is the

adequacy of the data for factor analysis which is determined by KMO of 0.5 and above and a significant Bartlett's sphericity. Other factor selection criteria are factor loading higher than 0.45 (for sample size ≥ 145), communalities greater than 0.5, factors that have eigen value of not less than 1 with significant loading on one item (Hair et al., 2010). In the present study, EFA was conducted using 263 usable cases with all scale items of the questionnaires to determine the possible underlying factors. The criteria mentioned above were used to select the indicators that represent each of the constructs based on the data collected. The results of the factor analysis based on construct are presented below.

Table 22: Exploratory factor analysis of “top management emphasis”

Indicators	Factor Loadings	Communality	Var. Exp.	Eigen Value	ChrombachAlpha
Top management commitment					
TME1	.859	.739	66.901	3.345	.874
TME2	.842	.710			
TME3	.833	.694			
TME4	.772	.596			
TME5	.779	.606			
KMO	.858				
Bartlett's sphericity	637.987				
Degree of Freedom	10				
Significance	.000				

Source: Author's computation

Table 23: Exploratory factor analysis of “internal market orientation”

Indicators	Factor Loadings	Communality	Var. Exp.	Eigen Value	ChrombachAlpha
Internal Market Orientation					
Emp1InMo	.825	.681	68.483	3.424	.884
Emp2InMo	.831	.691			
Emp3InMo	.870	.757			
Emp4InMo	.810	.657			
Emp5InMo	.799	.638			
KMO	.848				
Bartlett's sphericity	692.461				
Degree of Freedom	10				
Significance	.000				

Source: Author's computation

Table 24: Exploratory Factor Analysis of “Market Orientation”

Indicators	Factor Loadings	Communality	Var. Exp.	Eigen Value	ChrombachAlpha
Effort Coordination					
EC1ExMo	.847	.717	66.198	3.310	.869
EC2ExMo	.878	.770			
EC3ExMo	.833	.695			
EC4ExMo	.793	.630			
EC5ExMo	.706	.498			
KMO	.853				
Batlet's sphericity	636.459				
Degree of Freedom	10				
Significance	.000				
Competitor Orientation					
Comp1ExMo	.875	.766	67.54	4.727	.916
Comp2ExMo	.899	.809			
Comp3ExMo	.857	.735			
Comp4ExMo	.847	.717			
Comp5ExMo	.877	.770			
Comp6ExMo	.668	.447			
Comp7ExMo	.696	.485			
KMO	.901				
Batlet's sphericity	1341.234				
Degree of Freedom	21				
Significance	.000				
Responsiveness toward students					
St4ExMo	.883	.779	75.005	3.000	.888
St5ExMo	.917	.842			
St6ExMo	.751	.564			
St7ExMo	.903	.816			
KMO	.820				
Batlet's sphericity	646.106				
Degree of Freedom	6				
Significance	.000				
Student Information Process					
St1ExMo	.958	.918	87.243	2.617	.925
St2ExMo	.939	.881			
St3ExMo	.905	.818			
KMO	.728				
Batlet's sphericity	660.039				
Degree of Freedom	3				
Significance	.000				

Employer Orientation					
Empr1ExMo	.865	.748	65.072	3.254	.863
Empr2ExMo	.879	.773			
Empr3ExMo	.843	.711			
Empr4ExMo	.744	.554			
Empr5ExMo	.684	.468			
KMO	.814				
Batlet's sphericity	671.022				
Degree of Freedom	10				
Significance	.000				

Source: Author's computation

Table 25: Exploratory Factor Analysis of Innovativeness

Indicators	Factor Loadings	Communality	Var. Exp.	Eigen Value	ChrombachAlpha
Innovativeness					
INNOV1	.753	.567	63.05	5.044	.916
INNOV2	.818	.669			
INNOV3	.820	.672			
INNOV4	.797	.636			
INNOV5	.780	.608			
INNOV6	.839	.704			
INNOV7	.763	.582			
INNOV8	.780	.608			
KMO	.800				
Batlet's sphericity	1356.635				
Degree of Freedom	28				
Significance	.000				

Source: Researcher's computation

Table 26: Exploratory factor analysis of graduate employability

Indicators	Factor Loadings	Communality	Var. Exp.	Eigen Value	ChrombachAlpha
Graduate employability					
Perf1	.910	.829	78.623	2.359	.864
Perf2	.868	.754			
Perf3	.881	.776			
KMO	.725				
Batlet's sphericity	377.467				
Degree of Freedom	3				
Significance	.000				

Source: Author's computation

Table 27: Exploratory factor analysis of Research Performance

Indicators	Factor Loadings	Communality	Var. Exp.	Eigen Value	ChrombachAlpha
Research Performance					
Perf4	.873	.762	79.913	2.397	.874
Perf5	.928	.861			
Perf7	.880	.774			
KMO	.710				
Batlet's sphericity	418.470				
Degree of Freedom	3				
Significance	.000				

Source: Author's computation

Table 28: Exploratory factor analysis of Overall Performance

Indicators	Factor Loadings	Communality	Var. Exp.	Eigen Value	Chrombach Alpha
Overall Performance					
OverAll_T	.834	.696	69.318	2.773	.849
OverAll_RQL	.901	.813			
OverAll_RQN	.798	.637			
OverAll_EMP	.792	.627			
KMO	.785				
Batlet's sphericity	471.749				
Degree of Freedom	6				
Significance	.000				

