

# **The Impact of Dynamic Capabilities on Universities' Competitiveness Considering the Mediating Role of Organizational Culture: the case of Palestinian Universities**

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## **I. Introduction**

The fierce competition amongst organizations resulting from different factors such as technological advancement, globalization, economic cycles, laws and regulations, provide wider chances for new markets to emerge and hence create new business opportunities. The ongoing environmental changes can also pose dire threats on firms' survival and threaten their performance. In order to maintain competitiveness in the market place in today's rapidly changing economies, it has become pivotal for firms and organization to keep on track with all the updates in the related industries. This requires organizations to continuously consider the environmental changes, so that they can identify opportunities and at the same time mitigate the impact of potential threats. Authors contend that a firm's performance is determined by the external forces that firms focus on in creating and achieving competitiveness (Chandler, 1962; Porter, 1985). Others shed light on the internal factors of the firm as the primary forces (Barney, 1991; Grant, 1991; Teece et al., 1997).

Over the last decades, there has been a significant orientation towards the concept of dynamic capabilities. It has been employed in a variety of studies particularly to assess firm performance and competitiveness in the dynamic unstable market places. The concept of dynamic capabilities has drawn the attention of author in the field of strategic management, especially regarding the development of resources and capabilities (Teece et al., 1997; Ambrosini and Bowman, 2009; Wang and Ahmed, 2007). It has been argued that the resources and capabilities are the outcomes of the dynamic capabilities. Despite the growth of this concept, some arguments exist regarding its evolution. Many theoretical and empirical issues remain a source of debate (Barreto, 2010; Teece, 2014). Skepticism extends in terms of the process, outcomes, and the core competencies. The contributions to the organizations are reflected through the outcomes. Hence, dynamic capabilities are a set of processes firms pursue to alter the organizational capabilities to ultimately adopt to change. The educational sector, like any other sector is faced by a variety of challenges nowadays, so that universities place huge emphasis on building strategic plans, which enable the enhancement of their performance as well as the sustainable competitiveness. Traditional rigid strategies that universities pursue in today's environment are not sufficient; they can result in underperformance or the loss of competitiveness where higher education institutions are forced to leave the marketplace. This research contributes to the literature review in two aspects. The first is to examine the nature of the dynamic capabilities in the educational sector in the Palestinian universities, as the prior empirical findings are mostly derived from the studies that are mostly carried out in the high tech industry. The second aspect is that this research examines the indirect relationship mediated by the organizational culture; most previous studies focused on the direct relationship between the dynamic capabilities and competitiveness overlooking the indirect relation that is mediated by the organizational culture.

### **1.1 Dynamic Capabilities**

There is no universally accepted definition for the concept of DCs, the literature review is immersed in endless debates where authors define DCs through multiple conceptualizations ranging from activities, process, mechanism, components, resources and capabilities. Other authors exerted so much effort developing the definitions in the field. The lack of a precise definition introduces more aspects and sparks more complex debates. Fragmentation is widely seen in the theoretical grounding as a result. Despite the variability in describing the concept from different angles, there are some commonalities among the definitions. Coliss (1944) defined DCs as 'the capability to develop the capability that innovates faster or better'. Helfat (1997) presented a more accurate definition that distinguishes between ordinary capabilities and dynamic capabilities. He states

that DCs refer to ‘the subset of competences or capabilities which allow the firm to create new products and processes and respond to changing market circumstances. However, the original definition of DCs was presented by Teece et al. (1997) where they defined DCs as ‘the ability to integrate, build, and reconfigure internal and external competencies to address rapidly-changing environments’. Their definition explains the sustainable competitive advantage and therefore extends the RBV. Eisenhardt and Martin (2000) refined the Teece et al. (1997) definition by relating dynamic capabilities to the “The firm’s processes that use resources; specifically the processes to integrate, reconfigure, gain and release resources to match and even create market change”. Also, others like Zollo and Winter (2002, p. 340) propose that a dynamic capability “Is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness”. Zahra and George (2002) highlighted the advantages of the DCs and stated that, DCs are “change oriented capabilities that help firms redeploy and reconfigure their resource base to meet evolving customer needs and competitor strategy”. They argued that DCs are not abilities nor process, but rather a set of capabilities to match customer demand and competitor strategies routine (Zott, 2003). Some authors demonstrated DCs relation to ordinary capabilities; Winter (2003) stated DCs are ‘the capabilities that operate to extend, modify or create ordinary capabilities’. He proposed different role of DCs, by taking a position that zero-level capabilities- also referred to as ordinary or substantive capabilities (Eisenhardt and Martin,2000; Zahra et al., 2006) are concerned with day-to-day operations while higher level capabilities are needed to develop and modify them. According to (Teece et al., 1997), the capabilities are dynamic skills, continuous learning and development and gathering of skills developed by organizations, differentiating them from their competitors. Dynamic capability, therefore, is the organization's ability to build, integrate, or reconfigure operational capabilities, not directly, resulting in increased profitability, but also significantly affecting the performance of the operational capacity of the organization (Helfat and Peteraf, 2003).Some studies explained the impact of DCs on the competitiveness of firms and the competitive advantage. Wang and Ahmed (2007) took a behavioral approach to define DCs as ‘a firm’s behavioral orientation constantly to integrate, reconfigure, renew and create its resources and capabilities and most importantly, upgrade and construct its core capabilities in response to the changing environment to attain and sustain competitive advantage. Helfat et al.,(2007) linked DCs to RBV and defined them in terms of purpose not outcome; he stated that DCs are the capacity of an organization to purposefully create, extend, or modify its resource base. Barreto (2010) emphasized the value of DCs in the external environment, he stated that DCs are ‘the firm’s potential to systematically solve problem, formed by its propensity to sense opportunities and threats to make timely and market oriented decisions, and to change its resource base’. In a study exploring the impact of both DCs and ordinary capabilities on firm performance; Albashiti, (2016) defines the DCs as the timely capacity of a firm to “act” and “react” with the external environment, and hence timely reconfiguration and adaptation of resources and capabilities.

### 1.1.1 Conceptualizations of DCs

The concept of dynamic capabilities gained the great interest of researchers. Several articles discussed the impact of the dynamic capabilities on various business practices. Despite the fact that a rich body of work offers numerous conceptualizations of DCs and a concise and comprehensive definition of dynamic capabilities has not been reached yet. The following are different managerial practices form the conceptualization of DCs.

