I J A B E R, Vol. 14, No. 14 (2016): 9609-9627

QUALITY MANAGEMENT PRACTICES, ORGANIZATIONAL LEARNING, ORGANIZATIONAL CULTURE, AND ORGANIZATIONAL PERFORMANCE IN IRAQI HIGHER EDUCATION INSTITUTION: AN INSTRUMENT DESIGN

Ahmed Hani Mohammed[*], Che Azlan Bin Taib[**], Santhirasegaran a/l S.R. Nadarajan[***]

Abstract: *The business services environment are experiencing intense competition. Hence, higher education facing series of challenges in order to improve organizational performance, and an ability of competition. The same situation was happened to Iraq's higher education. As an effort for strengthening the teaching, research and consultation activities to enhance the quality performance, quality management practices (QMPs) is one of the important factors affecting the organizational performance. Similarly, some emphasis was placed on organizational learning (OL) as another tool to support organizational performance. In addition, the reference to the organizational culture (OC) based on the results of the performance affected by environmental surroundings for educational institutions. The combination of these three elements: QMP, OL and OC finally affected the performance of higher education. Therefore, the aim of this paper is to explain a preliminary about the role of these factors on the affecting of the performance of higher education institutions in Iraq. This paper proposed the measurement instrument for measuring higher education performance, therefore the development and validation of the quantitative instrument (questionnaire) towards measuring the performance also discussed. In addition, the reliability of the constructs is also being explained.*

Keywords: *Organizational Performance, Quality Management Practices, Organizational Learning, Organizational Culture, Iraqi Higher Education Institutes.*

1. INTRODUCTION

Higher Education is facing major challenges at the global level (Masri & Wilkens, 2011). The spread and the expansion of educational services generated this kind of

* Industrial management department, Administration and Economic College, University of Mosul, Mosul, Iraq, School of Technology Management and Logistics, Universiti Utara Malaysia 06010 Sintok, Kedah, MALAYSIA. *Email: ahmedhani1982@gmail.com*

** School of Technology Management and Logistics, Universiti Utara Malaysia 06010 Sintok, Kedah, MALAYSIA. *Email: c.azlan@uum.edu.my*

*** School of Technology Management and Logistics, Universiti Utara Malaysia 06010 Sintok, Kedah, MALAYSIA. *Email: santhirasegaran@uum.edu.my*

competition for the education staff (Koe & Saring, 2012). Consequently educational institutions must survive and create a sustainable competitive advantage through the provision of educational services with high quality and the pursuit of provide innovative services (Peng, 2001).Therefore, the level of performance in education is an important aspect of quality in higher education institutions, this began to pay greater attention to assessing the quality of performance in higher education institutions (Wu, Lv, Qi, & Zhang, 2010). In other words, higher education plays an important role in the conversion of a low-wage economic structure to the high levels of performance, by increasing the learning skills and improve the ability of employees to develop and use technology, which enhances productivity and thus enhance economic conditions of the country (Alexander, 2000).

Based on the above discussion it is declared that there is a needs to develop the scale to measuring the organizational performance in the Iraqi HEIs, and its' dimensions. In the next section related literature review to discussing the scales in the previous studies, motivation, the designing the questionnaire, and pilot study will be discussed in turn.

2. LITERATURE REVIEW

This section discusses the previous measures for organizational performance, quality management practices(QMPs), organizational learning, and organizational culture.

2.1. Organizational Performance

Organizational performance is importance in the literature, the attention of researchers through a focus on performance in a lot of theoretical and applied research and studies, but they differed in how to measure (Theriou & Chatzoglou, 2008). For the work of the reforms in the public sector has to be measuring the performance as an important factor in the evaluation process, and important to many organizations (Greiling, 2005; Zangoueinezhad & Moshabaki, 2011). Since the measurement results of the intervention in the regulatory decision-making process for that the organization is trying to determine the precise criteria for measuring and evaluating performance (activities) to support its decisions. The measure of OP is the final outcome of the activities of the organization and is supported by a lot of research that was considered OP as the dependent variable(i.e. Jaafreh & Al-abedallat, 2013; Sabella, Kashou, Omran, Brown, & Brown, 2014; Triguero-Sánchez, Peña-Vinces, & Sánchez-Apellániz, 2013).

The measurement of organizational performance indicators in education must contain the qualities identified by UNESCO: (a) Indicator is closely related to the phenomenon to be measured; (b) Can be shortened by a few words without changing the meaning; (c) The possibility of restructuring indicators for comparisons accurately; (d) In addition to its reliability, and that the measurement period that

does not exceed a few years ago (Martin & Sauvageot, 2011). The studies were identified the different criteria to measuring organizational performance, where performance management is a complex phenomenon in itself. In the same time, the performance in HEIs is more complex comparing to other organizations (Broad & Goddard, 2010).

Depending on the measurements addressed by the literature, and the differences in setting performance standards where some emphasized use of financial standards (e.g. return on investment, profitability) and others stressed the non-financial criteria, and some others combination of financial and non-financial. Many emphasized to use Balanced Scorecard (BSc), because of its comprehensive approach. This paper focuses on BSc measurement.