Source: Author's computation

Confirmatory Factor Analysis

The use of structural equation modelling (SEM) for data analysis involves two steps to establish the association between the items and relationship among the constructs as extracted during the EFA. The first step is referred to as the confirmatory factor analysis (CFA)/measurement model while the second step is known as path analysis. This study follows this tradition to analysis the collected data to establish whether the proposed model fit the data. There are seven constructs presented in the hypothesised model, six of which are first order constructs and one which is a second order construct. The approach taken in the study was to first establish the measurement model of the second order construct before establishing the measurement model of the whole hypothesised model (CFA) using the maximum likelihood method in AMOS 18.0 version. Confirmatory Factor Analysis examines the correlation among variables. This was followed by analysis of structural model to examine the path relationships among different constructs in the hypothesised model. In confirmatory factor analysis, the fit of the model is examined using chi-square test. However, because chi-square is tends to be significant with large sample size, a combination of other fit indices are used to establish the fitness of the model to the data when chi-square test tends to be bias (Hair et al., 2010). To examine model fit, goodness of fit indices is used. These indices are Discrepancy Divided by Degree of freedom (CMIN/DF), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). The commonly use fit indices among the one mentioned above are CMIN/df, CFI and RMSEA. According to Arbuckle and Wothke (1995) CMIN/df with a value of between 2 and 5 is considered acceptable. They further stress that the threshold values of CFI and TLI range from zero to 1, with values close to one demonstrating a good fit (normally above 0.9). Finally, a value of RMSEA of ≤ 0.1 shows a reasonable error of estimation was determined.

Measurement Model of Market Orientation

As discussed earlier, the construct “MO in this study was specified as a second order factor. Thus, this study takes it as a point of duty to confirm the correctness or otherwise of the factor as a second order factor based on the data collected. This was done in two stages, first to establish the existence of reasonable correlation among the constructs, and second to confirm their second order nature.

Association among Market Orientation Sub-Constructs

The association among the sub-constructs of MO was examined using confirmatory factor analysis. The CFA showed that the overall model fit was $\chi^2(242) = 667.942$, $p < .05$ (figure 4.1). Significance chi-square indicates poor fit of the data to the model. However, as mentioned above, chi-square test is biased with sample size and tends to be significant with large sample size. The fitness of the sub-constructs to the data was evaluated by using least one absolute fit index and one incremental fit index together with chi-square and its degree of freedom is recommended. Normed chi-square (CMIN/DF), the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA) were used to establish the goodness of fit of the first order model of MO to confirm the correlation among the sub-constructs (Hair et al., 2010). The CFI was 0.910 (above the 0.9 minimum), CMIN/DF was 2.76 (below the recommended ≤ 5 cut-off point) and the RMSEA was 0.08 (within the acceptable value of ≤ 0.1). All these indicate good fit. The loadings of the items were also examined to see their performances on their sub-constructs. All the loading values of the items (loadings range from 0.57 to 0.96) are more than 0.5 (minimum recommended value) and are all statistically significant, indicating that they are all good measure of their sub-dimension. All correlations among the sub-constructs are also significant with none of them below 0.3 or above 0.9. Therefore, it was concluded that there are good association within the sub-constructs for them to be able to jointly serve as the sub-constructs of MO as a second order factor (Figure 6).

Measurement Model of Market Orientation

This study specified MO as a second order factor that has five sub-constructs. In order to confirm if these five sub-constructs actually reflect the dimension of MO in the study, measurement model of second order factor of MO was established using the confirmatory factor analysis. The measurement model of MO showed that the overall model fit was $\chi^2(247) = 679.536$, $p = .000$ (figure 4.2). As explained above, the significance of the chi-square indicates the rejection of the model. However, because chi-square test is sensitive to sample size and tend to be significant with large sample size, the study follow the convention of using the Normed chi-square (CMIN/DF), the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA) to determine the fitness of the model to the data (Yusuf et al., 2013). Thus, resultant fit indices were examined indices in order to establish the fitness of the model to the data collected. All these indices fall within the acceptable range.

The CFI was 0.908 (above the 0.9 minimum), CMIN/DF was 2.751 (below the recommended ≤ 3 cut-off point) and the RMSEA was 0.082 (below the recommended value of ≤ 0.1). All these indicate that the hypothesised model fit the data (Figure 4.2). The loadings of the items were also examined to see their performances on their respective construct. This was in two parts: those of the indicators on the sub-constructs and then those of the sub-constructs on the main construct, MO. All the loading values of the items on the five sub-constructs are more than 0.5 (minimum recommended value) and are all statistically significant, indicating that they are all good measure of their factors.

The loading of each of the sub-constructs on MO are also more 0.5 and are statistically significant. Therefore, it was confirmed that the hypothesised model fits the data and the construct, MO is a second order factor. Examining the pattern of loading of the sub-dimension of MO show that “employer orientation” has the highest loading (0.8), followed by “student responsiveness” (0.77) while “student information” (0.66) has the lowest loading.