**Table 1: Conceptualizations of DCs.**

Sources	Conceptualization of DCs
Teece et al. (1997)	Coordination/integration, learning, and reconfiguration.
Eisenhardt and Marti (2000)	Resource integration, resource configuration, resource gaining and releasing
Teece (2007)	Sensing, seizing, reconfiguring/ transformation
Wang and Ahmed (2007)	Absorptive, adaptive and innovative capabilities
Alsos et al. (2007),	searching (variation), selection (evaluation) and routinization (execution)
Teece (2009)	Management of R&D, learning organization, product and process development, technology transfer, manufacturing, intellectual property, human resources
Bareto (2010)	Sensing opportunities, making timely-oriented decisions, changing the resource base
Alinaghian (2012)	Sensing, shaping, seizing, transformation
Li and Liu (2014)	Sense making capacity, timely decision making capacity and change implementation capacity
Wang et al. (2015)	Absorptive and transformative capabilities
Albashiti (2016)	Act capability, react capability
Arndt et al.(2017)	Learning, integration and transformation
Adopted by Author	Sensing, shaping, seizing, transforming

**Source:** Author

The Conceptualizations by Teece et al. (1997) refer to successful implementation of DCs stages as developing "corporate agility" which are clearly defined qualities that enable organizations to respond, quickly and efficiently, to any and all changes in their environments both externally and internally. The process starts through learning, promoting interactions for successful solutions and avoiding blind spot activities, building new assets like technology and capabilities and integrating them into business process, and ultimately transforming existing assets that depreciated. Teece's (2007) concept of dynamic capabilities essentially says that what matters for business is corporate agility: the capacity to (1) sense and shape opportunities and threats, (2) seize opportunities, and (3) maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets. Alsos et al., (2007) pointed out two approaches for DCs. Firstly; DCs are viewed as an evolutionary process of searching (variation), selection (evaluation) and routinization (execution), which means DCs are not seen as a capacity, but rather a set of capabilities embedded in the organizational processes. This approach agrees with routine innovation highlighted by Schreyögg and Kliesch-Eberl (2007). On the other hand, DCs are considered as organizational mechanisms and processes, that enable organizations to build, reconfigure, integrate, rearrange and delete resources and capabilities to monitor the changes of the competitive requirements. Hence, this vision focused on coordination, integration and learning (Alsos et al., 2007). This approach matches radical dynamization and integrative approach outlined by Schreyögg and Kliesch-Eberl (2007). Teece et al., (1997) highlighted that organizational processes are considered a category of DCs. Ambronisi and Bowman (2009) emphasize that the reconfiguration, leverage, learning and creative integration are the main processes that comprise the DCs. Reconfiguration refers to the "transformation and the recombination of assets and resources. Leverage involves "replication of a process or system that is operating at a respective business unit in another different or expanding the resource's value using it in a new domain, for example, applying an existing brand into new set of products" (Ambronisi and Bowman, 2009). Learning allows tasks to be done more effectively and efficiently as a result of experimentation and reflection on failure and/or success. The creative integration "refers to the ability of the organization to integrate their assets and resources, resulting in a new configuration of resources" (Ambronisi and Bowman 2009).

According to Teece (2007) sensing involves gaining knowledge; it requires learning and interpretation of all outside changes and emerging trends that pave the way for strategic orientation. He also argues that firms use "analytical system to learn and to sense, filter, shape and calibrate opportunities". Sensing can be understood as the "organization's ability to accurately detect changes in its competitive environment, including potential changes in technology, competition, customers and regulation" (Harreld et al., 2007, p. 24). That is, sensing refers to the identification of an opportunity (Teece, 2012), referring to the logic of corporate entrepreneurship (Hodgkinson and Healey, 2011). After detecting opportunities, the organization can turn it into products or services, logically following all paths, and this is the dimension of seizing (Teece, 2007). Seizing is the organization's ability to act on these opportunities and threats, to be able to take advantage of them, reconfiguring the tangible and intangible assets to meet new challenges (Harreld et al., 2007). That is, the set of resources and capabilities must be mobilized to exploit the identified opportunity (Teece, 2012), as in Teece (2007) seizing and sensing reflect exploration and exploitation.

Seizing involves making timely decisions pertaining to new investment in technology and other resources. It involves the process of beating other rivals in order to react by making timely and appropriate changes (Teece, 2007; Teece, 2014). Seizing can be described as the firm's capacity to adjust and incorporate knowledge and use it commercial ends. It is noteworthy to mention that some firms sense opportunities yet fail to seize them at the right time.

Transforming involves continuous alignment and realignment of resources once the right opportunities have been sensed and shaped. Jantunen and colleagues (2012) assume that the transforming refers to the ability of the firm to reassemble resources and knowledge to accomplish the desired destination. Albashiti (2016) argues that transforming is a capability that operates on ordinary resources and functional capabilities, and therefore changes occurred in organization.

However the shaping dimension was introduced by Alinaghian (2012), who defines sensing as the ability to constantly identify, create, and anticipate social, technological, economic, environmental and political trends and network configuration trends to disseminate identified, created and anticipated trends across the firm and the ecosystem. While shaping is the ability to constantly devise reasonable responses to the sensed trends through modifying the existing contexts and developing and exploring new ones for existing businesses, inter- firm and intra- firm configuration and routines, seizing refers to the ability to constantly prioritize and select shaped opportunities, and allocate resources to capture opportunities developed. Finally, transforming refers to the ability to constantly implement the seized opportunities (Teece, 2017).

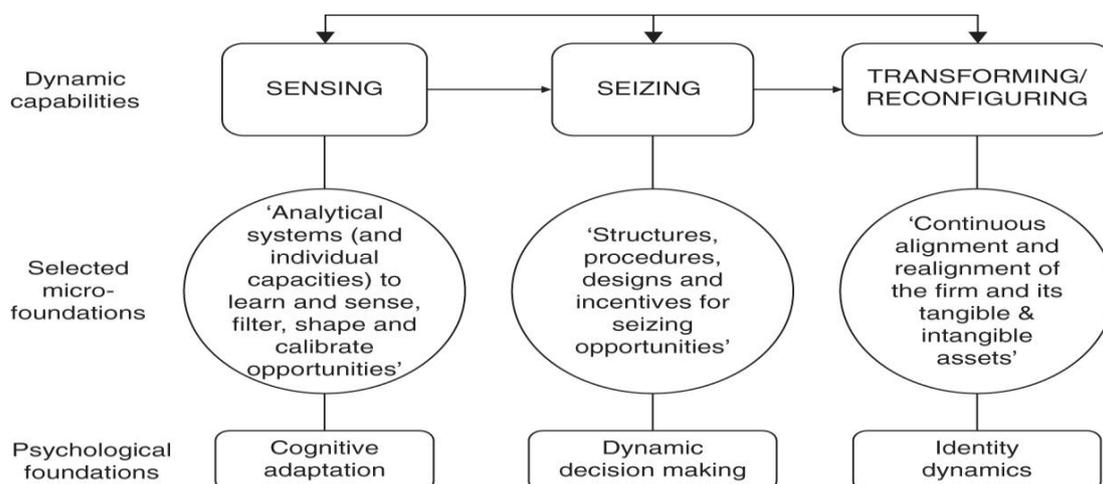


Figure 1: Teece model of DCs

Source: Hodgkinson, G. and Healey, M. (2018)

The above framework doesn't include explicitly the dimension of "shaping", yet it embedded it in "sensing". The concept of sensing is known as the ability of an organization to perceive an external or internal stimulus to translate it to opportunities or to face a threat. Referring to Oxford definition; sensing is "A faculty by which the body perceives an external stimulus; one of the faculties of sight, smell, hearing, taste, and touch" (Hornby and Wehmeier, 1995). In organizations, sensing is being aware of external opportunities and threats. Shaping on the other hand, refers to the response of the sensed opportunities through relative organizational actions that depend on the internal strengths and weaknesses. In other word, shaping is formulating reasonable responses for sensed opportunities. Consequently, seizing follows shaping and refers to the prioritization and selection of shaped opportunities. It also involves the accurate allocation of resources to capture opportunities. According to Oxford Advance Learner's Dictionary, seizing means taking an opportunity eagerly and decisively (Hornby and Wehmeier, 1995). Hence, the researcher agrees with Alinaghian illustration and adds the shaping dimension as the second dimension separately from "sensing", where seizing follows shaping for the opportunity. This is justified through the 'belief that "sensing" comes as a prerequisite step to "shaping"'. For an opportunity to be seized, it is first sensed then shaped. In the case of adopting the dynamic capabilities in the educational sector particularly at universities, it might be applicable scanning the environment under the 'sensing' dimension, yet doesn't necessarily mean being able to devise the reasonable responses and provide accurate interpretation against past experiences or existing context under the "shaping" dimension. This analysis comes consequently, based on the nature of the study where dynamic capabilities are employed, to ensure the accuracy of the results and the appropriateness of the theoretical framework, on which the findings and recommendations are discussed.