2.2. Quality Management Practices

Literature discussed measurement QMPs indicators, these studies revealed the diversity and differences in these scales, these differences are results of the different practices adopted that selected by these studies. According to Jaafreh and Al-abedallat (2013) the indicators dependent to six practices Leadership, Strategic planning, Customer focus, Employee relations, Supplier quality management, and Process management quality. From another side, Zu (2009) measuring QMPs from two side Infrastructure QMPs, and Core QMPs. Furthermore, Malcolm Baldrige National Quality Award (MBNQA) established seven practices to measuring to measure QMPs in HEIs, these practices are Leadership, Workforce, Customer focus, Strategic planning, Information and Analysis, Process management, and Operation results.The difference in practices among scholars determine caused by the differences between the nature of the organizations in terms of size and type of activity. As well as some of the practices were classified based on practices that already used in the organization, and some other organizations depended on international standards or international quality awards.

2.3. Organizational Learning

Although there is a lot of research, which focused on organizational learning concept, and its applications to the theoretical or practical level, but did not give a full idea of the concept as well as the variation in the measurement method (Goh et al., 2013). According to Kallio and Lappalainen (2015) the previous studies did not give adequate answers about organizational learning, Even though is still ambiguity about how to start the work, this issue urged to conduct further studies in order to provide a new and effective model. As result organizational learning dividing to set of indicators to the measurement learning**.**

Where the organizations dependent to several constants to measuring organizational learning, these constants are knowledge acquisition, information

distribution and interpreting, and organizational memory (Huber, 1991; Lopez et al., 2005). As well as can be divided into Commitment of learning and Shared vision (Yechun, Hongming, Zhiliang, & Chunke, 2007). It was agreed both Lin (2011); and Yu-bing and Yi (2012) that learning consists of exploitation and exploration learning. Yin (2013)identified organizational learning components in three key indicators are exploratory, transformative, and exploitative. In another study was previous learning and current learning are the basic components of the organizational Learning (Wang, Tian, Cheng, Li, & Hao, 2011). Jain and Moreno (2015)identified it to six factors are Collaboration& team learning, Performance management, Autonomy& freedom, Reward& recognition, sponsorship, and Achievement orientation.Based on previous studies and literature, the paper suggests to measuring Organizational learning as a union measurement adapted fromLopez, Peón, and Ordás (2005).

2.4. Organizational Culture

The active role of organizational culture identified by previous studies and relations, considering that the organizational culture have multiple and complex components (Frank & Fahrbach, 1999; Funderburk, 2004). These reasons makes it imperative for organizations studying organizational culture and attention to its measurement.For measuring organizational culture Hofstede, Neuijen, Ohayv, and Sanders (1990) explained that the measurement process possible through the answers organizations employees in survey based on a set of dimensions. Which is different from the other organization according to the type of activity and geographic location. Denison and Mishra (1995)developed indicators to measure organizational culture in his study based on flexible indicators (consistency and involvement), and integration indicators (adaptability and mission). And adopted by Imam, Abbasi, Muneer, and Qadri (2013) in his study in higher education in Pakistan.

In addition, Tharp (2009) study presented four types of indicators respectively: compete, Control, Collaborate, and Create. Other studies measured the organizational culture based on different indicators are Development culture, Rational culture, Group culture, and Hierarchical culture (Cao, Huo, Li, Zhao, & Wagner, 2015). This paper adopted Denison and Mishra (1995) scale.

3. MOTIVATION

The instrument designing come from two points of view: firstly, there are only few studies empirical work have been done to identify what factors should be considered in the Quality management practices with performance in higher education institutes (HEIs) (Tarí & Dick, 2016). The second viewpoint is for developing a specific instrument for determining the factors that influence in organizational performance. In this regard, the instrument for measuring the influence factors on organizational performance should be designed.

4. QUESTIONNAIRE DESIGN

There are many methods used by researchers to measuring organizational performance, for example case study, simulation, and others, but the most common one is survey (Pokharel, Choi, Sarkis, & Sarkis, 2015), and its suitable in a social science study (Hair, Black, Babin, Anderson, & Tatham, 2006). Referring to previous literature, there are many types of survey research method has data collection techniques such as interviews, questionnaire of this research, observation, and content analysis. According to Sekaran and Bougie (2010)in the survey research method the questionnaire type is the most commonly used for data collection techniques. The questionnaire of this paper is divided into four main parts as illustrated in Table 1 below.

Table 1
Summary of the structure Questionnaire

Part	*Contents*	*Sections*	*No. of Questions*
A	Respondent Background		8
B	Organizational performance	Customer perspective	5
		Internal process	4
		Learning and Growth	6
		Financial perspective	4
C	Infrastructure QMPs	Leadership	5
		Workforce	5
		Customer focus	4
		Strategic planning	5
D	Core QMPs	Information and Analysis	5
		Process management	5
E	Organizational learning		10
F	Organizational culture		8
G	Suggestions		

The first part of the questionnaire started in respondent background, were it is includes name of university and department, gender, age, academic rank, education background, and Number of years serving in the current position. The next five parts are the main part of the questionnaire that include study's variables, which are organizational performance, Infrastructure QMPs, Core QMPs, Organizational learning, Organizational culture. The last part of the questionnaire is to obtain the respondents' suggestions. The questionnaire is illustrated in Table 1. The details of the main part will be discussed in subsections 4.1-4.5.

