

The first and second order measurements of context specific market orientation in relation to performance of higher education institutions



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ABSTRACT

Organizational scholars and academicians in developed countries have been empirically highlighting the significance of market orientation (MO) for university performance (UP) using the traditional measures. While the present study, attempts to address the dearth of research in a developing country by empirically testing not only the MO UP relationship but also analyzing empirically the individual impact of the context specific dimensions of MO on UP based on the notion that different geographic, social and time zones create different context, so the relationship of interest might appear to vary when tested through separate dimensions independently. This would ultimately help university authorities recognize which aspects of MO to concentrate more for enhanced UP. A total of 476 university teachers and administrators participated from the five biggest and oldest public universities from Sind region. The use of structural equation modeling revealed that although the overall MO is quite significant to UP, yet the MO dimensions that appear more significant in previous literature, have a very unexpectedly different response in the developing countries. Contributions and implications of the study are outlined with reference to how the more context specific MO dimensions can contribute individually in the settings of public universities of a developing country like Pakistan.

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1. Introduction

Higher education institutions (HEIs) today are no more the traditional disseminators of academic degrees (Hemsley-Brown and Oplatka, 2006) rather a paradigm shift is evident (Sarker et al., 2010). With accelerating academic demands in the developing world, the optimization of university performance (UP) is becoming a challenge especially for the public sector academicians (Khuwaja et al., 2017).

The conservative, government owned HEIs normally appear less innovative and less responsive to dynamic markets (Mitra, 2009). The changing economic conditions have changed resource allocation priorities of governments, affecting university budgets (Modi, 2012), forcing public sector universities to offer market based value proposition (Carrillat et al., 2004). Hence, as an effective means of competitive survival, the market orientation (MO) of universities may ensure their

self-sustainability through consistent fund replenishment capacity (Algarni and Talib, 2014; Hashim and Rahim, 2011).

Thus, the need is more necessitated to investigate how well the public sector universities can capitalize on the open market opportunities by offering better market oriented value proposition (Khuwaja, et al. 2017). Although, in past the nonprofits including universities have had pride of being non business, and free of commercialization or other such kind of filthy contemplations, yet they seem to be more innovative today by adopting the marketing principles and strategic management similar to regular business entities to ensure their regular sustainable survival (Behdioğlu and Şener, 2014; Zebal and Goodwin, 2012).

Notably, although the pertinent literature emphasizes on the prominent role of MO for enhancing the overall UP (Mokoena and Dhurup, 2016; Niculescu et al., 2016; Zebal and Goodwin, 2012) yet, there is noticeable scarcity of such studies conducted in public sector universities in the developing world. Additionally, since different geo social and time zones create different context, so the relationship of interest, separately tested through individual dimensions, might appear to vary

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(Umrani, 2016; Ozkaya et al., 2015), hence, literature also signifies for the contributory value of each MO dimensions (Ozkaya et al., 2015; Huhtala et al., 2014; Niculescu et al., 2016; Zaifuddin, 2010). Thus, the current study has gone a step ahead by critically investigating the individualized impact of MO dimensions on UP to help university authorities focus on more crucial dimensions distinctively.

Present study thus enriches literature in multiple directions. At first, through empirical assessment and literature support, this study outlines the significance of MO (and its context specific dimensions) for better performance of public sector HEIs in developing world (Khuwaja, et al. 2017; Ozkaya et al., 2015; Zebal and Goodwin, 2012). Additionally, the study also explores literature theoretically that brings this study in line with the resource based theory by recognizing MO (and its dimensions) as the organizational resources, critical to the modern HEIs (Ozkaya et al., 2015; Kozlenkova et al., 2014).

2. Literature review

2.1. Paradigm shift in higher education

Higher education (HE) is a large and complex social system. Over the last decade, HE has been facing numerous challenges everywhere (Sarker et al., 2010). A wave of paradigm shift is evident since the universities are recognized as the key economic catalysts, where ideas or information generation and its manipulation is far more important than traditional factors of production (O'Neill and Palmer, 2004). Some research on academic capitalism, such as in France (Chevaillier, 2004), in UK (Theisens, 2003), in Netherlands (Salerno, 2004), in Belgium (Thys-Clement, 2001) and among many others in Australia, Canada, the UK and the USA (Altbach, 2012; Slaughter and Leslie, 1997) have recognized a number of changes taking place in education sector such as massified HE demand, technology infusion, professionalization, resource diversification, increasing accountability, quality control and other financial/nonfinancial limitations. These changes force HEIs to adopt the basic marketing principles.

Thus, Corporatization of contemporary universities with institutional autonomy is indispensable to expand their activities into the commercial domains traditionally occupied by private service industries. Like any other dynamic organization, universities must also accommodate and marketize according to geo political, socio economic, and info tech dynamics for sustainable survival (Hemsley-Brown and Oplatka, 2006) by offering carefully chosen and updated programs, supplemented by modern technology based value delivery system compatible to modern markets (Archibald and Feldman, 2008).

Transition of public universities from State dependence to other competitive funding sources is also quite apparent (Mundy, 2007; Thomson, 2002), while facing increasingly complex social needs,

competition for human resources, deregulations, raised accountability and escalating costs (Alexander, 2000).

2.2. Scenario of higher education (HE) in Pakistan

In Pakistan, HE is in practice at three levels, i.e. university affiliated degree colleges; degree awarding institutions; and public/private universities (Khan et al., 2010).

The higher education institution (HEIs) in Pakistan are going through serious academic crises besides serious challenges in terms of strategic planning (Waheed, 2011) and consistently declining performance (Nayyar, 2012). Not even a single university in Pakistan, is recognized as a world class university (Khuwaja et al., 2017) as declared in "National Education Policy 2009-2015" report. The pedagogical limitations, limited access, poor quality, tilt towards liberal arts, inefficient use of resources, lack of university industry linkage, weak research base, inadequate student support services, obsolete curricula, low recovery of cost and underfunding are the prominent areas of concern in higher education (HE) sector of Pakistan (Akhtar and Kalsoom, 2012; Haider, 2008). Central Intelligence Agency (CIA) World Fact book sheet declares Pakistan, in the South Asian region, as the lowest spending country on education proportionate to its GDP.

The "five consecutive education policies of 1970, 1972, 1979, 1992 and 1998, along with the eight Five Year Plans" badly failed for HE revival in Pakistan (Nayyar, 2012). Later on, although higher education (HE) in Pakistan was better steered towards market oriented transformation through huge reform initiatives, yet without satisfactory consequences HE sector's performance (Nayyar, 2012; Khuwaja, 2018). Even after seven decades of independence, only 16.2% education participation rate by the 17-23 years age group is relatively much lower in Pakistan, compared to around 40-percent in developed countries in the region (Khuwaja et al., 2017; Hoodbhoy, 2009). In Pakistan, public universities produce around 75% of graduates, where, education quality is seriously questionable, while the quality education appears in the for profit private universities, i.e. hardly affordable for common man (Ibad, 2017). Global Education Digest in 2009, reports that till 2007, only 6.3% of total population qualified to graduate (UNESCO, 2010). By 2015 and by 2020 Pakistan plans to increase this figure to 10% and to 15% respectively. This situation in Pakistan signifies market orientation (MO) for public universities as well (Khuwaja et al., 2017).

2.3. Resource based theory (RBT): The underpinning phenomenon

A theory is a well-established explanation about links/associations among events/incidents. It is a story about why certain actions, events,

compositions and judgments occur (Vera and Crossan, 2004; Crossan et al., 1999).