Based on the previous arguments the researcher defines dynamic capabilities, consistently with the previous definitions, as the following:

"..... the capability of the firm to follow the rapid environmental changes, explore new contexts in a timely manner and hence promptly direct the resources to sustain strategic relevance in dynamic markets..." And accordingly, the researcher adopts four dimensions including sensing, shaping, seizing and reconfiguring/ transforming in demonstrating the moderating role of the organizational culture in studying the impact of DCs on universities competitiveness

### 1.1.2 DCs in educational sector

Higher education institutions are part of the service sector where organizations operate in complex environments to cope with the characteristics of the open market. Through dynamic capabilities, higher education institutions can bridge the gap between science and market needs and hence attract best professors and best students. The service providers and recipients work together to produce unique products and services, distinctive design, efficient production, swift delivery to the ultimate consumers (Kim et al., 2014). In the knowledge economy, universities are the most important source in creating new knowledge and transferring it to students. The most important strategic resources for universities are knowledge, information and ideas that shape the intellectual capital. Within the future unpredictable business environment and the accelerated knowledge economy development, the universities need to increase their knowledge generation and knowledge transfer toward the society (Bejinaru and Prelipcean, 2017). The educational quality of universities is a major concern for societies and industries. Strategic thinking is important in achieving a competitive advantage in this turbulent world (Bratianu and Bolisani, 2015).

Knowledge generation and knowledge dynamics constitute strategic resources, and managing the organizational knowledge dynamics can become a core dynamic capability of universities (Petrusson, 2009). Social institutions (education institutions) provide mental, ideological and physical training to the individuals to contribute in developing the civilized society by achieving their personal mission, goals and dreams (Deem et al., 2008), and this ultimately enhances the overall competitiveness of the country (Phusavat et al., 2011). All over the world, education is considered the most valuable factor to improve the socio-economic conditions of the society. Therefore, universities and other higher education institutions (HEIs) are expected to cultivate professional talents to meet the industrial demands. It has been argued that competition among nations relies heavily on the quality of HEIs as the skilled labors serve in enterprises that compete with other international and multinational organizations. In the recent years, the educational sector, resembling other sectors, faced some cumbersome challenges including competitiveness to survive (Haan, 2015; Sum and Jassop, 2013; Lynch and Baines, 2007; Robertson, 2010). As a result, intense fierce competition has emerged between universities in an attempt to transfer the educational system from a static level to a dynamic one persistent with the changing market conditions of today's world, giving an immense importance of DCs in coping with the hypercompetitive marketplace.

Dynamic capabilities enable the university's expansion and work as antecedents for institutional diversification, and thus utilization of dynamic capabilities can enable strategic advantage and success in the long term (Teece, 2012). Rapid technological changes, shorter product life cycles and constant technological advancement make it compelling to adopt DCs in universities and other HEIs. Hence, universities nowadays strive to upgrade the skills and proficiency of all youngsters and equip them with facilities necessary for their future career success through DCs that facilitate the process of aligning the resources and capabilities with external environment (Teece et al., 1997). "Dynamic capabilities not only enable universities to "orchestrate" their activities to generate superior benefits but also help them maintain their leadership in innovation-based competitive environments" (Yuan et al., 2016, p.20). To put it in perspective, HEIs are grabbing on various dynamic-oriented activities including developing dynamic curriculum that responds to the changing business conditions, building linkages and collaboration with various stakeholders that in turn enhances knowledge, adopting technological changes and combining value delivery activities (e.g. teaching) and support activities (e.g. administration) that together foster an innovative climate (Kashif and Haim, 2017).

## **1.2 Firm Competitiveness**

Competitiveness is considered a major aspect for measuring the success of firms; competitiveness implies firms are capable of achieving long term growth, are able to gain a greater market share relative to others. In other words, competitiveness reflects the level of profitability. In the academic literature, the term "firm competitiveness" has been defined in several ways. In fact, the study of competitiveness itself raises several conceptual and methodological issues. There is no universally accepted definition for such a conceptual term in an absolute sense but its appropriateness can be judged for a specific research or policy question. Palgrave (1987) referred to competition in the product market as a rivalry that arises when two or more firms strive for something that not all can obtain. Porter (1990) defines competitiveness as the ability of a given firm to successfully compete in a given business environment. Some authors linked competitiveness with changes and stated that competitiveness can be interpreted as the ability of firms to cope with structural change. A firm's competitiveness refers to the ability of the firm to innovate and upgrade, to adapt quickly to market changes and to improve quality by expanding its market share at the expense of less-efficient firms. Therefore, competitiveness is strongly tied to efficiency. To enhance efficiency, firms focus on core competencies and they can reduce costs by frequently reducing employment and outsourcing noncore functions to less-developed countries. In addition to that, competitiveness is also used to evaluate the economic performance of cities, regions and countries. A great emphasis is put on the competitive intelligence where firms pay huge attention to the external audit of the environment in which they compete. Today's environment is characterized by broadening the boundaries of knowledge, shortening of the knowledge life cycle, and the emergence of new knowledge at a very fast pace. The world educational industry has been changing profoundly in the last decade. Intensive processes of concentration and consolidation have been continuing in all sectors of the world educational industry. Education has increasingly become an important factor for social and economic development. Therefore, a rising pressure to enhance performance of higher education institutions is strongly demanded from stakeholders. The knowledge-based economy makes it compelling for educational institution to constantly follow the dynamic changes in order to sustain their competitive positions. Popescu (2017) articulates that "higher education institutions throughout the world are undergoing considerable functional and structural changes as they adapt to meet the needs of a global and knowledge-based economy. Donina and Meoli (2016) also emphasize the fundamental role of universities as the catalyst of economic systems in building an entrepreneurial society reflected through entrepreneurial universities.

### 1.3 Organizational Culture

Organizational culture is one of the milestones for maintaining organizational viability and effectiveness. Scholars started to pay attention to the organizational culture in the beginning of 1980s (Peters and Waterman, 1982) as an effective area for enhancing organizational performance. In fact, the term organizational culture was made popular when Peters and Waterman's best-selling book *In Search of Excellence* argued that company success could be attributed to an organizational culture that was decisive, customer-oriented, empowering, and people-oriented. According to Gagliardi (1986), the task of creating and maintaining symbols of organizational culture perhaps is one of the most important features of management. Watson (2006) emphasizes that an important trend in managerial thinking in recent decades has been one of encouraging managers to try to create strong organizational cultures.