The second part of the questionnaire use the six-point Likert scale. According to Sriram (2014) a six-point scale (strongly agree, agree, slightly agree, slightly disagree,

disagree and strongly disagree) provides enough options to capture various levels of the latent variable, forces respondents to choose between agree and disagree for all items, and less the options that it confuses the respondent. Therefore the researchers have chosen the six-point Likert scale as a way to know how strongly of the agreement or disagreement with the statements (Appendix A).

4.1. Organizational Performance

The previous studies focused on identifying organizational performance measures, but the difference in these measures due to the different type of activity or sector, in addition to the kind of performance to be measured. Some studies concerned with the financial dimension of performance, and the others are based on the financial dimension of performance.

To consider other measures of performance through efficiency and effectiveness. This dimension is to determine the core needs of the organizational performance, which is divided into four sub-dimensions of Balanced Scorecard perspectives (customer perspective, internal process, learning and development, and financial perspective) to measure overall performance (Farid, Mirfakhredini & Nejati, 2008a).

The first measurement of Organizational performance is Customer perspective, in this regard, the items under customer perspective are adapted from the relevant literature. The items were coding CUST1 to CUST5. The first item "Customer satisfaction survey" was adapted from Farid, Mirfakhredini, and Nejati (2008b); Liu, Ratnatunga, and Yao (2014); Meena and Thakkar (2014); Umayal and Suganthi (2012), the second item "Customer courtesy and respect survey" was adapted from Meena and Thakkar (2014); Olson and Slater (2002), the third item "Customer waiting time survey" was adapted from Kaplan and Norton (1992); Meena and Thakkar (2014), the fourth item "Quality service" was adapted from Olson and Slater (2002); Umayal and Suganthi (2012), finally, the item "Organization reputation" was adapted from Kaplan and Norton (1996); Olson and Slater (2002); Umayal and Suganthi (2012).

The second measurement is internal process, the items under this perspective are adapted from the previous literature. The items were coding INTR1 to INTR4. The first item "Number of new service introduce i.e. new courses, syllabi, program and curriculum change" is adapted from the previous study such as (Umayal & Suganthi, 2012; Wang, Wan, & Zhao, 2014; Zangoueinezhad & Moshabaki, 2011), the second item "the ratio of student to Academic staff" is adapted from Farid et al. (2008b); Zangoueinezhad and Moshabaki (2011), depending on Kaplan and Norton (1992); Zangoueinezhad and Moshabaki (2011) the third item was adapted "Education expenses per student". The last item "Number of faculty in specialized area" is adapted according to Umayal and Suganthi (2012); Zangoueinezhad and Moshabaki (2011).

The third measurement is learning and growth perspective. The items were coding LNGR1 to LNGR6. According to Liu et al. (2014); Umayal and Suganthi (2012); and Wang et al. (2014) the first item was adopted "Number of new patents", the second item "Number of employee suggestions" adapted from Liu et al. (2014), the third and fourth items adopted according to Meena and Thakkar (2014); Zangoueinezhad and Moshabaki (2011), where the items are "Adaption of new technologies and new ideas", and "Employee training" respectively, the item "Increase research productivity" adapted from Zangoueinezhad and Moshabaki (2011), the last item is "Academic excellence", where it is adapted depended on previous study (Umayal & Suganthi, 2012; Zangoueinezhad & Moshabaki, 2011).

Finally, the fourth measurement is financial perspective, this measurement includes four items coding FINA1 to FINA4. The first item "Fund raising" adapted from three studies (Farid et al., 2008b; Umayal & Suganthi, 2012; Wang et al., 2014), the item "Investment in people" is the second, it was adapted depending onUmayal and Suganthi (2012), the third item "Annual grants" depending on Umayal and Suganthi (2012); and Callado and Jack (2015). According to Zangoueinezhad and Moshabaki (2011) the last item are adopted "More efficient and effective use of facilities".

4.2. Infrastructure Quality Management Practices

The previous studies focused on identifying Infrastructure-QMPs measurement. There are differences among the measurements had dependent on the type of study. According to Mohammed, Taib, and Nadarajan (2016) this study dependent to MBNQA standers as measurement to the fourth practices that Leadership, Workforce, Customer focus, and Strategic planning.

Firstly, leadership (LS) is the first measurement of Infrastructure-QMPs were include five items, its coding LS1 to LS5. The five items dependent on the previous studies, it was adapted to be suitable for this study. The first item is "The head of departments accept the responsibility of quality" (Badri et al., 2006; Flynn, Schroeder, & Sakakibara, 1994; Mellat-Parast, 2013; Naor, Goldstein, Linderman, & Schroeder, 2008; Talib, Rahman, & Qureshi, 2013), the second item is "Provides personal leadership for quality improvement" (Badri et al., 2006; Flynn, Schroeder, & Sakakibara, 1995; Naor et al., 2008; Talib et al., 2013), the third item is "top management encourages employee involvement in the production process" (Flynn et al., 1994; Naor et al., 2008), the fourth item is "creates and communicates a vision focused on quality improvement" (Badri et al., 2006; Naor et al., 2008), the fifth item is "pursues long-term quality objectives" (Mellat-Parast, 2013; Talib et al., 2013).