This study primarily bears its footings on the Resource Based Theory (RBT) (Rubin, 1973; Wernerfelt, 1984; Barney, 1991) which suggests that the above average organizational performance stands on its “valuable rare inimitable non substitutable” (VRIN) resources (Ozkaya et al., 2015; Algarni and Talib, 2014; Zaifuddin, 2010). RBT is a parsimonious theory, unifying multiple theoretical perspectives in a single framework (Kozlenkova et al., 2014; Mahoney and Pandian, 1992). Only in last one decade (in marketing research studies alone), a 500% growth in use of RBT testifies its strength as an underpinning paradigm (Kozlenkova et al., 2014). Although RBT was primarily developed and tested at the firm level analysis, yet the extensions or adaptations for applying RBT beyond organizational unit of analysis is also apparent in pertinent literature (Kozlenkova et al., 2014; Samaha et al. 2011; Bhatnagar and Biswas, 2010; Alvarez and Busenitz, 2001).

Hence, recognized as the VRIN organizational level resources, the market orientation (MO) also fits the RBT criterion (Ahmed and Othman, 2017; Kozlenkova et al., 2014; Algarni and Talib, 2014; Ketchen et al., 2007; Menguc and Auh, 2006). It is however contended that the level of deriving competitive advantage based on MO, will highly depend upon configuration of available organizational resources in a unique manner (Ozkaya et al., 2015; Zaifuddin, 2010). Besides that, the heterogeneity of the resources across the organization is also the primary condition of RBT (Alvarez and Busenitz, 2001; Barney, 1991).

Finally, it is important to notice that although RBT has also been criticized to be tautological and static in nature (Conner, 1991) yet the critics is successfully declined by Hult et al. (2005) and Ketchen et al. (2007).

2.4. Organizational performance (OP) in general

The literature generally portrays OP in several ways. It is normally considered as a two sided construct i.e. objective performance (measured through financial scales), and judgmental performance (measured through service quality and customer satisfaction), whereby the superior judgmental performance is indispensable for superior objective performance (Shoham et al., 2006; Agarwal et al., 2003).

2.5. University performance (UP)

The “achievement level of output goals” in terms of knowledge creation/dissemination by a university can be used to describe UP, such as the qualified employable graduates, research output and the other products and services (Graves, 2011; Boden and Nedeva, 2010). University of Florida emphasized that the student performance (during/after their education) is the true reflector of UP.

As a basis for performance assessment, the usage of performance indicators (PIs) is essential. PIs such as teaching, research and funding among others can help monitor the fundamental practices in higher education institutions (HEIs) (Asif and Searcy, 2014; Asif et al., 2013). Based on certain studies, the Algarni and Talib (2014) suggested a set of four criteria to measure UP such as, teaching (Cabrera et al., 2001), research (Hemsley-Brown and Oplatka, 2010), graduate employability (Boden and Nedeva, 2010; Graves, 2011; Mason et al., 2009; Storen and Aamodt, 2010) and institution prestige (Kuster and Aviles-Valenzuela, 2010). A summary of the key themes in the research on performance measurement in higher education is provided in Table 1.

Thus, narrowing down to the scope of the underlying study, the operational definition of UP has been adopted from the work of Caruana et al. (1998, 1999), which has also been studied by Niculescu et al. (2016) and Khuwaja et al. (2015). Under this operationalization, the dimensions of university performance assessed are: the “overall performance”, “retention and recruiting of students” and “fund raising”.

2.6. Market orientation (MO): Conceptualization and measurement

MO was originally theorized as a long term organizational guiding philosophy, fundamentally developed in the enterprise context (Narver et al., 2004; Caruana et al., 1998; Narver and Slater, 1990; McGee and Spiro, 1988; Webster, 1988; Felton, 1959). However, the differing set of objectives in noncommercial organizations may vary to accommodate the concept of MO (Kotler, 1977). With the basic notion of customer as a pivotal focus of organization, the “marketing concept” provides a philosophical foundation of MO (Pantouvakis, 2014; Akonkwa, 2009).

In its original literature, MO is the cultural phenomenon that develops effective organizational behaviors, significant for creating superior customer value and superior organizational performance for a “sustainable competitive advantage” created through the organization wide actions of information generation, broadcasting and market responsiveness through intelligence (Kohli and Jaworski, 1990; Narver and Slater, 1990). Majority of previous research has exclusively attended MO with managerial perspective i.e. argued to be myopic, neglecting the fundamental role of customers in value creation (Hashim and Rahim, 2011; Deshpandé et al., 1993).

MO being a cultural phenomenon, as attributed to Narver and Slater (1990) with its three components “customer orientation; competitor orientation; and inter functional coordination” tap a similar domain endorsed by Kohli and Jaworski (1990) as “intelligence generation, dissemination, and responsiveness” (Cadogan and Diamantopoulos, 1995; Cadogan et al., 1999).

Table 1: Review of performance indicators in higher education

Author	Theme of studies on performance indicators
Asif (2015)	Top three performance benchmarks i.e. Knowledge creation, Operational excellence, Stakeholder satisfaction.
Algarni and Talib (2014)	Four performance dimensions are teaching, research, graduate employability, institution prestige.
Cao and Li (2014)	Three performance dimensions include academic quality, administrative quality and relationships quality.
Asif and Searcy (2014)	Classification of PIs based on research, teaching, service, and financial performance.
Randheer (2015), Brochado (2009)	Six dimensional tool, for measuring performance namely, non-academic aspects, academic aspects, institutional reputation, approachability, program issues and students' needs.
Asif and Rauf (2013)	Performance assessment based on relationship of Customer and supplier. The Education Quality Models developed.
Bedggood and Donovan (2012)	Student satisfaction as the best performance indicator
Ma and Todorovic (2011)	Job satisfaction based on Faculty members' degree of MO
Webster and Hammond (2011)	Overall performance
Hemsley-Brown and Oplatka (2010)	High quality of Research and teaching performance
Kuster and Aviles-Valenzuela (2010)	Reputation, research and employability
Flavián and Lozano (2007)	Success in teaching and Research activities
Bratti et al. (2004)	Four aspects of PIs compatible to the standard developed by higher education funding council England (HEFCE); a) Access and participation, b) Retention and progression, c) research and (d) employability.
Agarwal et al. (2003)	A two dimensional performance construct. (1) Objective performance (measured with financial scales), (2) Judgmental performance (measured with service quality and Student satisfaction)
Cruickshank (2003)	Total quality management to create effective and efficient business processes, with continuous improvements at all organizational levels.
Ball and wilkinson (1994)	Internal, external, operational categories of PIs

Although, in business context, the two extensively used measures of MO labeled as MARKOR (Kohli and Jaworski, 1990) and MKTOR (Narver and Slater, 1990) appear to be theoretically comprehensive, yet both these scales proved to be inappropriate to measure MO in higher education context, as they might lack the capability to internalize the nature of university goals (Niculescu et al., 2016; Zebal and Goodwin, 2012). Thus, Hampton et al. (2009) developed and validated a more context specific measure of MO, labeled as UNIVERSITY MARKOR, by adapting from the original works of Kohli and Jaworski (1990) and Caruana et al. (1998, 1999). UNIVERSITY MARKOR was further validated and empirically proved to be relatively a more appropriate and context specific measure of MO for universities (Hampton et al., 2009; Khuwaja et al., 2017; Niculescu et al., 2016).