Measurement of the Hypothesised Mode Constructs: The hypothesised model of this study comprises of three dependent variables (graduate employability, research performance and overall performance) and four independent variables (market orientation, innovativeness, internal market orientation and Top management commitment). Out of the four independent variables, MO is a second order factor that comprises of five sub-dimensions (student information, student responses, employer orientation, competitor orientation and effort coordination). As mentioned earlier, analysis with structural equation modelling entails two steps, measurement model (to determine the association among the constructs) and structural model (to determine the path analysis). This section reports the result of the measurement model of the hypothesised model of this study.

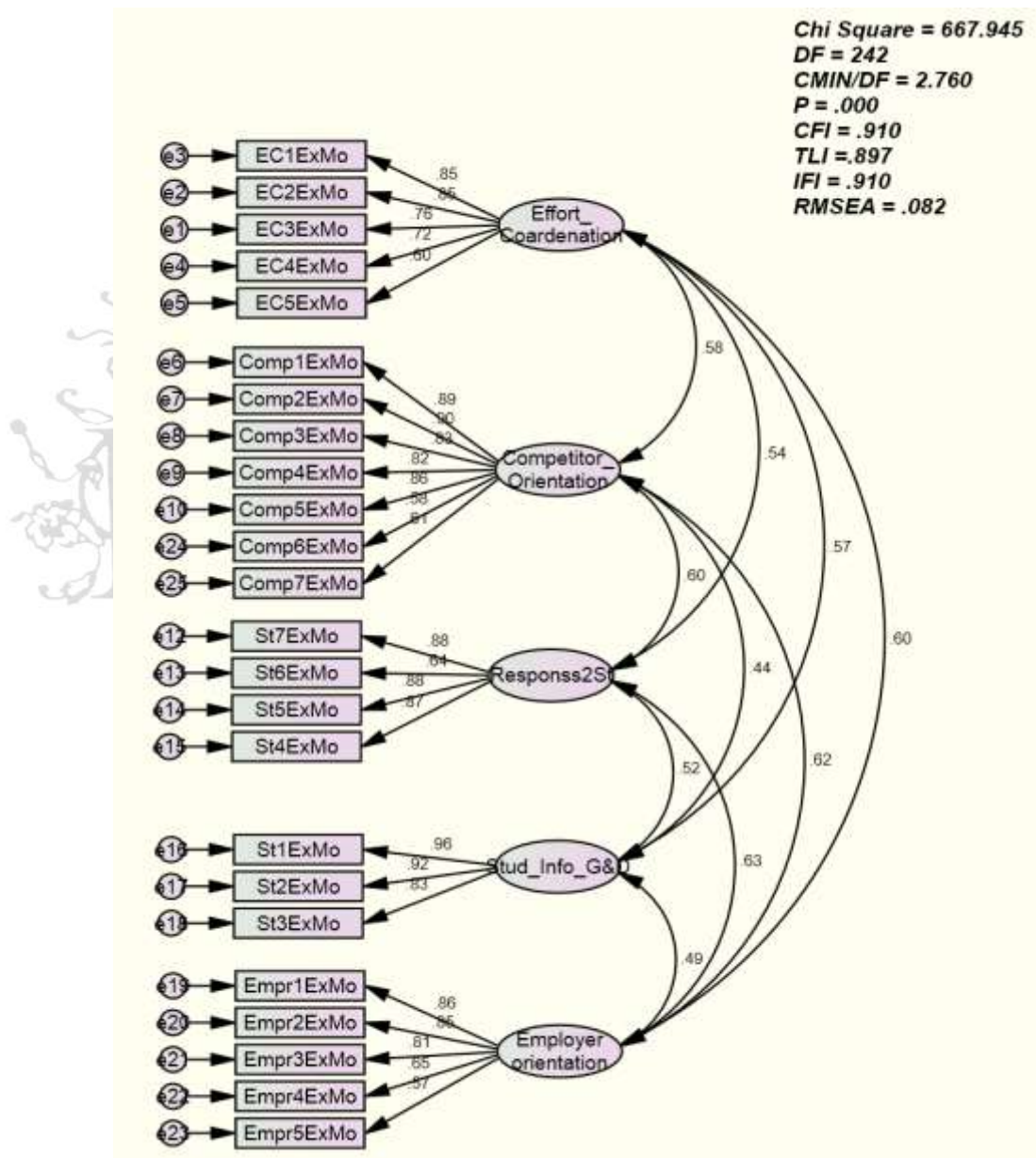


Figure 6: Association among Market Orientation Sub-Constructs

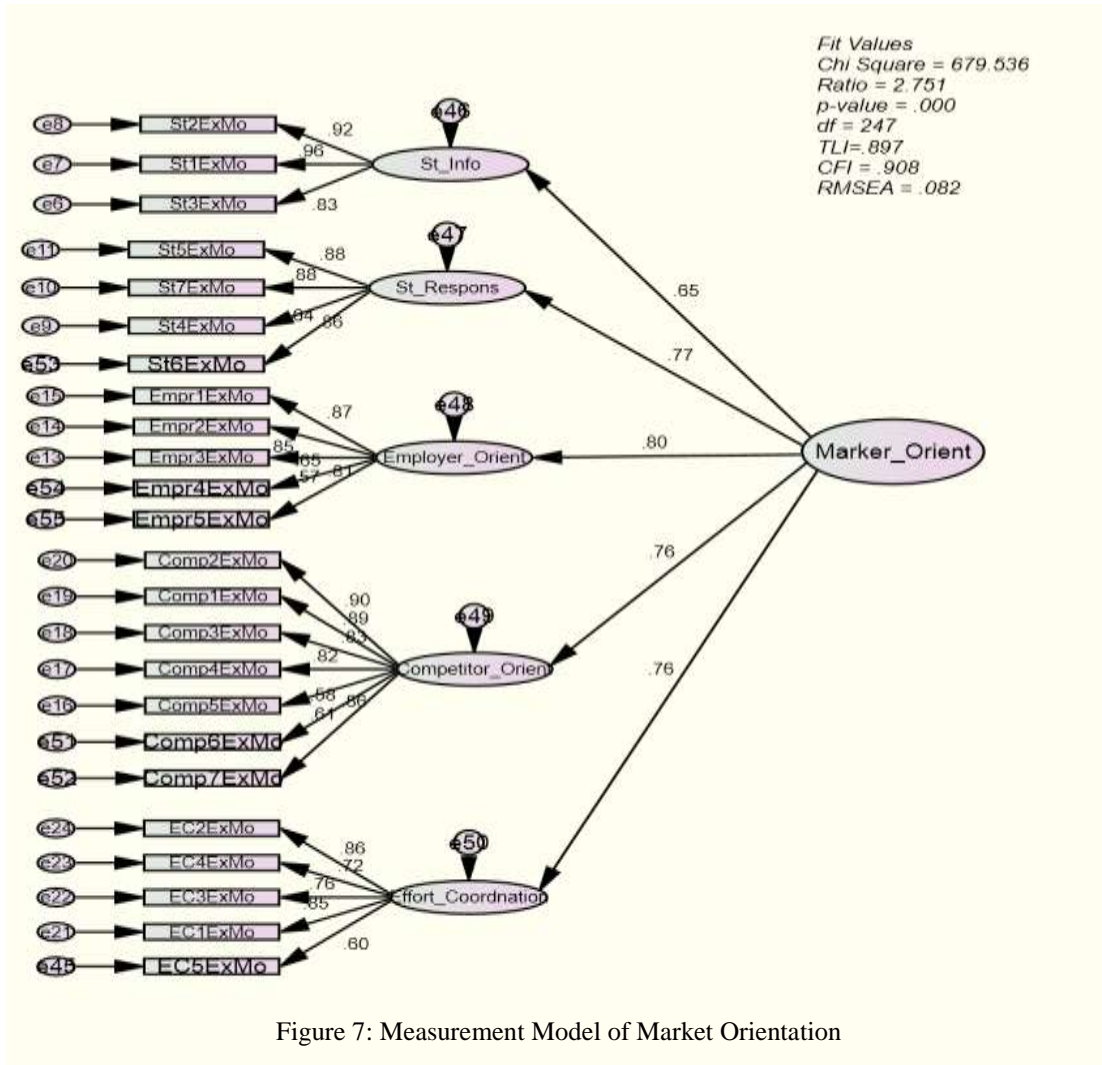


Figure 7: Measurement Model of Market Orientation

The correlations among the constructs of the hypothesised model were examined using confirmatory factor analysis. The CFA showed that the overall model fit was $\chi^2 (1248) = 2559.111, p < .05$ (figure 4.3). Significance of chi-square indicates poor fit of the data to the model. However, as mentioned above, chi-square test is biased with sample size and tends to be significant with large sample size. The fitness of the hypothesised model to the data was evaluated by using at least one absolute fit index and one incremental fit index together with chi-square and its degree of freedom is recommended. Normed chi-square (CMIN/DF), the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA) were used (Hair et al., 2010). The CFI was 0.869 (below the 0.9 minimum), CMIN/DF was 2.051 (below the recommended ≤ 5 cut-off point) and the RMSEA was 0.063 (within the acceptable