On the others hand, Workforce (WF) is the second Infrastructure-QMPs measurement. This measurement have five items WF1 to WF5. This items was adapted to be suitable for this study. The first item is "The organization forms teams to solve problems"(Naor et al., 2008; Zu, 2009), according to Zu (2009) the second

item is "employees are recognized for superior quality improvement", the third items is "Quality-related training is given to hourly workers in the organization" (Sabella et al., 2014; Sabella, Kashou, Omran, Stokes, & Stokes, 2015; Zu, 2009), the fourth item is "Quality-related training is given to managers and supervisors in organization" (Zu, 2009), the last item is "The organization has an effective appraisal system rewarding the staff for their efforts (financial or non-financial)" (Sabella et al., 2014; Talib et al., 2013).

The third Infrastructure-QMPs measurement is Customer focus (CF). This measurement have four items CF1 to CF4. The items was adapted to be suitable for this studyaccording to Naor et al. (2008); and Zu (2009). The first item is "The organization is close contact with our customers", the second item is "The customers give us feedback on our quality", the third item is "customers are actively involved in our procedure design", the last item is "The organization strive to be highly responsive to our customers' needs".

Finally, the fourth measurement is Strategic planning (SP). This measurement has five items that coding SP1 to SP5.This items dependent on the previous studies, it was adapted to be suitable for this study. According toTalib et al. (2013) the first and second items is adopted to suitable with this research, the two items are "Development and implementation of strategies and operational plans focused on customer satisfaction" and "Extent to which management sets objectives for managers and employees", the next item is "Extent to which the top-management supports long-term quality improvement process rather than short term gains" were it was adapted according to Meyer and Collier (2001); and Talib et al. (2013).The item "Allocation of adequate resources for new facilities, process improvements, and training is done considering long-term objectives"is the fourth, it was adopted from Talib et al. (2013). Finally, the last item "The strategies are translated into actions" adopted according to Meyer and Collier (2001).

4.3. Core Quality Management Practices

Previous studies that identified two indicators to measurement Core-QMPs according to MBNQA are Information and analysis, and Process management.

The first measurement is Information and analysis (IA), this measurement includes five items that coding IA1 to IA5. All these items adopted according toTalib et al. (2013), the five items are "important information is presented and transmitted to employees", quality data (cost of quality, rejections rate, errors rate, etc.) are used as tools to manage quality", "Use of charts, graphs and other statistical tools and techniques to monitor quality", "Degree to which departmental meetings are conducted at regular intervals to plan, implement and monitor the effectiveness of quality improvement programs", and "quality data are used by top and middle management in decision making, planning and controlling" respectively.

The second measurement is Process management (PM), this measurement has five items adopted according to Sabella et al. (2015), it was coding PM1 to PM5. The process management items are "In designing processes factors like quality, costs, and productivity, are considered", "Before applying new procedures, the organization conducts comprehensive tests to assure quality", "The organization continuously improves its processesto enhance service quality", "Evaluating services on the basis of efficiency, including cost and timeliness", and "Work procedures and possible outcomes are explained in advance to customer" respectively.

4.4. Organizational Learning

Based on previous studies, which have been presented in the literature, there are many perspectives to measure organizational learning (OL). This study adapts the items that measuring this variable depending on the Lopez et al. (2005) study, Which consists of knowledge acquisition, information dissemination, information interpretation, and organizational memory. This measurement include ten items that coding OL1 to OL10.

The Organizational learning items are "consolidated R&D policy", "New ideas and approaches on work performance are experimented continually", "Organizational systems and procedures support innovation", "The organization has formal mechanisms to guarantee the sharing of best practices among the different fields of activity", "There are individuals responsible for collecting, assembling and distributing employees' suggestions internally", "The organization develops internal rotation programs so as to facilitate the shift of the employees from one department or function to another", "The Company offers other opportunities to learn (visits to other parts of the organization, internal training programs, etc.) so as to make individuals aware of other people's or departments' duties" "Databases are always kept up-to-date", "Employees often consult the databases", and "The codification and knowledge administration system makes work easier for the employees" respectively.

4.5. Organizational Culture

Based on previous studies, which have been presented in the literature, there are many perspectives to measure organizational learning (OL). This study adapts the items that measuring this variable depending on the Denison and Mishra (1995) study, which consists of involvement, consistency, adaptability, and mission. There is wide agreement with this measurement, several studies have been applied in multiple domains such as business, education(i.e. Aftab, Rana, and Sarwar (2012); Ehtesham, Muhammad, and Muhammad (2011); Imam et al. (2013); Xiao-yan (2006).