2.7. Need for adoption of market orientation by universities

Plenty of literature proposes market orientation (MO) as the best guiding philosophy and a unique organizational resource for higher education institutions (HEIs) to secure sustainable competitive advantage (SCA) (Khuwaja et al., 2017; Algarni and Talib, 2014; Niculescu et al., 2016; Zebal and Goodwin, 2012; Hashim and Rahim, 2011; Hampton et al., 2009; Duque-Zuluaga and Schneider, 2008). Universities have already been using marketing activities in one form or another for a more competitive pursuit of “diminishing funds, competent staff/students and other supporting stake holders” (Schmid, 2004; Herman and Renz, 2004), yet they don’t admit it officially (Camelia and Dorel, 2013).

Although, numerous studies have discussed and demonstrated applicability of MO to higher education (HE) since late sixties (Kotler and Levy, 1969) till recent literature (Khuwaja et al., 2017; Algarni and Talib, 2014; Niculescu et al., 2016; Hashim and Rahim, 2011; Hampton et al., 2009), yet the empirical research has not paid enough attention to applications of MO to universities (Algarni and Talib, 2014; Niculescu et al., 2016; Hashim and Rahim, 2011; Hampton et al., 2009).

MO has enough grounds to be effectively adopted in higher education (Zebal and Goodwin, 2012; Akonkwa, 2009). A higher degree of university MO is associated with more non-government fund generation capacity (Camelia and Dorel, 2013). MO also allows universities raise their student enrollment level and alumni satisfaction resulting in better corporate relationships and open market opportunities (Webster et al., 2010). University MO also leads to effective teaching/research activities (Flavián and Lozano, 2007), raising market perception and corporate image of respective university, for ultimate SCA (Voon, 2008), especially for government funded universities, that are much less effective/responsive than the private sector market oriented universities (Mitra, 2009).

However, it is imperative that as a powerful resource to compliment UP, the universities need to adopt ‘context specific MO’, rather than the traditional/enterprise based MO due to their varying objectives and knowledge based structure (Hampton et al., 2009; Hashim and Rahim, 2011; Khuwaja et al., 2017; Niculescu et al., 2016; Zebal and Goodwin, 2012). Table 2 presents a quick review of past studies regarding HE MO.

So far as the study of market orientation in (universities of) Pakistan is concerned, there is no such effective research endeavor evidenced in

literature besides Ghani and Mahmood (2011) and Malik and Naem (2009) which are all beyond the scope of HE, necessitating this study under consideration. Thus, in the context of universities in Pakistan, several relevant studies can be guiding for the underlying study such as: Khuwaja et al. (2015), Hashim and Rahim (2011), Padanyi (2001), Hasan et al. (2009), Niculescu et al. (2016), and Algarni and Talib (2014).

2.8. Market orientation (MO) and organizational performance (OP) relationship

Since early nineties, a clear evidence can be produced in literature regarding MO-OP relationship (Narver and Slater, 1990; Caruana et al., 1999; Hashim and Rahim, 2011; Algarni and Talib, 2014; Latif et al., 2016). MO offers a unidirectional focus for all the business endeavors by every individual/department, for superior customer value, leading to higher employee morale with the ultimate superior OP (Agarwal et al., 2003).

MO is an effective organizational tool to secure a competitive advantage (Zebal and Goodwin, 2012; Morgan et al., 2009), better service innovation (Ordanini and Maglio, 2009), escalated level of commitment as in the public sector (Dwairi et al., 2012; Caruana et al., 1999), progressive returns on investment for firm titleholders (McNaughton et al., 2002), and an ability of firm to introduce increased number of new products successfully (Narver et al., 2004).

Even the universities with higher degree of MO, can attract more non-government funding as well as more competent students/staff besides better corporate relations due to satisfied alumni (Webster et al., 2010), effective teaching/research activities (Flavián and Lozano, 2007) leading to a superior university image (Voon, 2008). Furthermore, MO crops the boosted leadership capabilities (Narver et al., 2004; Narver and Slater, 1990). Hence, the significance of a MO is vital to every facet of any modern organization/universities (Padanyi, 2001).

Hence based on evidence sought from previous empirical evidence, this study hypothesizes that:

H₁: Market orientation has a significant effect on university performance.

Pertinent literature however discerns that when tested through their individual dimensions, the significant relationship between universal variables (i.e. MO-UP) may appear to have noticeably deviated findings, especially under different contextual frames of time/area (Umrani, 2016; Ozkaya et al., 2015; Niculescu et al., 2016; Cheng and Krumwiede, 2012; Zaifuddin, 2010; Zahra, 1993). Hence, based on literature support, the following sections briefly describe (and hypothesize) how the OP is related to the individual dimensions of MO.

2.9. Relationship between the administration leadership (ADML) and the organizational performance (OP)

Plenty of literature since 1990's spotlights "leadership and its organizational effectiveness (García-Morales et al., 2008; Bryman, 2007; Benoit, 2005; Marks and Printy, 2003; Winter and Sarros, 2002; Evans, 2001; Blase and Blase, 1999; Leithwood, 1995; Leithwood and Jantzi, 1990; Leithwood et al., 1994) among many others.

Leaders are pivotal to organizational processes of developing effective structures and cultural ethos, necessary for organizational success (Kavanagh and Ashkanasy, 2006). Leadership stimulates the organizational absorptive capacity for new knowledge to accommodate organizational structure and elevate developmental investment for high performance (Van den Bosch et al., 1999).

For soliciting sustainable competitive advantage (SCA), the contemporary university leaders must exercise the blend of collegiality ethos with modern, business-like approach i.e. highly market responsive (Davies et al., 2001). Silins et al. (2000) and Heck et al. (1990) confirmed significant effects of 'principal's instructional leadership' on the overall student engagement. Effective principal's leadership capacity accentuates teachers' conscientiousness and accountability for the desirable change (Louis, 1994).

While the school head as a transformational leader, helps teachers execute a kind of collaborative leadership for a mutual learning phenomenon. Such collaborations have been reported to result in constructive transformation in the tutorial practices (Blase and Blase, 1999).

Academic leader's open communication and encouragement for participative culture is an important determinant of trust (Murry and Stauffacher, 2001), with significant impact on research output of a university. School leadership with mentoring capabilities has a special significance in university settings (Bryman, 2007; Benoit, 2005)

Transformational leaders usually generate higher organizational performance than transactional leaders. With a better capacity to stimulate transmission of explicit and tacit knowledge in their followers, transformational leaders can better secure sustainable competitive advantage (Hurley and Hult, 1998). They can better exhibit their professional paths, enabling others with a greater task liberty, allowing their teams for better intellectual decisions based on their tacit knowledge, whereby tacitness in itself is a source of SCA (Sarros et al., 2002; Nonaka and Takeuchi, 1996).

Resources abundance is an important consequence of transformational leadership along with the raised motivation and improved academic productivity of colleagues through increased awareness of organizational goals and stimulation to surpass self-interest for the sake of the organization (Leithwood et al., 2012; Marks and Printy, 2003).

Niculescu et al. (2016) found administration leadership to be significantly related to university performance, which is an overlooked component into MO-scales even in business sectors. For sustainable survival of universities, nurturing of academic leaders is indispensable (Davies et al., 2001). Although institutional heads have been there

since decades but the research on their leadership impact on university performance is a piece meal.

Hence based on above discussion it is hypothesized that:

H_{1a}: There is a significant effect of administration leadership on university performance.