value of ≤ 0.1). The loadings of the items were also examined to see their performances on their sub-constructs. All the loading values of the items (loadings range from 0.57 to 0.96) are more than 0.5 (minimum recommended value) and are all statistically significant, indicating that they are all good measure of their sub-dimension. All correlations among the sub-constructs are also significant with none of them below 0.3 or above 0.9. However, the inability of one of the three fit indices (CFA) used instead of the chi-square to determine the fitness of the model to the data to reach the acceptable level of 0.9 is a confirmation of poor fit of the model to the data (Figure 7). Thus, it was concluded that the model did not fit the data, hence the need to modify the hypothesised model to fit the real data.

Revised Measurement Model of the Hypothesised Model: In order to find appropriate model that fits the data collected, the initial hypothesised model was revised. Since the loadings were in order, the modification indices (MI) were examined to improve on the model. A careful examination of MI revealed that one error, e44, of the indicator “INNOV8” correlated with many other errors of other indicators thereby causing the hypothesised model not to fit. Instead of correlating a single error with many other ones, the indicator with the problematic error was removed from the analysis. The resultant model is shown in figure 8. It can be seen that the revised model now fits the data well and all the fit indices are now in order. The chi-square is now $\chi^2(1008) = 1867.344$, $p < .05$, comparative fit index, CFI = .904, Normed chi-square = 2.605 & RMSEA = .057. All the indicator loadings are more than 0.5 minimum, the correlations among the constructs are more than 0.3 and none of these correlations is above 0.9. Therefore, it is concluded that the revised model now represent the data well.