Like any other organization, higher education institutions have their own organizational culture, characterized by its values, mission, adaptability, consistency and involvement, which distinguishes it from other universities. In today's rapidly environmental changes, organizational culture plays a pivotal role in determining universities' success. However, the organizational culture of the universities is different from the organizational culture of other manufacturing enterprises. The organizational culture of the universities is directed towards the unleashing of the potential creativity of teachers and students, the realization of personal and professional skills, the generation of essential competencies, the harmonization of internal relations, and the improvements of psychological climate, unlike the commercial organizations that are profit-oriented. In a global competitive environment, where rankings and positions on league tables are seen as key performance indicators, HEIs are under increasing pressure to fulfill more and more roles in an effort to fight for a place in the global higher education market (Altbach 2008).

During the last two decades universities, worldwide have come under increasing pressures to adapt to rapidly changing social, technological, economic and political forces (Bartell, 2003). Hence, organizational change not only includes changing structures and processes, it also extends to changing the culture. However, efforts of the organizational do not always succeed, and this is mostly traced back to the insufficient understanding of the organizational culture including the philosophy and style of management. In other words, managers nowadays focus on understanding the core values of the organization that shape the organizational culture.

Figure 2: Components of organizational culture



Source: Denison (1990)

## II. Theoretical Framework

### 2.1 Dynamic Capabilities and universities' competitiveness

Prior research on this important term takes different aspects. Some studies explored the relationship between DCs and competitiveness as influenced by mediating or moderating factors, and hence studied the indirect relationship. Most of the previous studies found that DCs positively impact competitiveness. Dossey and Shahvarani (2017) studied the impact of DCs on the educational performance, where the random sample consisted of 100 educational personnel from the schools concerning DCs associated with change(sensing

opportunities, seizing opportunities, and reconfiguring assets). Results showed that dynamic capabilities had a significant positive impact on educational performance. In a study conducted by Aimilia et al., (2011), an empirical study was carried out between the Dynamic capabilities and firm performance. It addresses the question of whether dynamic capabilities have a direct or indirect impact on performance. It examines operational marketing and technological capabilities as mediating factors. The findings showed that DCs impinge on operational capabilities, and these in turn have a significant effect on performance. The following hypothesis can be asserted: H1 dynamic capabilities have a positive impact on competitiveness.

### 2.2 Dynamic capabilities and the organizational culture

Previous studies shed light on the dynamic capabilities and the organizational culture. For example, the influence of organizational culture on dynamic marketing capabilities. A case study in the e-tail industry” in 2017 conducted by Anne Herzig, Maria Karlsson, examined the impact of the organizational culture on the DCs, which makes it compelling to demonstrate the two way relation between the DCs and the organizational culture. It was revealed that the type of culture determines the impact on DCs, so that the team culture influences the DCs in the most positive manner. To add more, et al., in 2012 demonstrated that firms with the adhocracy culture are the most dynamic one. Accordingly, the second hypothesis states that H2 the dynamic capabilities have a positive impact on the organizational culture.

### 2.3 Organizational culture and competitiveness

Several studies indicated the impact of the organizational culture on firms' competitiveness. For example Maryam et al., (2017), conducted a study in the educational sector in Qatar, and they concluded that supportive organizational culture positively affects job satisfaction and organizational commitment, which in turn contributes in competitiveness. In a study applied on the telecommunication sector in Poland, MarylaBogdanowicz (2014) found that organizational culture supported by a strategy constitutes the inner strength that significantly enhances its competitiveness. Based on this, the third hypothesis can be derived that H3 the organizational culture has a positive impact on competitiveness.

### 2.4 Dynamic capabilities, organizational culture and universities competitiveness

As mentioned previously, dynamic capabilities influence the universities' competitiveness and a positive organizational culture. It can be assumed that the dynamic capabilities influence the universities' competitiveness directly and indirectly through the organizational culture. This supports the results of the study titled; “Dynamic Capabilities, organizational culture and competitive advantage; Evidence from agriculture cooperatives in China” that was conducted in 2016 by Violinda and Jian. It showed that the dynamic capabilities positively impacts competitive advantage, highlighting the importance of the organizational culture in sustaining competitiveness. Another study conducted by Xiao and Dasguptain 2009 explored the relationship between the dynamic IT capabilities DITC on firm performance. It studied the interaction between the dynamic capabilities and the organizational culture. The results showed that DITCs and certain organizational culture values do interact in predicting market firm performance via a statistically significant interaction. Based on the results of authors and applying this interaction on the educational sector, the following hypothesis considers the mediating factor: H4 organizational culture mediates the relationship between dynamic capabilities and universities' competitiveness.

#### Research Model:

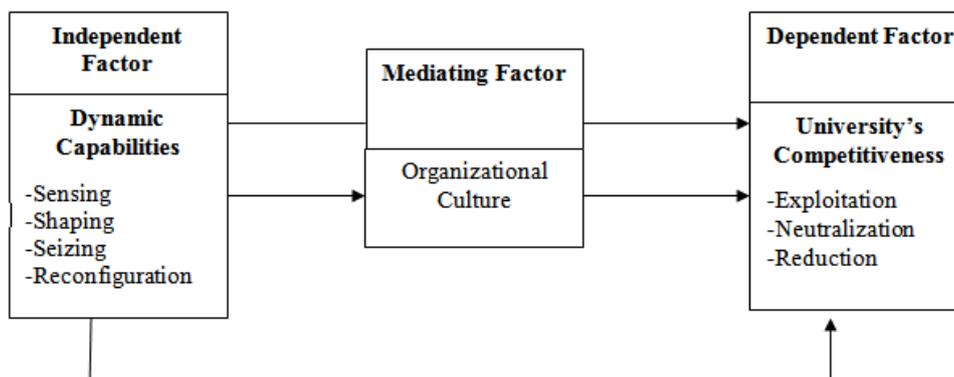


Figure 3: Research model

Source: Author (Developed from Teece 2007 for dynamic capabilities; Denison (1990) for Organizational culture; Sigalas, Pekka-Economou (2013) for Competitiveness).

### III. Research Design

#### 3.1 Sample

In the context of the universities in the Gaza Strip, this study employs survey method for data collection. Extensive literature reviews the basis for developing an initial list of items to measure the components of the concepts. This study designs measurements with a 7-point Likert scale from strongly disagree to strongly agree. Our target respondents were academic and administrative employees who have been working in the Palestinian universities in the Gaza Strip. The researcher sent out 120 questionnaires and retrieved 92 making out a recovery rate of 75.8%.

#### 3.2 Measures

The DCs as independent factor was measured by twenty three Likert type items divided into 4 dimensions (Sensing, Shaping, Seizing, and transforming) as shown in table 1 in appendix A. The dependent factor firm competitiveness was measured by ten Likert type items divided into three sub dimensions (Exploitation, Neutralization, Reduction) whereas each Dimension has for items (As table 1 in Appendix B shows). And finally the organizational culture as a mediating factor was molded in one dimension and consists of seventeen Likert type items (As table 1 in Appendix C shows).