This measurement include ten items that coding OC1 to OC8. The Organizational culture items are "Affect the participation of employees in decision-making",

"Cooperation across functional roles is actively encouraged", "There is agreement about the way that we do things in organization", "Doing business is very consistent and predictable", "Customers' comments and recommendations often lead to changes", "Easy to responsive and changes", "Long-term purpose and direction", and "Shared vision of what this organization will be like in the future" respectively.

5. PILOT STUDY

The first draft of the questionnaire design based on standards that were used in previous studies. In order to re-use of those standards and make them conform to this study, it has been rewritten a few sentences to correspond with this study. The pilot testing is done through two tests: validity that reflect the accuracy of the scale in terms of the correct representation of the variable be measured, and reliability, which represents consistency, meaning that the results are similar even if the measurement process was repeated more than once (Laurel, 2003; Lawrence, 1997). These tests will be carried out through the distribution of the questionnaire to a random sample of 25 heads of department in the Iraqi universities. As well as, to improve the measure the researcher is keen to distribution and retrieval of all questionnaire and the inclusion of all comments and suggestions, as well as an assessment of the validity through Cronbach alpha that must be not less than 0.7 (Hair, Money, Samouel, & Page, 2007), and reliability testing using correlation analysis, which must up 0.4 to be relatively strong (Briggs & Cheek, 1986; Shortell, 2001).

The respondents consisted of five universities, where chosen ten random emails from each university, the number of respond are 10 from university of Mosul, 5 responds for University of Baghdad and University of Basrah, finally, university of Duhok and Salahaddin respond number are 4,1 respectively (see Table 2). In the same vein, the percentages of gender are 84% male and 16% female.

Table 2
The Frequency of the Universities and Gender

		Frequency	*Valid Percent*
University	Baghdad	5	20
	Mosul	10	40
	Basrah	5	20
	Duhok	4	16
	Salaheddin	1	4
	Total	25	100
Gender	Male	21	84
	Female	4	16
	Total	25	100

In relation to age, 12% respondents (3) between 30 to 39 years of age, 20% respondents (5) between 44-49 years of age, 40% respondents (10) between 50-59 years of age, at the end, 28% responds more than 60 years old (for more details see Table 3). For the experience the study use three kind of demographic indicators Academic rank, education background, and Numbers of years serving in current position (Head of department). For Academic rank the test get 52% of respond of Assistant professor, 24% for Professor and same percentage for Senior lecturer. As well as, education background show 88% of respond had PhD. Degree, and 12% Master. Finally, 80% of responds serving more than three years as a head of department, and 20% serving 1 to 3 years in this position (Table 4).

Table 3
The Frequency of the Respond Age and Academic rank

		Frequency	*Valid Percent*
Age	30-39	3	12
	40-49	5	20
	50-59	10	40
	More than 60	7	28
	Total	25	100
Academic rank	Professor	6	24
	Assistant Professor	13	52
	Senior Lecturer	6	24
	Total	25	100

Table 4
The Frequency of the Education Background and No. of Years Serving in the Current Position

		Frequency	Valid Percent
Education Background	PhD.	22	88
	MSc.	3	12
	Total	25	100
No. of Years Serving in the Position	1-3 years	5	20
	More than 3 years	20	80
	Total	25	100

In short, a pilot test was conducted to measure the consistency among the items of the research constructs. It was uncovered from the pilot study results that all the constructs had Cronbach's alpha of not less than 0.829, as shown in Table 5.

Table 5
Reliability Analysis Results

Construct	*Coding*	*No. of Questions*	*Cronbach's Alpha*
Customer perspective	CUST	5	0.829
Internal process	INTE	4	0.882
Learning and Growth	LNGR	6	0.868
Financial perspective	FINA	4	0.832
Leadership	LS	5	0.851
Workforce	WF	5	0.930
Customer focus	CF	4	0.830
Strategic planning	SP	5	0.902
Information and Analysis	IA	5	0.922
Process management	PM	5	0.925
Organizational learning	OL	10	0.929
Organizational culture	OC	8	0.938

6. CONCLUSION

This paper gives an overview of how research questionnaire for measuring the influence of determined factors on organizational performance by is developed, following relevant academic literature. The results of the pilot study show that the questionnaire is reliable. The reason of following the due process of the questionnaire development is to validate the contribution that the findings of this research are to make both to the theory and practice of organizational performance. The questionnaire was also given to four academic experts for proper review before proceeding to pilot testing. According to expert comments, there are necessary modifications were done to the questionnaire.

References

Aftab, H., Rana, T., & Sarwar, A. (2012). An Investigation of the Relationship between Organizational Culture and the Employee's Role Based Performance: Evidence from the Banking Sector'. *International Journal of Business & Commerce, 2*(4), 1-13.

Alexander, F. K. (2000). The changing face of accountability: Monitoring and assessing institutional performance in higher education. *Journal of Higher Education*, 411-431.

Badri, Abdulla, M., Selim, H., Alshare, K., Grandon, E. E., Younis, H., & Abdulla, M. (2006). The Baldrige Education Criteria for performance excellence framework: Empirical test and validation. *International Journal of Quality & Reliability Management, 23*(9), 1118-1157.

Briggs, S. R., & Cheek, J. M. (1986). The role of factor analysis in the development and evaluation of personality scales. *Journal of personality, 54*(1), 106-148.