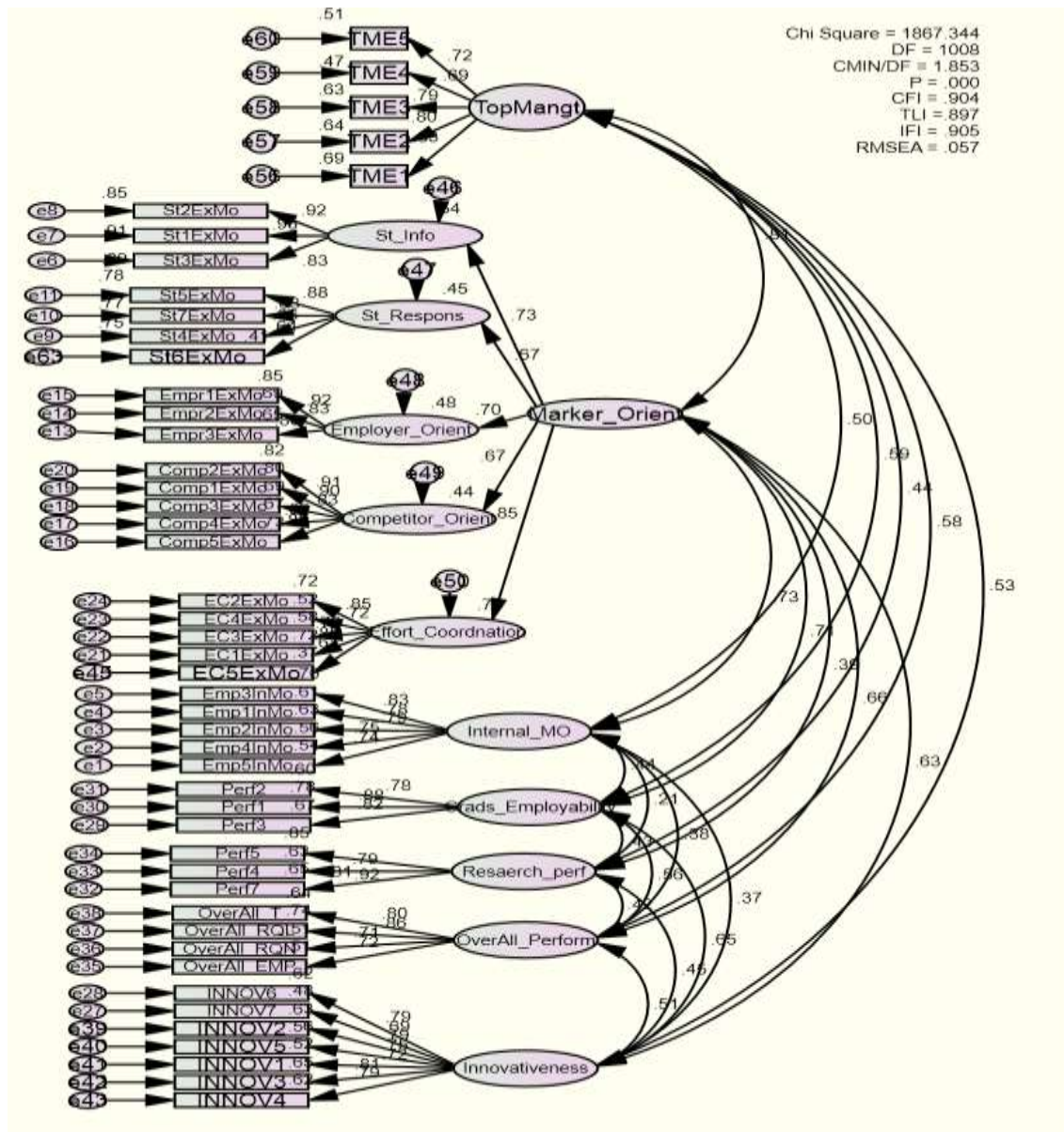


Figure 8: Revised Measurement Model of the Hypothesised Model.

A review of the pattern of loading of the items based on constructs revealed that for MO, effort coordination now has the highest loading among the sub-constructs (0.85) followed by student information (0.73) while effort coordination and employer orientation have lowest loading (0.67 each) on the second order construct, MO. This is quite interesting as it is opposite of the pattern of loading when MO was taken in isolation where “employer orientation” has the highest loading (0.8), followed by “student responsiveness” (0.77) while “student information” (0.66) has the lowest loading. This is a revelation that these sub-constructs behaved differently when other constructs are considered.

On the construct Top management commitment, “department’s management efforts to adapt its training material to various stakeholders needs” (TME1) has the highest factor loading (0.82) based on the feedback from the survey. This was followed by “department management choosing research areas of social interest” (TME2) with 0.8 loading score while “faculty member awareness of outside employers’ need” (TME4) has the lowest loading (0.68). For the factor “internal market orientation”, the loadings of the indicators show that “regularly sharing information that affects employees working environment with administrator” (Emp3InMo) has the highest loading (0.83) followed by “survey of other colleagues at least once a year to assess the quality of employment” (Emp2InMo) that has a loading of 0.79 while “understand all of the important factors that affect employees’ satisfaction with their employment” (Emp5InMo) received the least score (0.74) on this construct. On the construct “innovativeness”, the items that measure not penalising administrative staff for unsuccessful idea (INNOV3) has the highest score (0.80) this was followed by measure on resting innovation perceived to be too risky, INNOV2, (0.79) while the indicator that quantify management actively seeking innovation (INNOV1) has the lowest score (0.72).

