The Effect of Total Quality Management on University Performance in Jordan

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Abstract

Total Quality Management (TQM) a functioning idea to accomplish incessant performance improvement-is the word of mouth of the 1990s, attracting deep interest among organizations and educational institutions in many countries. Numerous policy-makers truly believe that TQM can improve the performance of their organizations but they did not test it to make sure the effect of TQM. Hence, the purpose of this study is to examine the effect of TQM on university performance in Jordan. This relationship obtains a substantial scholarly attention and several researches have been conducted in the western countries, but none has been conducted in Jordan in the recent year using this variable in a model. A structured survey was conducted and selected 10 public and 10 private universities in Jordan via cluster random sampling. The hypotheses were tested using SEM-AMOS package 22.0 based on resource based theory. Based on the statistical results, TQM has statistically significant effect on university performance in Jordan. Consequently, the findings evoked that there is a dire need to focus on TQM for boosting university performance and its sustainability in Jordan.

Keywords: Total Quality Management (TQM), university performance, Structural Equation Modeling (SEM), Jordan

1. Introduction

The higher education is a requirement imposed by the transformations in most societies of the developing and developed countries in the world. According to Altahayneh (2014) and Ariff, Zaidin, &Sulong (2007), universities meet various difficulties and encounters causing from speedy growth in student enrolments, financial crisis, decreasing the number of quality graduates, shortage of competent staff and qualified faculty members, and growing competition among public and private universities. These types of disputed issues encouraged several higher educational institutions to assess the way to deliver facilities to their students. This assessment also encouraged several universities to discover methods to change their administrative processes with the target of increasing efficiency and quality (McMillan, 2016).

According to McMillan (2016), in reaction to the necessity of improvement in the university services and administrative processes, numerous universities have instigated to search various management processes. Ritter (2015) claimed that total quality management is one of the widespread management practice esembraced by countless universities and the appropriateness of total quality management in the educational arena has engrossed the attention of numerous researchers (Sabet, Saleki, Roumi, &Dezfoulian, 2017; Venkatraman, 2017; Becket & Brookes, 2016; Kwan, 2016; Currie, Krbec, & Higgins, 2015; Salameh, Alzyadat, &Alnsour, 2015; Sirvanci, 2014; Zabadi, 2013). Total quality management is arecognisedarea of research where academics, researchers, and quality practitioners have impacted their ideas on the way to its progress. Santarisi and Tarazi (2018) TQM is correctly described as both a philosophy and set of controlling principles that epitomize the basis of constant developing organizations and it is the method of shifting the necessary culture of an organization and forwarding it toward better service quality. Krajewski et al. (2017) mentioned in their study that TQM is the idea that stresses the ideologies of customer satisfaction, employee participation and unceasing process development for reaching high levels of quality and performance.

Sabet et al. (2017); Venkatraman (2017); Becket & Brookes (2016); Kwan, (2016); Currie et al. (2015); Salameh et al. (2015) draw attention that higher educational institutions have focussed to TQM with the intention of refining their performance and make available top quality services and programs. So, lots of the previous researches specify a positive effect of TQM on both long-term and short-term performance. According to Brigham (1993) the momentum of TQM has been so spreadable that it swept through manufacturing, then service and health care, and now comes to

government and higher education. However, considering higher education, it has been much slower than other businesses to grip the TQM philosophy though a number of universities have make an effort to execute it in whole or in part (Elmuti et al., 2016).

2. Literature Review

2.1 Total Quality Management (TQM)

According to Altahayneh (2014) and Charantimath (2017) Total quality management is a controlling method that pursues to accomplish and put up with long-term organizational achievement by inspiring employees, fulfilling customer desires, admiring societal views and following governmental regulations and laws. Alternative TQM definition was familiarized by Corrigan (1995) who described total quality management as a controlling idea that constructs customer-driven organizations devoted to fulfil customer needs and wants via constant development in the proficiency of the organization and its practices.

Total quality management is more than a philosophy; it can be well-thought-out a suitable outline used in and by organizations to assure a methodical and enduring optimization of the additional value so as to get the most out of the realization of their aims (De Knop, Van Hoecke, & De Bosscher, 2014). Kolarik (2015); and De Knop et al. (2014), recognize three vital modules of TQM, number one is focus on customer satisfaction, two is unceasing development, and the last one is total participation and dedication. According to Peters (1984), these modules as essential skill packages to step onwards a useful service faced organization. The advantages of TQM can be viewed as the significances of its successful implementation. It has been exposed by numerous academics that the key objective of total quality management is enhancing performance (Currie et al., 2015).