Broad, M., & Goddard, A. (2010). Internal performance management with UK higher education: an amorphous system? *Measuring Business Excellence, 14*(1), 60-66.

Callado, A. A. C., & Jack, L. (2015). Balanced scorecard metrics and specific supply chain roles. *International Journal of Productivity and Performance Management, 64*(2), 1-24.

Cao, Z., Huo, B., Li, Y., Zhao, X., & Wagner, B. (2015). The impact of organizational culture on supply chain integration: A contingency and configuration approach. *Supply Chain Management: An International Journal, 20*(1).

Denison, D. R., & Mishra, A. K. (1995). Toward a theory of organizational culture and effectiveness. *Organization Science, 6*(2), 204-223.

Ehtesham, U. M., Muhammad, T. M., & Muhammad, S. A. (2011). Relationship between Organizational Culture and Performance Management Practices: A Case of University in Pakistan. *Journal of Competitiveness, 1*(4), 78-86.

Farid, D., Mirfakhredini, H., & Nejati, M. (2008a). Balanced scorecard application in universities and higher education institutes: implementation guide in an Iranian context. *Annals of University of Bucharest, Economic and Administrative Series, 2*, 31-45.

Farid, D., Mirfakhredini, H., & Nejati, M. (2008b). Prioritizing Higher Education Balanced Scorecard Performance Indicators Using Fuzzy Approach in an Iranian Context. *Lex ET Scientia Int'l J., 15*, 338.

Flynn, B. B., Schroeder, R. G., & Sakakibara, S. (1994). A framework for quality management research and an associated measurement instrument. *Journal of Operations Management, 11*(4), 339-366.

Flynn, B. B., Schroeder, R. G., & Sakakibara, S. (1995). The impact of quality management practices on performance and competitive advantage. *Decision Sciences, 26*(5), 659-691.

Frank, K. A., & Fahrbach, K. (1999). Organization culture as a complex system: balance and information in models of influence and selection. *Organization Science, 10*(3), 253-277.

Funderburk, F. R. (2004). Organizational culture from a complex dynamic systems perspective: Moving from metaphor to action in healthcare. *Syst Models Org Behav*.

Greiling, D. (2005). Performance measurement in the public sector: the German experience. *International Journal of Productivity and Performance Management, 54*(7), 551-567.

Hair, J. F., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate data analysis*.

Hair, J. F., Money, A. H., Samouel, P., & Page, M. (2007). Research methods for business. *Education+ Training, 49*(4), 336-337.

Hofstede, G., Neuijen, B., Ohayv, D. D., & Sanders, G. (1990). Measuring organizational cultures: A qualitative and quantitative study across twenty cases. *Administrative science quarterly*, 286-316.

Imam, A., Abbasi, A. S., Muneer, S., & Qadri, M. M. (2013). Organizational culture and performance of higher educational institutions: The mediating role of individual readiness for change. *European Journal of Business and Management, 5*(20), 23-34.

Jaafreh, A. B., & Al-abedallat, A. Z. (2013). The Effect of Quality Management Practices on Organizational Performance in Jordan: An Empirical Study. *International Journal of Financial Research, 4*(1), p. 93.

Jain, A. K., & Moreno, A. (2015). Organizational learning, knowledge management practices and firm´ s performance: an empirical study of a heavy engineering firm in India. *The Learning Organization, 22*(1).

Kaplan, R. S., & Norton, D. P. (1992). The Balanced Scorecard-Measures that drive performance. *Harvard Business Review Review: On Measuring Corporate Performance., 70*(1), 71-79.

Kaplan, R. S., & Norton, D. P. (1996). Linking the balanced scorecard to strategy. *California management review, 39*(1).

Koe, W.-L., & Saring, S. N. (2012). Factors influencing the foreign undergraduates' intention to study at Graduate School of a Public University. *Jurnal Kemanusiaan Bil, 19*, 57.

Laurel, B. (2003). The Changing role of research. *Design Research methods and perspective EEUU Cambridge*.

Lawrence, N. W. (1997). Social research methods: qualitative and quantitative approaches. *Allen and Bacon (London)*.

Lin, Z. (2011). *An empirical study on the moderating effect of entrepreneurial cognitive biases on the relationship between organizational learning and firm performance – Data from Minnan region in Fujian Province in China*. Paper presented at the Business Management and Electronic Information (BMEI), 2011 International Conference on.

Liu, L., Ratnatunga, J., & Yao, L. J. (2014). Firm characteristics and balanced scorecard usage in Singaporean manufacturing firms. *International Journal of Accounting & Information Management, 22*(3), 209-222.

Lopez, S. P., Peón, J. M. M., & Ordás, C. J. V. (2005). Organizational learning as a determining factor in business performance. *Learning Organization, The, 12*(3), 227-245.

Martin, M., & Sauvageot, C. (2011). *Constructing an indicator system or scorecard for higher education: A practical guide*. (978-92-803-1329-1). Paris, France: International Institute for Educational Planning.

Masri, S., & Wilkens, K. (2011). Higher Education Reform in the Arab World. *The Brookings Project on US Relations with the Islamic World*.