Table 2: Review of past studies on market orientation (MO) in the context of higher education (HE)

Study	Tool	Method/Sample	Country
Koris and Nokelainen (2015)	SCOQ (Student customer MO)	Survey from 300 students	Estonia
Khuwaja et al. (2015, 2017)	UNIVERSITY MARKOR (University market orientation)	A Conceptual study	Pakistan
Algarni and Talib (2014)	INMO and EXMO (internal/external MO)	Meta-analysis/Literature review	Saudi Arabia
Mainardes et al. (2014)	MO for multiple stakeholders	Literature review debate	Portugal
Niculescu et al. (2016)	UNIVERSITY MARKOR (University market orientation)	Survey from 300 faculty members	USA
Bellei and Cabalin (2013)	MO (Marke Orientation)	Case study of Chile	Chile
Felgueira and Rodrigues (2012)	IMO (Individual MO)	Teachers' Survey from public sector universities	Portugal
Camelia and Dorel (2013)	SERVEMO (service MO)	A conceptual study	Romania
Zebal and Goodwin (2012)	Refined MKTOR (University MO)	Survey of 134 teachers in 15 private universities	Bangladesh
Diaconu and Pandelică (2012)	MCMO (multiple constituency MO)	Extensive bibliographic Methodological study	Romania
Carlos and Rodrigues (2012)	IMO (Individual MO)	Country wide Survey from 86 professors.	Portugal
Hashim and Rahim (2011)	CDMO (Customer defined MO)	Survey from 300 university students	Malaysia
Rivera-Camino and Ayala (2010)	UMO (university MO)	University professors and researchers	Spain
Pavičić et al. (2009)	MCMO (multiple constituency MO)	Survey from faculties of 60 education institutions	Croatia
Hampton et al. (2009)	MARKOR (Market orientation)	Survey 120 professors	USA
Voon (2008)	SERVEMO (service MO)	588 senior students' survey	Malaysia
Duque-Zuluaga and Schneider (2008)	Conceptual Framework Proposed	A conceptual study	Europe
Deng and Hu (2008)	NMO (nonprofit market orientation)	Survey of 223 Nonprofit organizations	China
Caruana et al. (1999)	MARKOR (market orientation)	502 HoDs of public sector organizations	Australia and New Zealand
Buchbinder (1993)	MO for Universities	Conceptual proposition	Canada

2.10. Relationship between the advising and mentoring (AandM) and the organizational performance (OP)

Research focus on assessing academic advising as a source of student success is as earlier as that of classroom learning (Kelley, 2008). Academic advising can be traced back to 1870 into the initial elective system executed by Charles-Eliot the then Harvard President that required to advise students about the course options. Over past 140 years, academic advising has evolved and is commonly defined as a process to helps students develop professional, interpersonal, and academic success through a relationship with and the guidance of an advisor (Schroeder, 2012; Gordon, 2006). An extended form of advising, called mentoring is all about forming a lasting and evocative association with another person, mutual respect, effective teaching/learning and capitalization of each other's interpersonal skills (Salinitri, 2005; Wenger, 1998).

Advising has two basic categories: academic advising and developmental advising. The academic (traditional/prescriptive) advisor bridges the university student gap by sharing and facilitating the mutual expectations, roles and responsibilities by

clarifying simple 'Do's and Don'ts', which seldom allows the formation of a relationship (Schroeder, 2012). Whereas the developmental advising is a form of mentorship beyond the university boundary which forms a lasting bond between advisor and advisee to clarify and facilitate the students' overall academic and career success (Salinitri, 2005; Crookston, 1972). Initially taken from the groundbreaking work of Crookston (1972), several other studies have been the proponents of developmental advising as a preferred advising style (Grites and Gordon, 2009; Fielstein, 1994; Winston et al., 1982; O'Banion, 1994). Mentoring and advising has long been taken as an important process for persuading and nurturing the career ambitions of staff, and scholarly development of students in higher education (Charleston et al., 2014; Darwin and Palmer, 2009). Advising in universities is a strong lever in refining students' college experience and in supporting institutional performance regarding student retention and timely graduation because it helps universities to direct students' behavior for the desirable activities (Drake, 2011).

In higher education, mentoring has been linked to personal growth and contentment (Ehrich et al., 2004), career progression (Higgins and Kram, 2001)

boosted self-confidence (De Vries, 2005), mutual respect with lasting relationships (Salinitri, 2005; Wenger, 1998), higher rate of student retention (Lotkowski et al., 2004), greater organizational commitment (Payne and Huffman, 2005), elevated organizational performance (Niculescu et al., 2016), and increased research funding. University advising/mentoring is one of the greatest contributors to student retention. For determining student retention, the academic advising has been frequently ranked to be the next most important element of the college experience after instructional quality.

AandM is a means for universities to correspond with, and to ease students for successful individualized steering of their college experience, enabling them to better capitalize on campus resources, timely graduation and onward Career growth (Young-Jones et al., 2013; Schroeder, 2012). AandM is an effective tool for universities towards the consistent students' performance and their retention (Kelley, 2008). AandM, enables students' secure improved academic scores by means of perceived support, greater self-efficacy, enhanced study skills, and a higher sense of responsibility (Young-Jones et al., 2013). Niculescu et al. (2016) revealed the AandM as a significant predictor of overall university performance.

The idea of 'mentoring circles' is an effective mentoring mechanism which allows both, the mentors and mentees to capitalize on multiple perspectives, synergistic advising, multidimensional solutions to mutual problems facilitated by advanced discussions, knowledge creation, role clarity and enhanced commitment for organizational goals (Darwin and palmer, 2009; Ambrose, 2003).

AandM is fundamental to fulfill the higher education mission (Campbell and Nutt, 2008). It enables students to think critically about their academic and social roles and responsibilities as students. Academic advising engages students beyond their own world views, while acknowledging their individual characteristics, values, and motivations as they enter, move through, and exit the institution (Campbell and Nutt, 2008).

Unfortunately, the vital contribution of academic AandM is undermined in HE research. Hence, further investigation is needed to recognize the impact of academic advising on the student retention and the overall university performance. (Young-Jones et al., 2013; Schroeder, 2012). Henceforward, based on the literature support, this study hypothesizes that:

H_{1b}: There is a significant positive impact of the advising and mentoring and the university performance.

2.11. Relationship between the intelligence generation and responsiveness (IGandR) and the organizational performance

Revolution of information technology has shaken the foundations of value delivery system all around

including university, such as round the clock communication services, e-portals, distance learning and virtual courses besides other value propositions (Young, 2004).

The power of information capitalization (about customers, competitors and internal organizational affairs) for the better organizational performance has been significantly supported in literature in variety of contexts (Altuntaş et al., 2013; Candemir and Zalluhoğlu, 2013; Liu, 2013; Urde et al., 2013; Cheng and Krumwiede, 2012; Laforet, 2008; Todorovic and Ma, 2008; Ketchen et al., 2007; Menguc and Auh, 2006; Carrillat et al., 2004; Tokarczyk et al., 2007; Aldas-Manzano et al., 2005; Narver et al., 2004). In its earlier literature on market orientation (MO), the significant role of intelligence has been highlighted for better recognition and fulfillment of customer needs (Kohli and Jaworski, 1990), watching competitors' moves (Menguc and Auh, 2006; Peteraf and Bergen, 2003) and responding accordingly by the revised strategies to maximize customer value and gain competitive advantage (Slater and Narver, 1998).