By the way, performance enhancement as the top nexus of estimating TQM benefits. Similarly, it is exposed that accepting TQM has an advantage of upgrading customer satisfaction, better products, services quality and market share (Kwan, 2016). All these are correspondingly reflected as the benefits of TQM as all of them accomplished via TQM. In the same way, improving productivity, operating performance, financial performance and effectiveness are recognized as benefits of TQM (Sabet et al., 2017).

2.2 University Education in Jordan

University education in Jordan is acknowledged as a key to transformation and progress and that has begun an upsurge in the demand for its entrance, escorted by a number of confronts. According to Chapman (2011), university in Jordan, meet numerous difficulties, consequential from the economic growth and social changes, advancement of technology, and the globalization of the world economy.

Right now, Jordanian higher education enrolls about 398000 students in 34 universities (including public and private) and 51 community colleges, under the supervision of the Ministry of Higher Education and Scientific Research (Ministry of Higher Education and Scientific Research, 2016). The Higher Education Accreditation Council for both public and private universities is now independent (Chapman, 2011).

In spite of the modification exertions to accomplish high quality education, several universities in Jordan still grapple to assimilate quality to their administration endeavours. Khader (2017) claimed that Jordan has unexploited numerous things on the road to educational superiority. In recent times, some studies have been conducted in Jordan but most of them used qualitative methods in reaction to the claim of numerous researchers for applying total quality management principles in the universities (Sabri& El-Refae, 2016; Abdel-Qader et al., 2013; Al-Tarrawneh & Mubasilat, 2011).

2.3 TQM in University Education

Total quality management is an emerging idea; it has been widely embraced as a management pattern by lots of organizations globally since its establishment in 1980s (Kanji, Tambi, Wallace, 1999). TQM has its backgrounds in the industrial sector, there has been a solid push for accepting TQM in educational organizations from the stakeholders (Sakthiveland Raju, 2016). Numerous researchers revealed that total quality management has been extensively accepted by both public and private university education (Kanji et al., 1999). Samson and Terziovski (2012) identified that university education should be directed to overall TQM principles by the top administration for superior performance. Motwani, and Kumar (2001), specified that educational organizations had commenced to realize the pressure to change for improvement. These have pretended many challenges operating with the intangible procedures in university education surrounded by the various elements of TQM.

According to Venkatraman (2017), customer attention and frequent improvement are the mainly common viewpoints that have direct attachments for teaching and learning process in university education. However, at the time of applying TQM idea to their universities, some of them thought that participative management programs steer educational quality,

that may move away from their core process and customer focus (Alzhrani, 2015). Therefore, it is essential for universities to learn from the practices and to focus on their main processes, specially teaching or learning procedure and there must be a systematic appraisal of the performance, which is to be done by TQM (Aminbeidokhti et al., 2016). Kanji et al. (1999) mentioned that TQM has been employed to universities in the UK, USA and in Asian countries such as Japan, South Korea, Malaysia and also in some Arabian countries. However, Altahayneh (2014) mentioned that in Jordan, the public universities were quicker than private universities in embracing TQM. Hence, the researcher focuses on the Jordanian universities as a scope of the current study to see the effect of TQM on its performance.

2.4 Relationship Between Total Quality Management and Organizational Performance

Concerning the performance implications of TQM strategy, a significant amount of work reported that the TQM philosophy adoption will consequently provide benefit to every organization (Sallis, 2015). Samson and Terziovski (2012) explored grounded on a number of empirical researchers that the effect of TQM on University Performance cannot be denied. Such applicable to this study, since the organizations under the current study are universities.

Abd-al-Qader (2013) described the prospect of executing the ideas of total quality management at Mutah University. The results of that research revealed that the capability to utilize the total quality management ideas was significantly depended on the extents of leadership, mission of the university, coordination, customer satisfaction, scientific methods of decision-making and overall strategic planning. Sabri and El-Refae (2016) scrutinized the accreditation of BBA program in private universities in Jordan. The results proposed that though the preparations for accreditation in Jordanian private universities were generating certain improvement in deciding and promising quality bench mark in the BBA program, but, they were yet not enough. They suggested that accreditation to be used to all educational institutions in Jordan.