The pattern of loading of the indicators on the three constructs used as dependent variables in this study (graduate employability, research performance and overall performance) was examined with a view to rank them. The loading of the items of “graduate performance” reveal that the indicator that surveys the perception of the respondent on graduate being able to secure high position in both public and private establishment (Perf1) has the highest score (0.88) followed by graduate having high reputation with their employers (Perf3) which has a loading of 0.81 while the indicator on graduate proportion of graduate that get employment within first year of graduation (Perf2) has the lowest score (0.77). On the construct that survey research performance, the indicator on research outputs of the faculty members being widely published (Perf5) has the highest loading on the construct (0.9) followed by the items that measure research areas covering societal and business demand (Perf7) with loading score of (0.8) while items on scholar presenting good research work in conferences (Perf4) received the lowest loading (0.79). Finally, the pattern of loading of indicators on the construct, “overall performance” indicates that item on overall rating on research quality (OverAll_RQL) has the highest indicator loading score (0.85) followed by measure of overall teaching performance (OverAll_T) with factor loading of 0.8 while the respondent rating on overall research quantity (OverAll_RQN) has the lowest score on the construct.

Structural Model

The second step in structural equation modelling is to test the structural model for practical and statistical significance of the casual relationship of the structural paths (path analysis). Having fitted the measurement model and established its convergent and discriminant validities, the study proceeds to the second step on testing the structural model. There are fourteen structural parts that were originally stipulated in the study. These parts are from “Top management commitment” to “Internal market orientation”, from “Top management commitment” to “MO”, from “Internal market orientation” to “MO”, from “Internal market orientation” to “Innovation”, from “Internal market orientation” to “Graduate employability”, from “Internal market orientation” to “Research performance”, from “Internal market orientation” to “Overall performance”, from “MO” to “Innovativeness”, from “MO” to “Graduate employability”, from “MO” to “Research performance”, from “MO” to “Overall performance”, from “Innovativeness” to “Graduate employability”, from “Innovativeness” to “Research performance”, and “Innovativeness” to “Overall performance”.

The structural model was analysis using maximum likelihood method of the AMOS 18 software. The fitness of was established using the model fit criteria. These criteria as stated above are none significant chi-square, a condition that is hardly met due to the sensitivity of chi-square test to large sample size, Discrepancy Divided by Degree of freedom (CMIN/DF), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). The commonly use fit indices among the one mentioned above are CMIN/df, CFI and RMSEA. According to Arbuckle and Wothke (1995) CMIN/df with a value of between 2 and 5 is considered acceptable. They further stress that the threshold values of CFI and TLI range from zero to 1, with values close to one demonstrating a good fit (normally above 0.9). Finally, a value of RMSEA of ≤ 0.1 shows a reasonable error of estimation was determined. In addition to the model fit criteria, the path coefficients are examined for statistical significance at $p < .05$; and practical significance at path loading of $\geq .20$.