Proactive exploitation of market intelligence keeps organizations ahead of other market players (Menguc and Auh 2006). Carrillat et al. (2004) emphasized on the ability of a business to make most of market based information for becoming market driving company which may even change the customer preferences. Such firms may redirect customer needs by offering prospect value proposition (Harris and Cai, 2002; Jaworski et al., 2000; Kumar et al., 2000). In a market oriented organization with effective market intelligence, the employees also have an increased sense of team-spirit, extracting enhanced level of their organizational commitment (Schlosser and McNaughton, 2009; Harris and Ogbonna, 2001). Numerous other studies also support the same argument about significance of effective intelligence system in the organizational set up (Candemir and Zalluhoğlu, 2013; Felgueira and Rodrigues, 2012; Niculescu et al., 2016).

In the context of higher education (HE), few studies endeavored to examine the implications of intelligence generation and response dimension of MO with supporting findings (Khuwaja et al., 2017; Niculescu et al., 2016). Niculescu et al. (2016) found a significantly positive effect of intelligence generation and responsiveness on overall university performance. Hashim and Rahim (2011) studied the same construct with the students' point of view and extended the similar results. Yet 'the role of information generation and its use in the HE-context is yet emphasized to be investigated further (Algarni and Talib, 2014).

Thus, based on the literature support, this study hypothesizes that:

H_{1c}: There is a significant positive impact of the intelligence generation and responsiveness and the university performance.

3. Methodology

3.1. Sample and data collection

Based on support from pertinent literature (Poole, 2017; Mokoena and Dhurup, 2016; Felgueira and Rodrigues, 2012; 2015; Niculescu et al., 2016; Zebal and Goodwin, 2012; Hemsley-Brown and Oplatka, 2010; Rivera-Camino and Ayala, 2010; Mitra, 2009; Hampton et al., 2009; Oplatka and Hemsley-Brown, 2007; Flavián and Lozano, 2006; 2007; Oplatka et al., 2002), the sample for present study is comprised of university teachers (and administrators) from five divergent, the largest and the oldest public sector universities of Sindh province, Pakistan, housing more than 50% of population of interest. Sindh is socio economically the most vibrant province, with the country's largest/well equipped sea port, hosting huge diversity of population from miscellaneous strata/clusters.

According to Krejcie and Morgan (1970) the required sample size for this study turns out to be 340 from the given population of 2902. Additionally, due to huge variations (40% -70%) in the response rate from university faculty in Pakistan (Khalid et al., 2012; Akbar and Akhter, 2011; Ahmad and Shahzad,

2011; Nawab and Bhatti, 2011; Shahzad et al., 2008), this sample size of 340 was further added by 40%, making it to a total sample size of 476 to account for any uncooperative respondents and any unusable returned questionnaires as suggested by Salkind (1997). Table 3 presents details about total population and proportionate sample from each university.

For this study, systematic random sampling was applied to carefully collect cross sectional quantitative data was collected during April 2016, by self-administrating 476 questionnaire (Sekaran and Bougie, 2016), whereby every sixth respondent was randomly selected/contacted from a list of 2902 population members, generated through respective administration sections and heads of departments from each university (Sekaran and Bougie, 2016). In case of unavailability of every sixth respondent of the study, the participant next to sixth and so on was contacted (Sekaran and Bougie, 2016). To ensure the highest possible response rate, a regular follow up was ensured through personal visits and telephone calls/short messages (Silva et al., 2002; Traina et al., 2005). Ultimate number of filled questionnaires collected back stood 381, out of which 369 were usable, after discarding 12 due to incompleteness. Respondent details are presented in Table 4.

Table 3: University wise percentage of population and required proportionate sample size

Name of University	Faculty members in each university (Population)	Population % from each university	Proportionate number of Sample size
University of Sind, Jamshoro	671	23%	109
University of Karachi	826	28%	133
Shah Abdul Latif University, Khairpur	205	7%	33
Mehran University of Engineering and Technology, Jamshoro	419	15%	72
Liaquat University of Medical and Health Sciences, Jamshoro	785	27%	129
Total	2906	100%	476

Table 4: Demographic characteristics of the respondents

Characteristics	Frequency	Percentage
University		
Liaquat University of Medical Sciences	93	28.0
Mehran University of Engineering and Technology	45	13.6
Sind University	76	22.9
Karachi University	94	28.3
Shah Abdu Llatif University	24	7.2
Job title		
Teacher	280	84.3
Teacher and Administrator	52	15.7
Gender		
Male	209	63.0
Female	123	37.0
Respondents' Age		
30 years and below	106	31.9
31-40 years	111	33.4
41-50 years	72	21.7
51-60 years	37	11.1
Above 60 years	6	1.8
Qualification		
Bachelors	28	8.4
Masters	174	52.4
Ph.D.	130	39.2
Work Experience		
10 years and below	174	52.4
11-20 years	88	26.5
21-30 years	42	12.7
31-40 years	26	7.8
41-50 years	2	.6

3.2. Measurement scales

Scales to measure the constructs of interest were adapted from pertinent literature (Caruana et al., 1998; 1999; Kafetzopoulos and Psomas, 2015; Liu et al., 2002). These scales are extensively developed in various contexts and have been particularly validated to be relatively more appropriate and reliable in higher education settings (Khuwaja et al.,

2017; Khuwaja, 2018; Niculescu et al., 2016). Before data collection, the researchers further confirmed the satisfactory reliability/validity of the given scales. All the constructs were measured using a five point Likert scale, whereby 1 denotes strongly agree and 5 denotes strongly disagree. Summary of measurement scales is provided in Table 5.

Table 5: Summary of measurement scales

Variables (Measurement Tool)	Number of items	Reliability/Validity			Literature Source
		Previous studies	Pilot study	Main study	
PERFORMANCE (University performance)	13-items	AVE>0.5 CR>0.7 α >0.89	AVE>0.6 CR>0.9	AVE>0.6 CR>0.8 α >0.8	(Caruana et al., 1998; 1999)
MARKET ORIENTATION (UNIVERSITY MARKOR)	22-items	AVE>0.5 CR>0.7 α >0.9	AVE>0.5 CR>0.7	AVE>0.5 CR>0.9 α >0.8	(Hampton, 2007)
INNOVATION (Innovation; Entrepreneurial Orientation)	12-items	AVE>0.5 CR>0.7 α >0.8	AVE>0.5 CR>0.9	AVE>0.5 CR>0.9 α >0.9	(Kafetzopoulos and Psomas, 2015; Liu et al., 2002)

4. Results and analysis

4.1. Hypothesis testing

Structural equation modeling (Wold, 1985) was deployed to examine the hypothesized relationships. Therein, partial least squares (PLS) approach was applied for data analysis using Smart-PLS-3.0 software (Ringle et al., 2015). This approach performs bootstrapping procedures to feature the significance level for loadings and paths coefficients (Hair et al., 2014; Hulland, 1999) for the tested relationships. PLS path modeling approach is widely used in academic research studies (Hair et al., 2014). The PLS path modeling proceeds in two stages, popularly known as measurement model and structural model.

4.2. Measurement model assessment

Prior to testing hypothesized relationships, the reliability; convergent validity and discriminant validity were inspected as shown in Table 6 that all the loadings of retained 33 second order items (and 6 first order items) were higher than nominal threshold of 0.5 (Barclay et al., 1995; Chin, 1998, 2010) except two items (MO_aM3; UP_op1) that were deleted before structural model assessment as per the criteria suggested by Hair et al. (2014) and Chin (1998, 2010). Notably, every constructs' average variance extracted (AVE) also exceeded the suggested threshold (Bagozzi and Yi, 1988). Similarly, scores concerning composite reliability and Cronbach's Alpha were also higher than the recommended value (0.70) (Bagozzi and Yi, 1988; Hair et al., 2013). These scores assure the convergent validity. Table 6 indicates that the study has attained significant scale reliability and validity.