Jaff (2014) examined the intensity of relating Deming ideologies of TQM on faculties of educational sciences in Jordanian private universities from the standpoint of their faculty members. The results presented that Deming ideologies of TQM were almost utilized in the universities of education. The order of these ideologies differ as ordered by Deming and there were no significant differences between faculty responses attributed to gender and experience.

Several evidences have been established justifying the relationship between TQM and university performance in the education sector and where some other studies also shows a weak relationship between TQM and university performance (Sakthivel et al., 2015). Therefore, based on those findings and mixed results, this study proposes the following hypothesis:

H1: There is a significant effect of TQM on University Performance in Jordan.

2.5 Conceptual Framework of the Study

This study has been formulated based on Resource Based Theory (RBT) which claims that total quality management is a valuable and intangible resources that lead towards the better university performance. Hence, the constructs under investigation in this study are shown in the following schematic diagram.

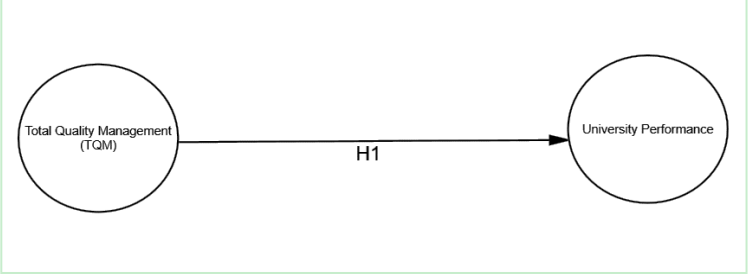

Figure 1. Research framework

3. Research Methodology

3.1 Sampling and Data Collection

This study is to explore the effects TQM on University performance in Jordan. Therefore, survey was conducted and perceptions of Jordanian university top management were collected to analyze the effect. In this regard a structured survey was conducted using cluster random sampling and selected 10 Public as well as 10 Private universities in

Jordan. The main ground of selecting 10 Public and 10 Private universities as to minimize the sample bias. Hence, data were collected from the randomly selected deans, deputy deans and professors of various faculties of those public and private universities. After that a total of 180 usable questionnaires were received back.

3.2 Instrumentation

This survey included two constructs which are TQM and University Performance. The TQM instrument was adapted and customized from the work of Altahayneh (2014). Whereas, university performance instrument was adapted and customized from the work of Santarisi and Tarazi (2018). Statement items were measured using a ten-point Likert interval scale.

3.3 Method of Analysisi

Structural Equation Modelling (SEM) is a second generation method of multivariate analysis technique (Hoque, Awang, Baharu, & Siddiqui, 2018a; Hoque, Awang, & Gwadabe, 2018g; Hoque, Awang, & Salam, 2017a; Hoque, Awang, & Siddiqui, 017b; Hoque, Awang, Jusoff, Salleh, & Muda, 2017c; Awang, 2014) thus, the researchers employed SEM so as to keep pace with the advancement in research methodology. In SEM, first run the Confirmatory Factor Analysis (CFA) procedure and after that accomplish the SEM procedure. Hence, this study used AMOS software version 22 for analysis.

4. Results

4.1 Measurement Model

Under the measurement model of this study found that all the Fitness Indexes (P-Value=.000; RMSEA=.066; GFI=.944; IFI=.977; CFI=.977; TLI=.969; NFI=.959; RFI=.945; ChiSq/df=2.245) shown in Figure 2 of the two latent constructs (i.e., TQM and University Performance) have met the requirement as well as signifies a satisfactoryifit to the data and result of all indexesiwas good. Hence, this study achieved the construct validity (Hoque & Awang, 2019; Hoque, 2018, Hoque, 2018a, Hoque. 2018b; Hoque, Siddiqui, Awang, & Baharu, 2018f; Hoque, Awang, & Ghani, 2016; Hoque & Awang, 2016a; Hoque & Awang, 2016b; Hoque & Awang, 2016c; Awang,i2015).