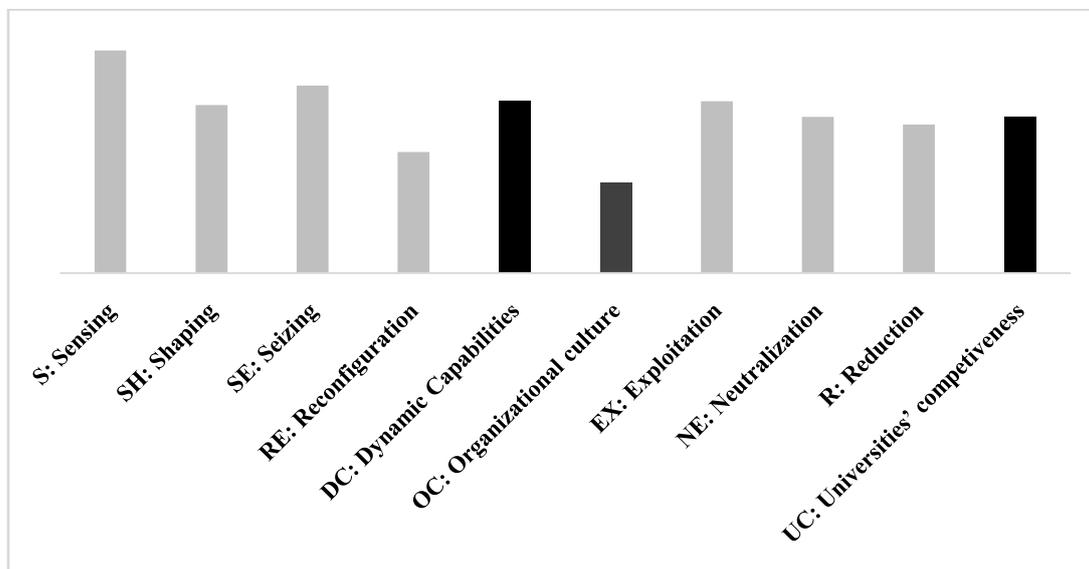
### IV. Findings

Table 2 shows the descriptive measurements of factors of the Study construct, and levels of agreement between Palestinian universities, whereas the table has eight factors, the factors which come first based on level of agreement is "Sensing" with (M = 5.17, RII = 73.9%, SD = 1.00), the factors which comes last "Organizational culture" With (M = 4.83, RII = 68.9%, SD = 1.16). Figure (4): Shows descriptive measurements of factors of the study construct.

**Table 2:** Descriptive measurements of factors of the Study construct.

Factors	Dimensions	Mean	SD	RII	Level Agreement
Independent's	S: Sensing	5.17	1.00	73.9%	Somewhat high
	SH: Shaping	5.03	1.09	71.9%	Somewhat high
	SE: Seizing	5.08	1.14	72.5%	Somewhat high
	RE: Reconfiguration	4.91	1.22	70.1%	Somewhat high
Independent	"DC: Dynamic Capabilities"	5.04	1.03	72.0%	Somewhat high
Moderator	"OC: Organizational culture"	4.83	1.16	68.9%	Somewhat high
Dependent's	EX: Exploitation	5.04	1.27	72.0%	Somewhat high
	NE: Neutralization	5.00	1.31	71.4%	Somewhat high
	R: Reduction	4.98	1.21	71.1%	Somewhat high
Dependent	"UC: Universities' competitiveness"	5.00	1.08	71.5%	Somewhat high

**Hint:** M=Mean of answers, RII=Relative Importance Index ((Mean/7) \*100%), SD=Standard Deviation., R=Rank.



**Figure 4:** Descriptive measurements of factors of the Study construct

**4.1 Hypotheses Testing**

The starting point of the practical side of any research is to develop hypotheses about the phenomenon to be studied. The analysis started depending on the theoretically-based conceptual model of the current study. Smart PLS (v3.2.7) was used to test the research model and hypotheses. Smart PLS is a specialized software package for partial least square structural equation modeling (PLS-SEM). It is a regression-based technique which can estimate and test the relationships among constructs through path analysis. PLS path model consists of three components: the structural model, the measurement model and the weighting scheme (Monecke and Leisch, 2012, p. 4).

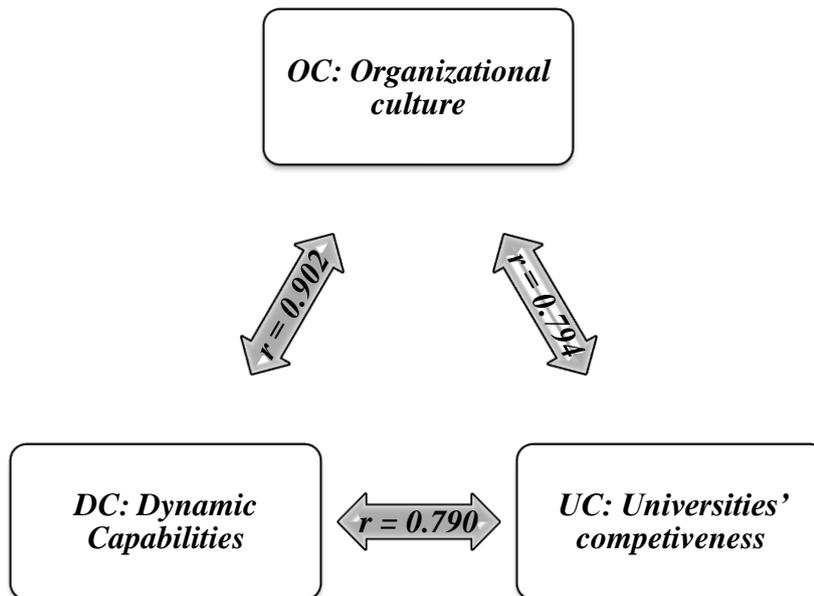
**4.2 The correlation coefficients**

Table (3) shows the results of Pearson correlation coefficients between factors of the study. The researcher calculated coefficients between all main construct and its sub-constructs. The results showed a positive correlation between the independent factors (S, SH, SE, RE) and the Mediating factor (OC), as well as the existence of a positive correlation between the independent factors (S, SH, SE, RE) and the dependent factors (UC). Figure (5) shows correlation coefficient.

**Table 3:**The results of Pearson correlation coefficients between Factors of the study

Factors	Organizational culture		Universities' competitiveness	
	Person correlation	P-value (Sig)	Person correlation	P-value (Sig)
S: Sensing	0.791*	0.000	0.678*	0.000
SH: Shaping	0.831*	0.000	0.705*	0.000
SE: Seizing	0.860*	0.000	0.807*	0.000
RE: Reconfiguration	0.867*	0.000	0.759*	0.000
DC: Dynamic Capabilities	0.902*	0.000	0.790*	0.000
OC: Organizational culture	-	-	0.794*	0.000

\* Correlation is significant at the level 0.01 (2-tailed).



**Figure 5:**The correlation coefficient between the factors of the study

Table (4) shows the results of estimation of the general model to study the direct and indirect effects among main factors of study (Dynamic capabilities; independent factors, organizational culture is mediating factor, Universities' competitiveness is the dependent factors).The results show the total effect of the dynamic capabilities on universities' competitiveness as (0.816), which means that a one-degree change in dynamic capabilities will lead to a change by (0.816) in Universities' competitiveness. This effect is divided into a direct effect, and an indirect one through the mediating factor is the organizational culture. The direct and indirect effects were both positive. The direct effect of the dynamic capabilities on Universities' competitiveness is

found to be (0.424) which means that a one-degree change in dynamic capabilities will lead to a change by (0.424) in Universities' competitiveness, while the value of the indirect effect of dynamic capabilities on organizational culture was found to be (0.392) which means that a one-degree change in dynamic capabilities will lead to a change by (0.392) in organizational culture. The dynamic capabilities is directly affect the organizational culture by (0.903) which means that a one-degree change in dynamic capabilities will lead to a change by (0.903) in organizational culture. The organizational culture affects directly Universities' competitiveness by (0.434) which means that a one-degree change in organizational culture will lead to a change by (0.434) in Universities' competitiveness. The table also shows the quality standards of the model, where the average reached (Mean of R-square = 0.838, Mean of AVE = 0.650, Mean of CR = 0.965, Mean of Cronbach's Alpha = 0.961). All of these criteria indicate that the quality of structural model is so good. Figure 5 shows the results of estimation of general model to study the direct and indirect effects among factors of study.