Accordingly, Table 7 details the discriminant validity. In views of Fornell and Larcker (1981), each

construct should have a greater square root of AVE, compared to the correlation within and with other constructs to ascertain the discriminant validity. Fornell (1994) also indicated the same rubrics about assuring discriminant validity. Table 7 shows that all constructs have met the criterion of discriminant validity.

4.3. Structural model

Structural model was assessed in two stages (i.e. first order and second order), where the standard bootstrapping procedure (with 5000 bootstrap samples and 332-cases) was employed to determine the significance of the path coefficients (Hair et al., 2012; 2014; 2016; Henseler et al., 2009). Table 8 and Fig. 1 further summarize the results for hypothesis testing.

Table 8 highlights the results of hypotheses testing as depicted in Fig. 1. Although the empirical results evidently outline a positive relationship between the market orientation (MO) as a universal construct and the criterion variable i.e. university performance (UP) with $\beta=0.38$, $t=7.97$, $p<0.00$, i.e. significantly supporting H₁. While the MO-dimensions offer interesting findings in relation to UP, whereby, the empirical findings for H_{1a} ($\beta=-0.033$, $t=0.544$, $p=0.293$) don't support the hypothesized positive relationship between administration leadership and UP, i.e. discordant to majority of previous findings discussed earlier. At the same time the hypothesized positive relationship of remaining two dimensions of MO i.e. "Advising and mentoring" as well as "Intelligence generation and responsiveness" with the UP are substantially supported by the respective empirical results ($\beta=0.205$; $t=3.728$, $p<0.001$) and ($\beta=0.348$; $t=7.790$, $p<0.001$).

Table 6: Standardized loadings, AVE, composite reliability and Cronbach's alpha

Second order constructs	First order constructs	Items	Standardized Loadings	AVE	Composite Reliability	Cronbach's Alpha
Market orientation	Administration Leadership (MO_adL)	MO_adL	0.777	0.565	0.909	0.895
		MO_aM	0.589			
		MO_inR	0.863			
		MO_adL1	0.736			
		MO_adL2	0.761			
		MO_adL3	0.834			
		MO_adL4	0.725			
		MO_adL5	0.832			
		MO_adL6	0.804			
		MO_adL6	0.804			
Market orientation	Advising and mentoring (MO_aM)	MO_aM1	0.697	0.613	0.905	0.873
		MO_aM2	0.799			
		MO_aM4	0.765			
		MO_aM5	0.688			
		MO_aM6	0.707			
		MO_inR1	0.653			
Market orientation	Intelligence generation and responsiveness (MO_inR)	MO_inR2	0.725	0.510	0.912	0.893
		MO_inR3	0.723			
		MO_inR4	0.700			
		MO_inR5	0.713			
		MO_inR6	0.738			
		MO_inR7	0.772			
		MO_inR8	0.689			
		MO_inR9	0.691			
		MO_inR10	0.728			
		University Performance	Funding (UP_F)			
UP_RR	0.695					
UP_op	0.824					
UP_F1	0.721					
UP_F2	0.768					
Recruitment and Retention (UP_RR)	UP_F3		0.779	0.597	0.881	0.831
	UP_F4		0.779			
	UP_F5		0.813			
	UP_RR1		0.817			
	UP_RR2		0.824			
University Performance	Overall Performance (Upon)	UP_RR3	0.733	0.629	0.871	0.803
		UP_op2	0.776			
		UP_op3	0.807			
		UP_op4	0.839			
		UP_op5	0.747			

Table 7: Latent variable correlations and square roots of average variance extracted

Latent Variables	Advising and mentoring	Administration Leadership	Intelligence generation and responsiveness	University performance
Advising and mentoring	0.7296			
Administration Leadership	0.4195	0.7826		
Intelligence generation and responsiveness	0.2720	0.4299	0.7125	
university performance	0.2846	0.2055	0.3744	0.7804

Note. Entries in the boldface represent the square root of the average variance extracted

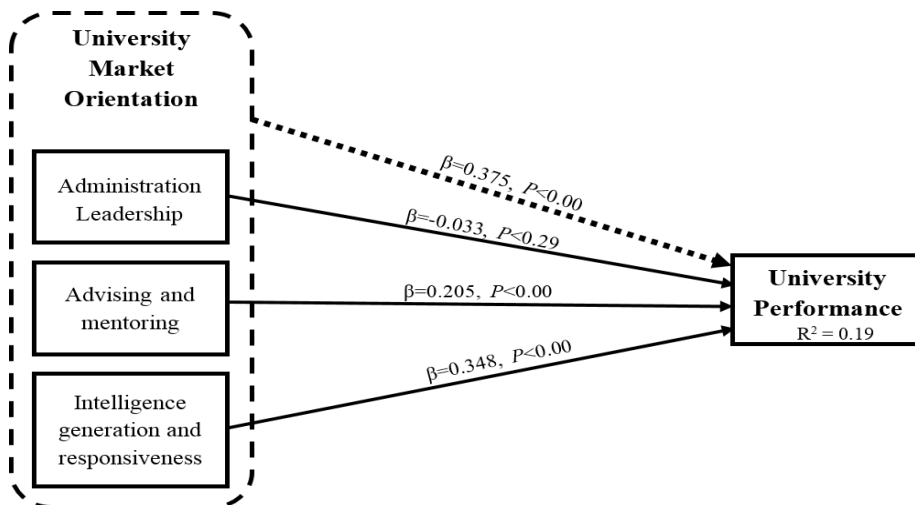


Fig. 1: PLS output

Table 8: Structural model assessment and hypothesis testing results

Hypotheses	Relationships	Beta	SE	T-value	P-value	Sig.	Decision
H ₁	MO → UP	0.375	0.047	7.972	0.000	p<0.001	Supported
H _{1a}	MO_adL → UP	-0.033	0.060	0.544	0.293	not sig.	Not-Supported
H _{1b}	MO_advM → UP	0.205	0.055	3.728	0.000	p<0.001	Supported
H _{1c}	MO_intR → UP	0.348	0.045	7.790	0.000	p<0.001	Supported

5. Discussion

The core motivation of this study was to examine the role of market orientation (MO) and the context specific dimensions of MO in university performance (UP) of the public higher education institutions (HEIs) of Pakistan. In today's turbulent environment, it is quite difficult for Pakistani universities to secure self-sustainable survival in international markets without being innovatively market oriented (Akhtar and Kalsoom, 2012; Haider, 2008). Therefore, the findings of this study can be forwarded as recommendations for the regulatory authorities and policy makers of higher education (HE) in Pakistan (i.e. HE Commission; HE Ministry; Rectors/Chancellors of universities) to incorporate MO as a powerful resource for fostering UP.

Findings of the PLS-analysis have advocated support for all hypothesis except H_{1a}. Results for H₁ revealed significant positive influence of the universal construct of MO on UP, which highlights MO being a crucial resource for improving UP, as viewed by the teachers of public HEIs of Pakistan. Hence, this result is in correspondence with the resource based theory (Wernerfelt, 1984; Barney, 1991) and pertinent past studies on MO UP assessment (Khuwaja et al., 2017; Koris and Nokelainen, 2015; Algarni and Talib, 2014; Felgueira and Rodrigues, 2012; Diaconu and Pandelică, 2012; Hashim and Rahim, 2011).