Meena, K., & Thakkar, J. (2014). Development of Balanced Scorecard for healthcare using Interpretive Structural Modeling and Analytic Network Process. *Journal of Advances in Management Research, 11*(3), 232-256.

Mellat-Parast, M. (2013). Convergence theory in quality management: evidence from the petroleum industry. *International Journal of Quality & Reliability Management, 30*(2), 177-196.

Meyer, S. M., & Collier, D. A. (2001). An empirical test of the causal relationships in the Baldrige Health Care Pilot Criteria. *Journal of Operations Management, 19*(4), 403-426.

Mohammed, A. H., Taib, C. A. B., & Nadarajan, S. (2016). Infrastructure and Core Quality Management Practices in Higher Education Performance. *International Journal of Supply Chain Management, 5*(2), 138-143.

Naor, M., Goldstein, S. M., Linderman, K. W., & Schroeder, R. G. (2008). The Role of Culture as Driver of Quality Management and Performance: Infrastructure Versus Core Quality Practices. *Decision Sciences, 39*(4), 671-702.

Olson, E. M., & Slater, S. F. (2002). The balanced scorecard, competitive strategy, and performance. *Business Horizons, 45*(3), 11-16.

Peng, M. W. (2001). How entrepreneurs create wealth in transition economies. *The Academy of Management Executive, 15*(1), 95-108.

Pokharel, M. P., Choi, S. O., Sarkis, J., & Sarkis, J. (2015). Exploring the relationships between the learning organization and organizational performance. *Management Research Review, 38*(2).

Sabella, A. R., Kashou, R., Omran, O., Brown, S., & Brown, S. (2014). Quality management practices and their relationship to organizational performance. *International Journal of Operations & Production Management, 34*(12).

Sabella, A. R., Kashou, R., Omran, O. A., Stokes, P., & Stokes, P. (2015). Assessing quality of management practices in Palestinian hospitals. *International Journal of Organizational Analysis, 23*(2).

Sekaran, U., & Bougie, R. (2010). Research methods for business: A skill building approach. Wiley: London.

Shortell, T. (2001). An Introduction to Data Analysis & Presentation. *World Wide Web: http:// academic. brooklyn. cuny. edu/soc/courses/712/chap18. html*.

Sriram, R. (2014). Five things not to do in developing surveys for assessment in student affairs. *NASPA Research and Policy Institute Brief*, 1-11.

Talib, F., Rahman, Z., & Qureshi, M. (2013). An empirical investigation of relationship between total quality management practices and quality performance in Indian service companies. *International Journal of Quality & Reliability Management, 30*(3), 280-318.

Tarí, J. J., & Dick, G. (2016). Trends in quality management research in higher education institutions. *Journal of Service Theory and Practice, 26*(3), 273-296. doi: 10.1108/JSTP-10-2014-0230

Tharp, B. M. (2009). Four organizational culture types. *Organizational Culture White Papper*.

Theriou, G. N., & Chatzoglou, P. D. (2008). Enhancing performance through best HRM practices, organizational learning and knowledge management: a conceptual framework. *European Business Review, 20*(3), 185-207.

Triguero-Sánchez, R., Peña-Vinces, J. C., & Sánchez-Apellániz, M. (2013). Hierarchical distance as a moderator of HRM practices on organizational performance. *International Journal of Manpower, 34*(7), 794-812.

Umayal, K. P., & Suganthi, L. (2012). A Strategy Map of Balanced Scorecard in Academic Institutions for Performance Improvement. *IUP Journal of Business Strategy, 9*(3), 7-16.

Wang, G., Wan, J., & Zhao, L. (2014). Strategy map for Chinese science parks with KPIs of BSC. *Journal of Science and Technology Policy Management, 5*(2), 82-105.

Wang, X., Tian, Y., Cheng, Y., Li, C., & Hao, Y. (2011). *The relationship among organizational learning, quality method integration and performance.* Paper presented at the Business Management and Electronic Information (BMEI), 2011 International Conference on.

Wu, C.-L., Lv, L., Qi, W., & Zhang, Y. (2010). *Research on an empirical research program of university organizational performance assessment.* Paper presented at the 2010 International Conference on Machine Learning and Cybernetics.

Xiao-yan, Q. (2006). *Exploring Sustained Competitive Advantage: The Effect of Organizational Culture on Firm Performance.* Paper presented at the Management Science and Engineering, 2006. ICMSE'06. 2006 International Conference on.

Yechun, W., Hongming, X., Zhiliang, G., & Chunke, W. (2007). *Social Capital and Organizational Performance: Is Learning Orientation a Missing Link?* Paper presented at the 2007 International Conference on Wireless Communications, Networking and Mobile Computing.

Yin, C. (2013). *Does the external knowledge environment matter? A study on firms' learning processes and performance under different knowledge environmental conditions.* Paper presented at the Management Science and Engineering (ICMSE), 2013 International Conference on.

Yu-bing, H., & Yi, C. (2012). *Research on the relationship between open innovation, organizational learning and firm's innovation performance.* Paper presented at the Management of Technology (ISMOT), 2012 International Symposium on.