**Table 4:** The direct and indirect effect of the General Structural Equation model of the study factors

Direction of effects	Direct effect		Indirect effect		Total effect	
	B	Sig.	B	Sig.	B	Sig.
DC → UC	0.424	0.001	0.392	0.001	0.816	0.000
DC → OC	0.903	0.000	-	-	0.903	0.000
OC → UC	0.434	0.000	-	-	0.434	0.000

Quality Criteria of model: (Mean of R-square = 0.838, Mean of AVE = 0.650, Mean of CR = 0.965, Mean of Cronbach's Alpha = 0.961).

Figure 1 in Appendix D shows the direct and indirect effect of the General Structural Equation model of the study factors.

Table (5) shows the results of estimation of final model to study the direct and indirect effects among the factors of the study in Figure (5). The results indicate that Reconfiguration affects indirectly Universities' competitiveness by (0.285) which means that a one-degree change in Reconfiguration will lead to a change by (0.285) in Universities' competitiveness. Reconfiguration factor affects indirectly organizational culture by (0.316) which means a one-degree change in Reconfiguration will lead to a change by (0.316) in Organizational culture. Seizing factor affects indirectly Universities' competitiveness by (0.165) that means a one-degree change in Seizing will lead to a change by (0.165) in Universities' competitiveness. Seizing factor affects indirectly organizational culture by (0.182) that means a one-degree change in Seizing will lead to a change by (0.182) in Organizational culture. Sensing affects indirectly Universities' competitiveness by (0.231) that means a one-degree change in Sensing will lead to a change by (0.231) in Universities' competitiveness, while Sensing affects indirectly Organizational culture by (0.256) which means a one-degree change in Sensing will lead to a change by (0.256) in Organizational culture, while Shaping affects indirectly Universities' competitiveness by (0.197) which means a one-degree change in Sensing will lead to a change by (0.197) in Universities' competitiveness. Shaping is indirectly affect the organizational culture by (0.197). This means a one-degree change in Sensing will lead to a change by (0.197) in Organizational culture where the average reached: (Mean of R-square = 0.838, Mean of AVE = 0.702, Mean of CR = 0.951, Mean of Cronbach's Alpha = 0.938) all of these criteria indicate that the quality of structural model is so good.

**Table 5:** The direct and indirect effect of the final Structural Equation model of the study factors

Direction of effects	Direct effect		Indirect effect		Total effect	
	B	Sig.	B	Sig.	B	Sig.
RE → UC	-	-	0.285	0.000	0.285	0.000
SE → UC	-	-	0.165	0.000	0.165	0.000
S → UC	-	-	0.231	0.000	0.231	0.000
SH → UC	-	-	0.197	0.000	0.197	0.000

Quality Criteria of model: (Mean of R-square = 0.838, Mean of AVE = 0.702, Mean of CR = 0.951, Mean of Cronbach's Alpha = 0.938).

**4.3 Analysis**

A. The first hypothesis states “There is a significant direct impact of dynamic capabilities on organizational culture at 0.05 level”. From the results of table (6) the researcher noticed that factor (Dynamic capabilities) impacts directly the factor (Organizational culture) where the rate of the impact is (B=0.903, SIG= 0.000<0.05), this confirms the validity of the hypothesis that states "There is a significant direct impact of dynamic capabilities on organizational culture at 0.05 level ".

**Table 6:**The results of the first hypothesis.

Direction of effects	Effect			
	B	Sig.	Standard Deviation	T Statistics
DC → OC	0.903	0.000	0.021	42.410

B. The second hypothesis states “There is a significant direct impact of Organizational culture on Universities’ competitiveness in at 0.05 level”.

From the results of the table (7) the researcher recognized that, the factor (Organizational culture) impacts directly the factor (Universities’ competitiveness) where the rate of the impact is (B=0.434, SIG= 0.000<0.05) and this confirms the validity of the hypothesis that states "There is a significant direct impact of organizational culture on Universities’ competitiveness in at 0.05 level ".

**Table 7:** The results of the second hypothesis

Direction of effects	Effect			
	B	Sig.	Standard Deviation	T Statistics
OC → UC	0.434	0.000	0.122	3.554

C. The third hypothesis states “There is a significant impact of dynamic capabilities on Universities’ competitiveness at 0.05 level”. C.1 first sub hypothesis states “There is a significant direct impact of dynamic capabilities on Universities’ competitiveness at 0.05 level”. From the results of the table (8) the researcher noticed that factor (of dynamic capabilities) affects direct the factors (Universities’ competitiveness) where the rate of the effect is (B=0.424, SIG= 0.001<0.05) and this confirms the validity of the hypothesis that states "There is a significant direct impact of dynamic capabilities on Universities’ competitiveness at 0.05 level ".C.2 second sub Hypothesis states that “ There is a significant indirect impact of dynamic capabilities on Universities’ competitiveness through the mediating factor (Organizational culture) at 0.05 level”. From the results of the table (8) the researcher recognized that, the factor (Dynamic capabilities) impacts indirectly the factor (Universities’ competitiveness) through the Mediating factor the organizational culture where the rate of the effect is (B=0.392, SIG= 0.00<0.05) and this confirms the validity of the hypothesis that states "“There is a significant indirect impact of dynamic capabilities on Universities’ competitiveness through the Mediating factor (Organizational culture) at 0.05 level”. In table (8) the researcher noticed that factor of (Dynamic capabilities) impact the factor (Universities’ competitiveness) where the rate of the total effect is (B=0.816, SIG= 0.00<0.05) and this confirms the validity of the hypothesis that states “There is a significant impact of dynamic capabilities on Universities’ competitiveness at 0.05 level”.

**Table 8:**Theresults of the third hypothesis

Effects	Effect				Direction of effects
	B	Sig.	Standard Deviation	T Statistics	
DC → UC	0.424	0.001	0.130	3.249	Direct
DC → UC	0.392	0.000	0.113	3.468	Indirect
DC → UC	0.816	0.000	0.042	19.459	Total effect

**4.4 Validity and Reliability**

This study uses Cronbach's  $\alpha$  to explore the factors reliability. As shown in Table 9, the minimum Cronbach's  $\alpha$  of the scales is 0.901, which is found to be above the critical level of 0.7 indicating high internal consistency. Also, the researcher found that the correlation coefficient of each item of the dimensions. The P value is less than .05, so the correlation coefficients of the dimensions are significant at  $\alpha = .05$ . Therefore, it

can be said that the items of the dimensions are consistent and valid to measure what they were set for (As shown in table 1A, 2A, 3A in Appendix A).