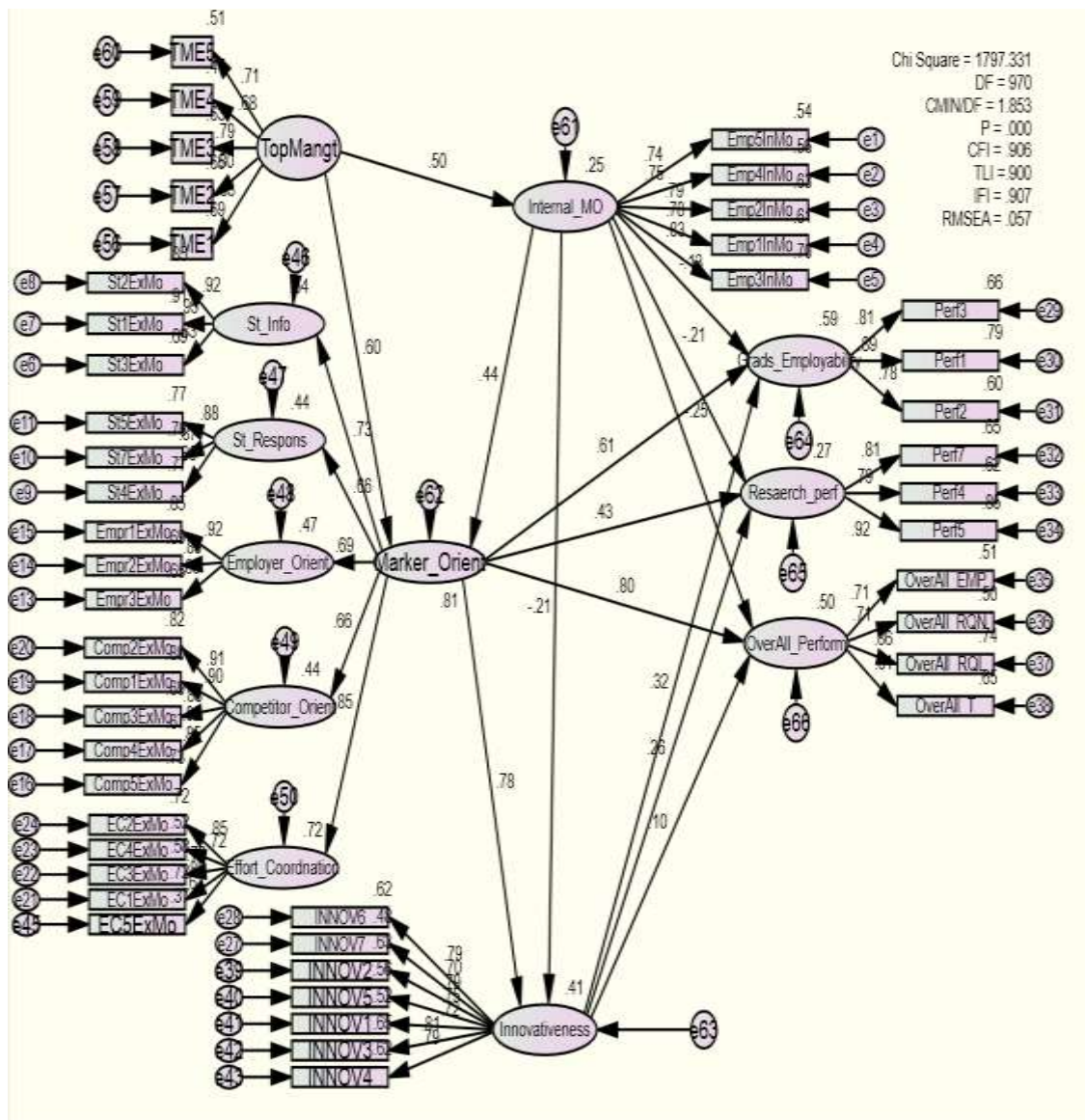


Figure 9: Structural Model

The result of the analysis of the structural model is as presented in figure 4.5 below. The examination of the model fit shows that the chi-square result is $\chi^2(970) = 1797.311$, and is significant at $p < .05$ which indicate model rejection. However, as has been noted many times before, chi-square test is susceptible to large sample size, hence its significance. Therefore, the study turn to other fit indices to confirm the fitness status of the structural model. The comparative fit index (CFI) yield .906, Normed chi-square is 1.853 and RMSEA = .057. All these values fall within their recommended values in literature. The examination of the indicator loadings also shows that they are all more than 0.5 minimum recommended. Therefore, it was concluded that the structural model represents the data collected and no other revision was made on the model.

However, since analysis of the structural model is more to examine the path analysis, the study turn on to examine each of the path one after the other to determine those that are practically and statistically significant and the sign of their relationship. The results of the fourteen stipulated paths among the constructs are presented in the following subsections.

Summary of findings

Table 4.26 shows a list of hypothesis and the final results of path analysis that carried out using structural equation modelling. As shown in table 4.26, the majority of hypotheses was supported.

Table 29: The Results of Hypothesis Testing and Path Analysis

Hypothesises	Results
H1 Top Management Emphasis Positively Affect Internal Market Orientation.	Supported
H2 Top Management Commitment Positively Affect Market Orientation	Supported
H3 Internal Market Orientation Has Positive Influence on Market Orientation in HEIs in Saudi Arabia	Supported
H4 Internal Market Orientation Acquired by HEIs in Saudi Arabia Affect Their Perceived Performance Indirectly: Graduates Employability Research Performance Overall Performance	Supported
H5 Market Orientation Acquired by HEIs in Saudi Arabia Affect Their Perceived Performance Indirectly: Graduates Employability Research Performance Overall Performance	Supported
H6 Innovativeness Has Positive Affect on HEIs' Perceived Performance: Graduates Employability Research Performance Overall Performance	Supported
H7 The Relationship between Internal Market Orientation and Perceived Performance Mediated by Innovativeness: Internal Market Orientation → Innovativeness → Graduates Employability Internal Market Orientation → Innovativeness → Research Performance Internal Market Orientation → Innovativeness → Overall performance	Supported
H8 The Relationship between Market Orientation and Perceived Performance Mediated by Innovativeness:	Supported

Internal Market Orientation → Innovativeness → Graduates Employability Internal Market Orientation → Innovativeness → Research Performance Internal Market Orientation → Innovativeness → Overall performance	
H9 The Relationship between “Internal Market Orientation and Perceived Performance Mediated by “Market Orientation”: Internal Market Orientation → Market Orientation → Graduates Employability Internal Market Orientation → Market Orientation → Research Performance Internal Market Orientation → Market Orientation → Overall performance	Not Supported
H10 There are a significant differences between HEIs in Saudi Arabia in the level of internal market orientation based on their demographics: Institution ownership Institution size overwhelming discipline institution’s students’ gender the ability to obtain Local accreditation the ability to obtain International accreditation	Supported
H11 There are a significant differences between HEIs in Saudi Arabia in the level of internal market orientation based on their demographics: Institution ownership Institution size overwhelming discipline institution’s students’ gender the ability to obtain Local accreditation the ability to obtain International accreditation	Supported

Discussion and Conclusion

Contributions

This section dedicated to disclose the contribution of this research in the body of knowledge. The following subsections offers theoretical contribution, practical implications and future research in light of the limitations.