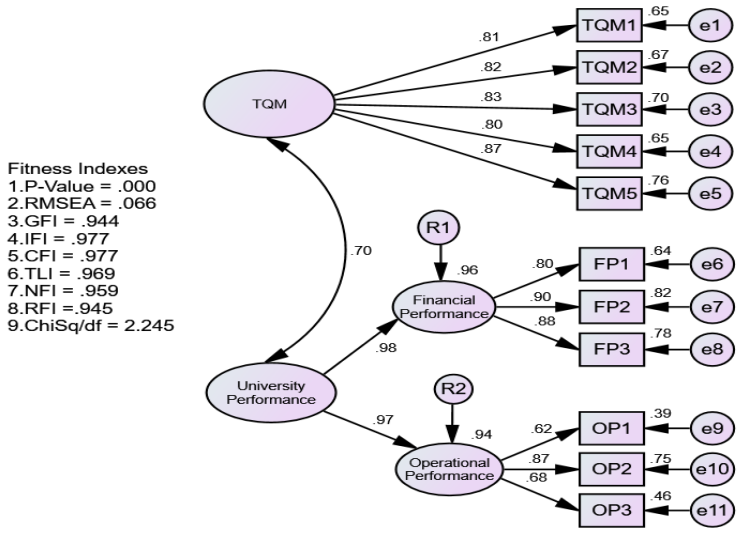

Figure 2. CFA results and the output

Table 1. CFA Results for the measurement model

Construct and Dimensions	Dimensions & Items	Factor Loading	CR (above 0.6)	AVE (above 0.5)
TQM	TQM1	.81	.915	.683
	TQM2	.82		

	TQM3	.83		
	TQM4	.80		
	TQM5	.87		
University Performance	Financial Performance	.98	.975	.951
	Operational Performance	.97		
Financial Performance	FP1	.80	.896	.741
	FP2	.90		
	FP3	.88		
Operational Performance	OP1	.62	.771	.535
	OP2	.87		
	OP3	.68		

The factoriloading value for every item of twoiconstructs including sub-constructs that comprise of TQM and University Performance together with CR and AVE for every construct as well as sub-constructs (in Table 1) whichiindicated alllatenticonstructs including university performance (i.e., TQM and University performance) have accomplished unidimensionality. All latent constructs have achieved convergent validity, and construct reliability.

Moreover, according toiAwang (2015) one of the criteria of Discriminantivalidity is the correlationibetween exogenous constructs must notiexceed 0.85. Discriminantivalidity of the constructs is achieved when the diagonal values (i.e. square-root of AVE for the respective constructs) are greater thaniany values in theirirows, and columnsirespectively (Hoque, Awang, Muda, & Salleh, 2018b; Hoque, Awang, Siddiqui, & Sabiu, 2018c; Fornell and Larcker, 1981).

Table 2. Discriminant validity index summary

Constructi	TQM	University Performance
TQM	.826	
University Performance	.699	.975

The correlation value of latent constructs TQM with university performance is .699. Theivalue in diagonaliis greater than the value in its rowiandicolumn in Table 2. So realises thatithe discriminantivalidity is achievedifor theimodel (Hoque, Siddiqui, & Awang, 2018d; Hoque, Siddiqui, & Awang, 2018e; Hoque, Gwadabe, & Rahman, 2017d; Fornell and Larcker, 1981).

4.2 Structural Model

The hypothesis H1is supported which is shown in Figure 3. In H1, TQM has aisignificantpositiveieffect on University Performanceiin Jordan (β=0.589, P=.001). The structuralimodel explains 48.9% variance in University Performance.

Table 3. Squared multiple correlations (R^2)

Variable	**Estimate (R^2)**
University Performance	**0.489**

Table 3 specifies that the predictors of University Performance explains 48.9% of itsivariance. In otheriarguments, the error variance of University Performance is about 51.1% of the varianceiof University Performance.

Table 4. Standardized regression weights of TQM on university performance

Variablei	**Path**i	**Variable**i	**Estimate**i
University Performance	←	TQM	**0.699**

Table 4 baseion Figure 3 showed that the effect of TQM on university performance wasi69.9% while 31.1% doesinot influence university performance.