While, certain studies discern that no matter how significant relationship of the universal/generic variables has been reported in past, there may however be a deviation of given relationships when tested through its individual dimensions in different points in time and area (Umrani, 2016; Cheng and Krumwiede, 2012). Meanwhile, the MO studies like Ozkaya et al. (2015), Huhtala et al. (2014), Niculescu et al. (2016), and Zaifuddin (2010) also signified for the individual contributory value of each MO-dimension. Hence, this study has further endeavored to assess the individual impact of MO-dimensions on UP as well.

Although, hypothesis H_{1b}, and H_{1c} held strong support from PLS-path modeling results, yet, despite enough literature support for significant role of administration leadership (ADML) in organizational performance (García-Morales et al., 2008; Bryman, 2007; Amey, 2006), the empirical results for H_{1a} ($\beta=-0.033$, $t=0.544$, $p=0.293$) couldn't empirically support H_{1a} to materialize the significant positive relationship between ADML and UP. The insignificant result regarding H_{1a} is also in line with previous findings (Poortvliet et al., 2015; Menguc et al., 2013; Karatepe and Olugbade, 2009; Wu et al., 2013).

It implies that university teachers in Pakistan don't accentuate the present structure of ADML for a truly market oriented university there. One possible reason for this might be the argument by Aziz et al. (2014) which also discloses the lack of cognitive and political skills among the university leaders. Hoodbhoy (2011) also raised similar issue mentioning lack of enough training for administrators of the public universities. Hoodbhoy (2011) further emphasized on transfer of university administration to more experienced and professional administrators. Moreover, in Pakistan, the poor university ADML, is blamed for underutilization of the allotted development funds (Usman, 2014).

Hampton et al. (2009) attributed the effective application of MO in universities through professionalism of faculty and administration leaders. Thus university CEOs of (Rector, Vice Chancellor or President) must be appointed through proper channel with an open search process (Usman, 2014), but the recent exploratory sort of interviews (March and April 2016) from vice chancellors and institutional/faculty heads (for identification of practical problems in Pakistani universities) identified the issues of political appointments of university leaders, incapable of driving universities with market oriented attitude. This notion is also supported by pertinent literature (Usman, 2014).

The factors causing the non-supporting results regarding H_{1a} may thus be overcome by "Leadership Excellence". It requires that appointment of Vice Chancellors/departmental heads must be led by 'Merit based Search Committees'. This will ultimately support the fulfilment of Pakistan Higher Education Commission Vision 2025.

One important conceivable explanation appropriate for this phenomenon may be pertinent to the job characteristics whereby, in some professions, the organizational members have specialist skills/experience pertaining to their assigned roles (Wu et al., 2013). Thus, in such instances, these professionals (teachers in case of universities) prefer working independently and recognize general administrators less appealing.

Similarly, a concept from leadership research might also justify H_{1a} results i.e. the notion of "leadership substitute" (Kerr and Jermier, 1978), whereby "certain organizational features and certain level employees can neutralize leadership impact" (Bryman, 2007). This concept is potentially significant within HE-context because when 'subordinates' have a professional orientation and a need for independence (both of which are arguably characteristics of academic staff) the impact of leader behavior will be neutralized (Kerr and Jermier, 1978).

This insightful finding is also in line with Yerkes-Dodson-Law of arousal and motivation (Teigen, 1994) which suggests the intake of individuals' motivation and inspiration works up to a certain level depictable on a bell curve. Thus, at a certain level, the motivating prospects starts getting weaker and less appealing. The imposed organizational leadership affects the self-confidence and competence of organizational members (Beehr et al., 2010; Deelstra et al., 2003) which as per the findings of current study can be seen as elucidating negative reactions from university teachers.

Hypothesis H_{1b} was nevertheless supported significantly ($\beta=0.205$; $t=3.728$, $p<0.001$), showing a significant positive relationship between the advising and mentoring (AandM) and the UP. These findings are compatible to Drake (2011) and Kuh et al. (2011) who considered advising in universities as a strong lever in refining students' college experience leading to improved student retention and timely graduation because it helps universities to direct students' behavior for the desirable activities. Campbell and Nutt (2008) also confirmed current findings regarding H_{1b} by asserting that academic advising is fundamental to fulfill the higher education mission. It enables students to think critically about their academic as well as social roles and responsibilities, ultimately converting themselves into responsible citizens as they enter, move through, and exit the institution.

As far as the students' mentoring is concerned, it has been linked to the students' personal growth and contentment (Schroeder, 2012; Ehrich et al., 2004), career progression (Higgins and Kram, 2001), boosted self-confidence (De Vries, 2005), mutual respect with lasting relationships (Salinitri, 2005; Wenger, 1998), higher rate of student success (Lotkowski et al., 2004), higher level of student engagement (Hughes et al., 2009) greater organizational commitment (Payne and Huffman, 2005), elevated organizational performance (Niculescu et al., 2016), and increased research funding. Darwin and Palmer (2009) emphasized on development of mentoring circles in the universities for long term group benefit. Hence, the university management should organize the system of AandM that may not only enhance the students' learning and satisfaction, but it may also entail several other benefits to the university itself.

Finding of this study regarding H_{1b}, is also in congruence with the resource based theory (Wernerfelt, 1984; Barney, 1991) because if utilized effectively, the AandM of students seem to play a vital role as a unique marketing resource in fulfillment of university mission through enhanced student satisfaction and retention. Hypothesis H_{1c} is also supported significantly by the empirical results ($\beta=0.348$; $t=7.790$, $p<0.001$), whereby a significant positive relationship between the intelligence generation and responsiveness (IGandR) and the UP was hypothesized and witnessed. This signifies that distinguished as an organizational resource, the vital role of IGandR in uplifting the UP has been highly

recognized and appreciated by university teachers in Pakistan.

Findings of this study regarding H_{1c} are in line with previous literature because the significant role of intelligence has been acknowledged since late 1990s for better recognition and fulfillment of customer needs, leading to overall organizational growth (Kohli and Jaworski, 1990). Even in HE-sector, the infotech revolution has shaken the foundations of customer value delivery system, such as 24/7 communication services for prospect query response, e-portals, and virtual courses among other services (Young, 2004; Tierney, 1998). While, market oriented organizations are also recognized to inculcate in employees (teachers) an increased sense of team-spirit (Schlosser and McNaughton, 2009).

This notion of significant IGandR-UP relationship assessed in this study also corresponds to the resource based theory (Wernerfelt, 1984; Barney, 1991) because in addition to previous literature, the current study has identified that IGandR is a significant organizational resource to supplement UP. The above discussion highlights that out of the four hypotheses (H₁, H_{1a}, H_{1b} and H_{1c}); three including (H₁, H_{1b} and H_{1c}) were found to be statistically significant and congruent with previous literature as well as with the pertinent theories. While in case of hypotheses H_{1a}, on one hand, firstly the lack of leadership skills in the university leaders and secondly the political appointments of the heads of HEIs in Pakistan appear to hinder this study from sufficient statistical support sought regarding H_{1a}, as justified earlier in detail. Thus, the ADML doesn't stand out to be the significant contributor to UP in Pakistan. Therefore, the HE regulatory authorities must take a serious notice of such state of-affairs regarding appointment of eligible vice chancellors/rectors based on open merit policy for ultimate desirable level of UP in Pakistan. On the other hand, the professional capabilities and skilled nature of teachers to fulfill their assigned roles also deem the supervisory role of administration leaders unnecessary (Wu et al., 2013), resulting in the perceived insignificance of ADML in universities.