Theoretical Contribution

This research investigate market orientation in the context of higher education in Saudi Arabia. Expanded the knowledge of MO research in higher education context. Added to the knowledge by doing so in Saudi Arabia environment which uncharted by market orientation research in the public sector before. Therefore, this research added to the current knowledge and expanded it to new environment.

In addition, this research add to the knowledge by examining of the role of top managers as antecedence for market orientation internally as well as externally simultaneously. Whereas, previous research consider only one role of top management on market orientation. Many antecedence have been investigated in prior researches but this research chose to examine the potential effect of top managers on internal market orientation and external market orientation too. Moreover, this research consider both direct and indirect effect of IMO on perceived performance. Although, this research revealed that the direct effect of internal market orientation on HEIs performance is not significant, however, there was significant and positive indirect effect on graduates employability, research performance and overall performance only through market orientation. Therefore, internal market orientation affect market orientation directly and institutions’ outcomes indirectly.

Furthermore, this research examined the effect of MO on three aspect of perceived performance which is not considered in prior researches. Gradates employability used to assess the potential effect of market orientation on enhancing such important higher education institutions performance indicator. In addition, perceived research performance used as subjective assessment for research quality and quantity done by HEIs. Whereas, overall performance measure all performance indicators using direct assessment questions.

Additionally, this research add to the body of knowledge by employing innovativeness as mediator to the relationship between MO and perceived performance. There were no single study that use innovativeness to mediate the influence of market orientation on performance in HEIs context.

This research, also, enhance the Arabic literature on this topic by providing a translated copy of the questioner, which would facilitate further research by researchers using Arabic language. Finally, from exploratory factor analysis this research found that the construct of Student Orientation (SO) as sub construct of market orientation have been spelt into two sub-sub construct, namely, students information process and responsiveness to students. This split has what is support in theory as the behavioural perspective of market orientation of Kohli and Jaworski (1990) which divided the concept to three actions about information process that compromise information generation, dissemination and responsiveness.

Practical Implication

Higher education agencies in Saudi Arabia should take some effective initiative to reduce the gap between its products and society demand. Higher education is no longer the isolated area for scholar but it is a critical and dynamic element to lead nation development. The planners for HEIs should understand deferent stakeholders' interest. Students as customers not the perfect solution to HEIs.

At the beginning HEIs should have a committed top management to emphasis the transform to both internal and external market. Managers themselves have to be aware about the exact volume of the gap between their institutions outcomes and community demands. When the managers realise the problem and admit the need for solution, one of the possible choices would be market orientation.

HEIs must survey potential employers of their future graduates about the skills, competencies and special knowledge that need to equip students with. The information about labour market should treated timely to minimize the slow reaction to the dynamic market. HEIs have not to open any new discipline unless they investigated the influence on the graduates' employability. Thus, employers should be treated as partner to HEIs from the planning stages.

The dynamic environment around HEIs urge managers to be more proactive to take the necessary action to build possible connection with deferent stakeholders in its surrounding environment. This research considered the most influential two stakeholders i.e. students, employers and competitors, however, HEIs in Saudi Arabia could include any other stakeholder to their set of stakeholders based on their unique situation.

HEIs autonomy is crucial to enhance its flexibility to define its choices based on futures and current trends. To enhance the degree of market orientation in HEIs in Saudi Arabia, based on this research results, managers should begin with the internal stakeholders. The internal customer satisfaction seems to lead to higher quality of the services that provided to external stakeholders. Thus, internal market orientation crucial to success in market orientation.

Authority of higher education in Saudi Arabia request all HEIs in the country to have the local accreditation NCAAA for institutions and programs. This initiative reflected on the quality of higher education and researches been provided and conducted. Based on this research results institution with accreditation would be have high degree of market orientation which in turn enhance their ability to perform better.

The results of this research confirmed the role of innovativeness in mediating the relationship between market orientation and performance HEIs in Saudi Arabia. The results, in addition, revealed that research performance received more influence of market orientation through innovativeness. Thus, managers of HEIs should be more open for new idea in area of research that would reflected on their institution research outcomes.

Limitation and Future Researches

This research rise some limitation which would be a possible future research ideas. First, this research limited to the institutions that being under the authority of Ministry of Higher Education. The future research could consider more tertiary education not included in this research such as vocational and technical education. Furthermore, it is recommended for further research to investigate market orientation in other public and private sector in Saudi Arabia. Considerably, a comparative study could also be conducted to understand to what extent it is useful to bring such strategy to their arena.

Additionally, this research was limited to three main stakeholders namely; Students, Employer and competitors. Future research would expand the set to include another stakeholders like donors for private higher education, regulators and local community.

Furthermore, this research follow a pure quantitative methods to collect and analyse the data. Future research would employ qualitative methods such as interviewing people around higher education to get more profound results about this topic.

Moreover, this research use a subjective performance assessment and correlate it with HEIs degree of market orientation. Based on this limitation, future research could investigate objective performance indicators that related to their outcomes. Moreover, this study use top managers as respondents as they are the responsible for strategic issues in their respective institutions. In future research, it also recommended to have other opinion such as faculty members and administrative staff

Finally, this research is a cross sectional research as the data collected at one point in time to measure various variables included. In light of this limitation, future researchers could repeat the measurement after time intervention i.e. longitudinal approach to investigate how the changes of institutions' orientation toward market is able to improve their outputs.

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