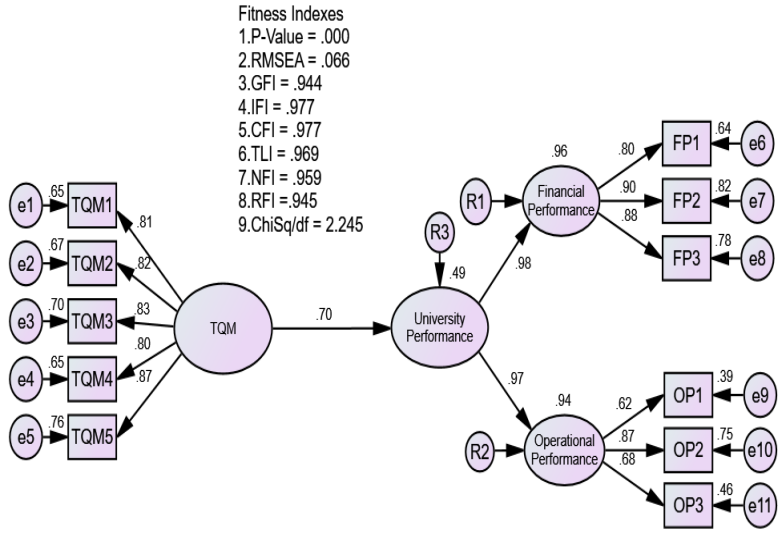

Figure 3. Standardized regression path coefficient

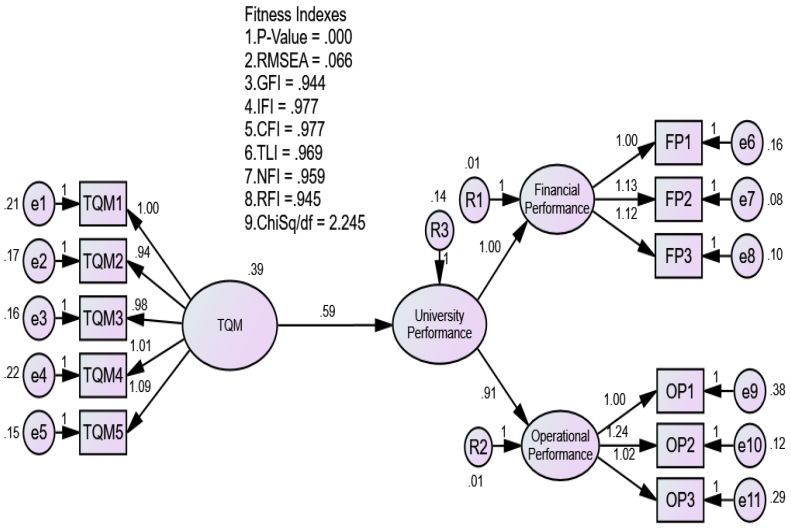

Figure 4. Unstandardized regression path coefficient

The unstandardizediregression weight (i.e. shown in Figure 4) indicatedithat the estimateiof the beta coefficientithatimeasures the effects of TQM on the University Performanceiconstruct.

Table 5. Regression weight

Variablei	Pathi	Variablei	Estimatei	S.E.	C.R.i	P	iResult
University Performance	←	TQM	.589	0.056	10.442	***	**Significant**

Note: *** P<0.05

Theihypothesis of this study wasispelt out as: H1, TQM has a significant positive effect on University Performance in Jordan (β=0.589, P=.001). The result in Table 5 showed thatithe level ofisignificance for regression weight indicates that the probability of getting a CR as large as 10.442 in absolute value is 0.05. In other words, the effects of TQM construct on University Performance construct is highly significant. Hence,ithis research suggested thatithere is a straightforward need to give more attention on TQM for better university performance in Jordan and also toihelp in the national GDP of Jordan through proper exploitation of TQM.

5. Implications of the Study

This study has widened our perception pertaining to RBV and outlining the indispensable role of resources as TQM as well as this study is the extension of earlier studies about the effects of TQM on University Performance. This study has also outlined that TQM is significant for University Performance prediction. This, thus, sheds light of scholars of TQM as well as education arena to understand what further empirical associations they could possibly bring towards the university performance and its sustanability. Similarly, the findings highlight an important arena for TQM to focus and unleash how through effective TQM, university can gain better performance. Correspondingly, from this study, policy makers as well as all related stakeholders can get guidelines for policy or decision making regarding university management in Jordan.

6. Conclusion

The paper highlights and scrutinizes the effect of TQM on University Performance in Jordan. The significant conclusion from this study is that TQM has a positive and highly significant effect on Jordanian university performance. Hence, from the existing literature as well as this study, it can be explicit that TQM can clout the success, survival and university performance in Jordan. Further study on TQM could provide information as to what can mediate or moderate the relationship between TQM and Jordanian university performance. Although, this study confirmed the role of TQM as an important fact for university strategy, additional research is also desired to enhance the understanding of this critical TQM constructs as well as to determine other measures of university performance and assimilate them into TQM model. Academician or scholars can conduct more research from other sides of TQM as to see how education sector can help to adopt TQM in winning the rivalry in the competitive world economy.

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