As far as the empirical support for H_{1b} and H_{1c} is concerned, the relevant discussion above signifies that, in the knowledge based structure of HEIs, the university teachers perceive the two dimensions of market orientation i.e. AandM as well as IGandR to be the vital organizational resources, having a direct impact on UP. Hence, these two elements of MO must be adopted the universities of Pakistan, because the synergized effect of both the AandM and the IGandR would not only enhance the students' demeanor and retention but it would also augment the capability of the respective universities to learn consistently and stay proactive for a more innovative performance (Narver et al., 2004).

6. Contributions of the study

Present study has numerous contributions. It has further validated the context specific scale for

market orientation (MO) i.e. UNIVERSITY MARKOR and the university performance (UP) scale (Caruana et al., 1998; 1999) in the higher education (HE) settings of the developing country like Pakistan (Table 6 and Table 7). It marks a notable contribution by extending the applicability of given scales in other developing countries as well. The extended contribution of this study is the assessment of the impact of each individual dimension of MO due to the chance of notable deviation found in relationships of interest when tested through individual dimensions in different points in time and area (Umrani, 2016; Cheng and Krumwiede, 2012) and the distinctive contributory value of each MO-dimension (Ozkaya et al., 2015; Huhtala et al., 2014; Niculescu et al., 2016; Zaifuddin, 2010), as it was the case confirmed through empirical findings of this study, particularly with regards to H_{1a} , whereby, the administration leadership dimension of MO appears to have discordant finding in the context of public universities of a developing country like Pakistan i.e. in contrast to most of the previous literature. This ultimately enables the regulatory authorities to distinctively focus on the dimensions, most significant to the UP. Hence, this study has addressed notable gaps pertaining to UP in relation to each of the MO-dimensions. The underlying study empirically revealed that despite the administration leadership (ADML) relationship appeared very significant with UP in previous literature (García-Morales et al., 2008; Bryman, 2007; Benoit, 2005; Marks and Printy, 2003), yet, empirically found insignificant in this study i.e. also corresponding to previous studies (Poortvliet et al., 2015; Menguc et al., 2013; Karatepe and Olugbade, 2009; Wu et al., 2013), draws the attention of regulatory authorities to the inefficient leaders in public universities of Pakistan, soliciting for merit based appointment of competent VCs and Deans (Aziz et al., 2014; Usman, 2014; Hoodbhoy, 2011).

However, through the empirical findings regarding H_{1b} , the importance of advising and mentoring (AandM) dimension of MO has been highly signified empirically to contribute not only to the success of academic/cocurricular career of students (the core university customers) but it also ultimately enhances the overall UP, particularly in terms of student's attraction and retention (Niculescu et al., 2016). These findings are also consistent to previous studies (Schroeder, 2012; Hughes et al., 2009; Ehrlich et al., 2004; Darwin and Palmer, 2009).

Additionally, in relation to UP, the "intelligence generation and responsiveness" (IGandR) dimension of MO is also empirically substantiated in this study, which signifies that, distinguished as an organizational resource, the vital role of IGandR in uplifting UP has been highly recognized and appreciated by university teachers in Pakistan. Findings of this study regarding H_{1c} are also in line with previous literature because the significant role of intelligence has been acknowledged since late 1990s for better recognition and fulfillment of

customer needs, leading to overall organizational growth (Kohli and Jaworski, 1990). Even in HE, the infotech revolution has shaken the foundations of customer value delivery system, such as round the clock query response system, e-portals, and virtual courses among other services (Young, 2004). Several previous studies also confirm the given findings of this study regarding H_{1c} (Fang et al., 2014; Niculescu et al., 2016; Altuntas et al., 2013; Candemir and Zalluhoğlu, 2013; Liu, 2013; Urde et al., 2013; Mahrous and Kortam, 2012; Cheng and Krumwiede, 2012)

Moreover, the notion of significant relationship between "AandM UP; IGandR UP as well as between overall MO UP" recognized by this study is also in line with the resource based theory (RBT) (Wernerfelt, 1984; Barney, 1991) because in addition to previous literature, the current study has also identified the MO (and its dimensions) as the significant and unique organizational resources to supplement UP.

Additionally, this research is one of its kind that investigates the impact of MO (and its dimensions) on performance of public universities of some developing country. This study also contributes for considerable theoretical enhancement in pertinent literature by offering empirical confirmation regarding theoretical underpinning of RBT.

7. Conclusion and contributions

This research concludes that, practically, in the contemporary environment for higher education (i.e. characterized by info tech application, intensive competition, squeezed resources, and growing expectations by the multiple constituencies), not only the overall market orientation (MO) but its dimensions too, i.e. "advising and mentoring" as well as "intelligence generation and responsiveness" are very significant organizational resources to enhance the financial as well as non-financial performance of public universities of developing countries.

Moreover, the findings have also indicated that despite being pronounced as highly significant for university performance in previous literature, yet for a university to be truly market oriented, the present structure of administration leadership has been discarded by the university teachers in Pakistan, attributing it to the lack of cognitive and political skills among the university leaders, hence, requiring the pertinent authorities to ensure the merit based appointment and capacity development of university leaders (Vice Chancellors and deans).

This study draws managerial attention and offers practical implications by highlighting the overall perception and attitude of the university teachers with regard to market orientation (MO) practices of universities. In Pakistan, one of the top most objectives of the "national education policies" since 1998 and "Education for all initiative" is "increasing enrolment and retention and enhancing education budget". Findings of this study are very much in line with "Pakistan Higher Education Commission Vision

(PHECV) 2025”, which suggests that modern market based research and innovation practices are indispensable considerations for universities in Pakistan to achieve PHECV-2025 goals. Hence, the federal ministry of education may incorporate the findings of this study to synchronize the objectives of next “EFA-plan” in order to further facilitate “PHECV-2025” for better results.

While theoretically, this study has additional empirical evidence established on resource based theory (RBT) and extends the pertinent literature of RBT as well as OLT by further establishing that MO (and its dimensions) are the VRIN organizational resource/capabilities that bring in more organizational competence and competitive advantage for universities even in the context of developing countries.

Although the prime focus of this study is the service sector, particularly the public universities of Pakistan, yet the socio cultural and economic similarities also allow the generalization of current findings to the other developing countries, private universities and enterprise setups. Based on PLS path modeling results, and the detailed literature review, the list of beneficiaries of this study can be extended not only to the higher education administrating authorities and policy makers (i.e. Education Ministry Pakistan, HEC Pakistan, Chancellors, Vice Chancellors, Rectors and concerned Deans of universities); rather a number of other constituencies including:

1. Internal/external stake holders (i.e. students’ parents, legislators, donors, employers/ corporations and the overall public);
2. University staff and Students;
3. Researchers and scholars among others may also capitalize on the pertinent results of this study for better deciding on the choice of a particular university to coordinate and the level of necessary coordination by the respective stake holders.

8. Limitations and future prospects of the study

The limitations of this study could enable the future scholars enrich their empirical attempts on the topic respectively. Firstly, only teachers and administrators from (although huge ones, yet only a small fraction of) public sector universities i.e. from one developing country compose the sample of this study, limiting its generalizability to the whole population, globally or for commercial sector. Moreover, the long term causal inferences can’t be drawn due to cross sectional nature of this study. Furthermore, future analysis of criterion variable for this study, in relation to the predictor variables (other than used in this study) and the extended analysis of variables of this study in presence of some sort of mediation/moderation could enhance the confidence in MO UP direct relationship. Finally, a triangulation or a qualitative study by future

researchers may add more value to the findings of this quantitative study.

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