**Table 9:** Cronbach's Alpha Coefficient for Reliability

Factors	Dimensions	No. of items	Cronbach Alpha ( $\alpha$ )
Independent	Sensing	7	0.908
	Shaping	5	0.917
	Seizing	4	0.901
	Reconfiguration	7	0.952
Mediating	Organizational culture	17	0.968
Dependent	Exploitation	3	0.935
	Neutralization	3	0.928
	Reduction	3	0.940

#### 4.5 Discussion

This study is designed to answer the main research question of what is the impact of DCs on universities' competitiveness across the Palestinian educational sector mediated by the organizational culture. The designed hypothetical model sets the key hypotheses: the direct relationship between the DCs and universities' competitiveness, the direct and indirect impact of DCs mediated through the organizational culture on universities' competitiveness. The structural model in this study strongly supports the hypothesis in which the dynamic capabilities have a significant indirect impact on universities' competitiveness through the mediating of the organizational culture. This indirect link holds promising effort in the dynamic capabilities framework. The mechanism of dynamic capabilities including sensing, shaping, seizing, and reconfiguration requires an understanding organizational culture of the process, and hence posits some change on the organizational culture. This argument is fully consistent with Aimilia et al., (2011) who emphasized the indirect impact of the dynamic capabilities on firm performance in the manufacturing sector, mediated by operational marketing and technological capabilities. Sarunas et al., (2013) showed that organizational inertia moderates the indirect relationship between dynamic capabilities and firm performance in the trading sector. In a study conducted in the trading sector, LI and Liu (2014) demonstrated the positive indirect impact of dynamic capabilities on competitive advantage in the trading sector, mediated by environmental dynamism. In addition, this study showed that dynamic capabilities have a positive direct impact on competitiveness of the universities, which consisted with prior research. Dossey et al., 2017 argued that DCs have a direct positive impact on the educational performance.

The conceptual framework under this study strongly supports the hypothesis of the indirect relationship between the dynamic capabilities and the competitiveness through validating the role of the organizational culture. There are rare studies in this regard. However, it has also been found that the correlation between the dynamic capabilities and the organizational culture impinge on the level of competitiveness. This is consistent with the theory advanced by (Helfat et al, 2007; Teece et al., 1997). The study also highlighted the importance of paying more attention to the policies directed towards the planning and implementation of good dynamic capabilities and organizational culture, in order to develop a plan of strategic policy that determines the sustainability of competitive advantage in agriculture cooperatives.

The organizational culture was found to enhance the process of making effective strategic decision that allows universities to create their own competitiveness. Hence, the previous analysis strongly supports the hypothesis through which the dynamic capabilities positively affect the organizational culture, as well as the direct effect between the organizational culture and the universities' competitiveness. In this regard, it is also noteworthy to say that from a theoretical perspective, the researcher assumed that the organizational culture as a moderator that either strengthens or weakens the relationship between the two factors. However, the statistical results showed that there is no significant impact of the organizational culture as a moderating between the two factors. The practical perspective on the other hand demonstrated the significant impact of the organizational culture in explaining the relationship between the two factors.

Through the statistical analysis, the hypothesis that the Palestinian universities in the Gaza Strip possess the dynamic capabilities of sensing, shaping, seizing and reconfiguration is accepted, and this is attributable to the fierce competition between the Palestinian universities seeking to maintain sustainable competitiveness in order to match the international standards. In addition, the limited number of universities in the Gaza Strip plays an important role in encouraging universities to compete. Hence, under the environmental rapid changes, universities are trying to scan the external environment in order to identify the opportunities and capitalize on them, as well as mitigate the impact of the potential threats, and this is reflected under the sensing dimension. Following sensing, universities try to devise the reasonable responses against the existing context

through identifying their strengths and that enable them to shape for the sensed opportunities. This process comes under the shaping dimension. After that, the process of seizing takes place where universities try to exploit the sensed and shaped opportunities through the appropriate allocation of resources. The process ultimately ends with the reconfiguration process where the universities make radical relevant changes to their strategies and methodologies. Despite implementing the dynamic capabilities, it seems that the universities in the Gaza Strip aim to enhance their performance and hence competitiveness through the dynamic capabilities approach without knowing the concept as a scientific term.

## **V. Contribution**

### **5.1. Theoretical contribution**

According to Barreto (2010), dynamic capabilities should be studied across a wider sample of firms. The novelty of this research underlies in studying universities' competitiveness in a developing country like Palestine that witnesses economic, social and political instability. Such changes are essential for practicing dynamic capabilities despite the little empirical evidence. This study also contributes to the existing literature through providing constructs measurement and a conceptual framework that involves dynamic capabilities as an independent factor, organizational culture as a mediating factor.

### **5.2 Managerial contribution**

The data was drawn from the Palestinian universities, so the results will be useful for the academic and administration staff in similar contexts. The main implication was reflected through the great importance of incorporating dynamic capabilities for superior competitiveness. Hence, it is expected that this study encourages all universities to improve their dynamic capabilities through sensing, shaping, seizing and reconfiguration capabilities. Another implication is through perceiving the importance of changing the organizational culture despite the resistance firms or universities may face in incorporating change.

### **5.3 Future studies**

Findings and results of this research present diverse opportunities for further research. Most importantly is that this research is sensitive in nature so that respondents might have been reluctant to provide accurate responses of this results. Furthermore, the potential of survey biases cannot be excluded as the perceptions of the respondents might not coincide with the objective reality. Hence, it is recommended to include personal interview as an additional research method. Future research could therefore investigate the impact of dynamic capabilities coupled with other institutional factors in the developing economies like policies, regulations and industry norms on the competitiveness of the universities.

## **Acknowledgment**

I cannot deny it has been a long journey with difficulties and challenges in completing this research project. Yet, one important point to make is that this research extended not only to be a partial fulfillment for the bachelor's degree in business administration, indeed, it unleashed special interests and motives to produce what I can then consider valuable and worthy. It was only a few months to get this work accomplished, yet the self-learning process I was immersed in, won to be the most interesting journey I went through during the 4 years of the university study. Many sacrifices have been made, but the whole research would not have been possible without the support and continuous motivation of specific people. I would like to grab this chance to express my deep appreciation to my parents, and tutors at the Business Administration department and of course, my acknowledgment goes to everyone who helped me in this paper.