Zangoueinezhad, A., & Moshabaki, A. (2011). Measuring university performance using a knowledge-based balanced scorecard. *International Journal of Productivity and Performance Management, 60*(8), 824-843.

Zu, X. (2009). Infrastructure and core quality management practices: how do they affect quality? *International Journal of Quality & Reliability Management, 26*(2), 129-149. doi: 10.1108/02656710910928789

Appendix A (Factors and Items)

On the following scale, please circle the appropriate number which best reflect your perception.

Scales					
(1) Strongly Disagree	**(2) Disagree**	**(3) Slightly Disagree**	**(4) Slightly Agree**	**(5) Agree**	**(6) Strongly Agree**

A. Organizational Performance

Customer Perspective

1. The college conducts an annual survey to determine the students' satisfaction with the college performance.
2. Students get courtesy and respect by the Academic staff and administrative
3. The college offers services for students in shortest possible time.
4. The college is keen to provide high quality services
5. Students have a good image of the management reputation

Internal Process Perspective

6. The College offers a number of new service (i.e. new courses, syllabi, program and curriculum change).
7. The college provides acceptable ratio of academic staff to students.
8. College offers all the facilities (i.e. equipment and financial expenses) in proportion to the number of students.
9. The college provide specialists to meet the scientific requirements of the curriculum.

Learning and Growth Perspective

10. Top management encourages the Academic staff to receive awards such as patents, excellence awards
11. Top management dealing seriously with the staff suggestions
12. Top management is keen to adaption to new technology and new ideas.
13. Top management contributes to the involvement of all the staff to develop competencies.
14. Top management encourages Academic staff to increase research productivity.
15. Academic excellence is top management objective (through an increasing publish articles in journals, scientific conferences, and scientific awards)

Financial Perspective

16. Top management gets an increase in the funding rate from time to time
17. Investment in human resources is a priority.
18. Top management encourage staff and students to get Annual grants.
19. Top management encourage to more efficient and effective use of financial facilities

B. Infrastructure Quality Management Practices (QMPs)

Leadership

1. The head of departments within our college accept their responsibility of quality
2. Top management provides personal leadership for quality improvement
3. Top management encourages employee involvement in the decision process
4. Top management creates and communicates a vision focused on quality improvement
5. The Top management pursue quality objectives in the long term.

Workforce

6. Top management established teams aim to solve problems
7. The involvement of staff who got highest performer in the process of quality improvement
8. Quality-related training is given to administrative staff
9. Quality-related training is given to Academic staff

10 The top management has an effective system to reward employees for their efforts in the field of quality

Customer Focus

11. There is close contact between top management and students
12. Our students give us feedback to improving our quality.
13. The students are actively involved in our procedure design
14. Top management strive to be highly responsive to our students' needs

Strategic Planning

15. Development and implementation of strategies and operational plans focused on student satisfaction
16. Top management identify the objectives of academic staff and administrative staff
17. Top management supports long-term quality improvement process rather than short term gains
18. The allocation of adequate resources (such as new facilities, process improvements, and training) are depending on the long-term objectives
19. The strategies are translated into actions

C. Core Quality Management Practices (QMPs)

Information and Analysis

1. Important information is presented and transmitted to employees
2. Quality data (cost of quality, rejections rate, errors rate, etc.) are used as a measurements to quality management
3. Use techniques or statistical tools (such as charts, and graphs) to monitor quality
4. Top management meetings are conducted at regular intervals to plan, implement and monitor the effectiveness of quality improvement programs
5. Quality data are used by top management in decision making, planning and controlling

Process Management

6. When designing processes, top management carefully considers the following factors: Quality, Costs, Productivity, New Technology
7. Before applying new procedures, top management conducts comprehensive tests to assure quality

8. Top management continuously improves its processes, to enhance service quality
9. Evaluating services on the basis of efficiency, including cost and timeliness
10. Work procedures and possible outcomes are explained in advance to students

D. Organizational Learning

1. There is a consolidated and resourceful Research and Development policy
2. New ideas and approaches on work performance are experimented continually
3. Organizational systems and procedures support innovation
4. Top management has formal mechanisms to guarantee the sharing of best practices among the different fields of activity
5. There are individuals responsible for collecting, assembling and distributing employees' suggestions internally
6. Develops internal rotation programs so as to facilitate the shift of the employees from one department or function to another
7. Top management offers other opportunities to learn (visits to other parts of the college, internal training programs, etc.) so as to make individuals aware of other people's or management' duties
8. There is continuous review to keep the databases up-to-date
9. All the employees in the college can access to databases
10. The codification and knowledge administration system makes work easier for the employees

E. Organizational Culture

1. Most employee in this college have input into the decisions that affect them.
2. Top management encourages Cooperation and collaboration across functional roles
3. There is a high level of agreement about the way that we do things in this college.
4. The approach of business is very consistent and predictable.
5. Students' comments and recommendations often lead to changes in this college.
6. This college is very responsive and changes easily.
7. This college has a long-term purpose and direction.
8. There is a shared vision of what this college will be like in the future.

F. Suggestions ……