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## Appendices

### Appendix A: measures of Dynamic Capabilities

**Table 1: Correlation coefficient for each item of the dimension "Sensing"**

1	The University participates in the activities of other universities and professional associations activities	0.667* (0.000)
2	The University uses established processes to identify the target market and changing students' needs and desires	0.804* (0.000)
3	The University observes the best achievements in the academic field	0.825 (0.000)
4	The University gathers the economic information necessary for our daily operations and ensures the quality of operational capabilities compared to competition	0.848* (0.000)
5	The university can perceive environmental changes before competitors	0.857* (0.000)
6	The University continuously follows the external environment to identify new opportunities	0.830* (0.000)
7	The university often reviews the efforts of developing educational services to ensure their compatibility with the market place	0.804* (0.000)
Validity for Dimension "Sensing" (0.927*, 0.000)		

**\*Correlation is significant at the level 0.05 (2-tailed)**

### Correlation coefficient for each item of the dimension "Shaping"

#	Items	Person, (Sig)
1	The university devises reasonable responses and provides an accurate interpretation against past experience or existing context	0.833* (0.000)
2	The University has the ability to respond to the sensed opportunities by identifying organizational actions based on internal strengths and weaknesses	0.921* (0.000)
3	The university has the ability to absorb the opportunity under the university framework and integrate it with other factors	0.899* (0.000)
4	The university builds linkages and collaboration with various partners including students, industry, and government institutions	0.829* (0.000)
5	The university combines core value delivering activities (teaching) and support activities (administration) to foster innovation and satisfy students	0.863* (0.000)
Validity for Dimension "Shaping" (0.922*, 0.000)		

**\*Correlation is significant at the level 0.05 (2-tailed)**

**Correlation coefficient for each item of the dimension "Seizing"**

#	Items	Person, (Sig)
1	The university invests all the resources to build students' capacities	0.833* (0.000)
2	The University adopts the best methodologies in the academic field	0.921* (0.000)
3	The University responds to all defects pointed out by the academic staff	0.899* (0.000)
4	The University can make timely decisions in time to exploit opportunities and address threats	0.829* (0.000)
Validity for Dimension "Seizing" (0.922*, 0.000)		

\*Correlation is significant at the level 0.05 (2-tailed)

**Correlation coefficient for each item of the dimension "Reconfiguration".**

#	Items	Person, (Sig)
1	The University participates in the activities of other universities and professional associations activities	0.915* (0.000)
2	The University uses established processes to identify the target market and changing students' needs and desires	0.886* (0.000)
3	The University observes the best achievements in the academic field	0.922 (0.000)
4	The University gathers the economic information necessary for our daily operations and ensures the quality of operational capabilities compared to competition	0.876* (0.000)
5	The university can perceive environmental changes before competitors	0.861* (0.000)
6	The University continuously follows the external environment to identify new opportunities	0.838* (0.000)
7	The university often reviews the efforts of developing educational services to ensure their compatibility with the market place	0.878* (0.000)
Validity for Dimension "Reconfiguration" (0.938*, 0.000)		

\*Correlation is significant at the level 0.05 (2-tailed)

**Appendix B: Measures of universities' competitiveness**

**Table 1: Correlation coefficient for each item of the dimension "Exploitation"**

#	Items	Person, (Sig)
1	The university exploits all market opportunities	0.950* (0.000)
2	The university exploits the market opportunities fully	0.960* (0.000)
3	The university exploits more market opportunities than competitors	0.913* (0.000)
Validity for Dimension "Exploitation" (0.848*, 0.000)		

\*Correlation is significant at the level 0.05 (2-tailed)

**Table3.9: correlation coefficient for each item of the dimension "Neutralization"**

#	Items	Person, (Sig)
1	The university neutralizes all competitive threats	0.927* (0.000)
2	The university neutralizes the competitive threats fully	0.937* (0.000)
3	The university neutralizes more competitive threats than competitors	0.943* (0.000)
Validity for Dimension "Neutralization" (0.889*, 0.000)		

\*Correlation is significant at the level 0.05 (2-tailed)

**Correlation coefficient for each item of the dimension "Reduction"**

	Items	Person, (Sig)
1	The university reduces total expenses at a higher rate than competitors	0.871* (0.000)
2	The university reduces operating expenses at a higher rate than competitors	0.936* (0.000)
3	The university reduces total expenses divided by revenue to a higher extent than competitors	0.940* (0.000)
4	The university reduces operating expenses divided by revenue to a higher extent than competitors	0.937* (0.000)
Validity for Dimension "Reduction" (0.851*, 0.000)		

\*Correlation is significant at the level 0.05 (2-tailed)

**Appendix C: Measures of Organizational Culture**

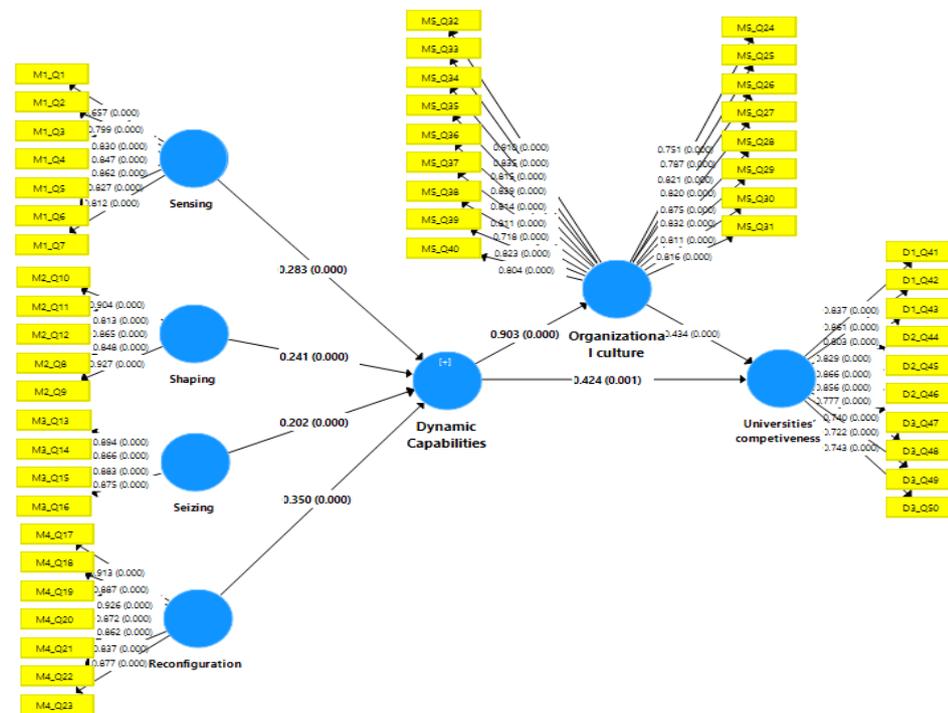
**Table 1 Correlation coefficient for each item of the dimension "Organizational culture"**

#	Items	Person, (Sig)
1	There is a "strong" culture	0.765* (0.000)
2	Teamwork is used to get work done, rather than hierarchy	0.795* (0.000)
3	There is continuous investment in the skills of employees	0.817* (0.000)
4	There is a clear and consistent set of values that governs the way we do business	0.824* (0.000)
5	Business planning is ongoing and involves everyone in the process to some degree	0.877* (0.000)
6	It is easy to reach consensus, even on difficult issues	0.831* (0.000)
7	It is easy to coordinate projects across different parts of the organization	0.807* (0.000)
8	The university responds well to competitors and other changes in the business environment	0.810* (0.000)
9	New and improved ways to do work are continually adopted	0.899* (0.000)
10	The university encourages direct contact with students by our employees	0.829* (0.000)
11	There is a long-term purpose and direction	0.809* (0.000)
12	Leaders set goals that are ambitious, but realistic	0.837* (0.000)
13	The leadership has "gone on record" about the objectives we are trying to meet	0.810* (0.000)
14	Leaders have a long-term viewpoint.	0.813* (0.000)
15	Short-term thinking seldom compromises our long-term vision	0.719* (0.000)
16	Our vision creates excitement and motivation for our employees	0.823* (0.000)
17	The university is able to meet short-term demands without compromising our long-term vision	0.803* (0.000)

\*Correlation is significant at the level 0.05 (2-tailed)

**Appendix D**

**Figure 1: The direct and indirect effect of the General Structural Equation model of the study factors**



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