

Mediating effect of TQM implementation on Libyan Higher Educational Institutions

Ahmed Alfitouri Mufta Eltarai¹, ARUN KUMAR TAROFDER²

¹Post Graduate Centre, Management and Science university, University Drive, Off Persiaran Olahraga, 40100 Shah Alam, Selangor

²Faculty of Business Management and Professional Studies, Management and Science university, University Drive, Off Persiaran Olahraga, 40100 Shah Alam, Selangor

²arun_kumar@msu.edu.my

ABSTRACT

There was a strong expectation that education would lead to faster economic development, more wealth and income distribution, greater equal opportunities, the availability of skilled personnel, national unity and political stability. Both societies and nations have heavily invested in this belief in education. Education quality is one of the most critical standards of the global era, which has created many problems for this organisation. Those institutions in higher education that want to overcome these challenges will also have to strive to develop their overall quality system management in a creative and inventive manner. Education quality standard in Libya is at the bottom of the Global Competitiveness Survey (2007/2008, Libya); it is 121st of 134 and 2.6 of 7. Multiple studies have therefore been conducted in Libya, the Alliance of the Gulf Nations, the ISECO and UNESCO concluded that improved standard of learning is weak, particularly in Arab States and Libya. The purpose of this study is therefore to recognise the mediating impact of TQM implementation on higher education institutions. To test the hypothesis, a quantitative analysis design was applied. Primary data from various Libyan universities were obtained by creating a questionnaire structure. To test the mediating impact of TQM on organisational performance, a multiple regression and Sobel test were used. Results show clearly that introduction of TQM dramatically increases the efficiency of Libya's higher education institutions. This study may consider one of the limited researches that concentrates on the implementation of TQM in high schools in particular in the Libyan context

Keywords

TQM implementation; Organizational performance; Employee involvement; Employee empowerment; Reward Recognition

Article Received: 10 August 2020, Revised: 25 October 2020, Accepted: 18 November 2020

Introduction

There is no question that education plays a key role in every country's development and progress. There was strong hope that advancement of education would result in faster economic growth, more distribution of wealth and income, greater equality of opportunity, the availability of qualified human resources and national unity and political stability. Most cultures and nations have invested heavily in education in this belief. However, increased student competition, reduced government funding, changing demographics and decreased retention of students are some of the many challenges facing higher education institutions worldwide. In addition, that stakeholder aspirations have led to increased demands for radical reform in graduate business school learning (1). This means that organizations utilizing public funds such as education institutions are under-pressure for adequate value in return for the services that are employed (2).

Education quality is one of the most critical demands of this era of globalisation, which has generated many challenges faced by this organization. Higher education institutions that wish to solve these difficulties can also have to try innovative and imaginative ways to strengthen their overall management of quality systems. Therefore, the first step towards excellent (3) and the protection of quality in higher education (4) was recognized as Total Quality Management (TQM). So many universities all over the world have started to adopt Total Quality policies under administrative leadership but have shied away from the problems of

classroom and curricula (5,6). The main goal of quality in education is to lift over these difficulties the overall educational performance. It is therefore vital for higher education institutions to adopt a global quality management strategy not only to raise educational standards, but also to enhance productivity and to improve graduates' skills to serve society and meet their expectations.

The Libyan educational system also struggles to fulfil the goals it has set, including providing the training and skills required to advance the economy (7–9), which are very close to those of other Arab countries as far as the universities are concerned. Business people believe that the educational system does not provide them with the qualifications that the economy demands, and other sectors in Libya are lamenting the general need for extensive re-training in all disciplines to produce them (10–12). The root of the issue is that their education is of low quality. Libya is at the bottom of the education quality list, with a ranking of 2.6 out of 7 being 121st of 134. According to these reports, there are many studies carried out in Libya or the League of Arab States, the Islamic Educational Scientific and Cultural Organisation (ISESCO) and UNESCO concluded that high quality education (in Arab countries in general and in Libya in particular) is poor. Furthermore, a general agreement is concluded among Libyan educators on the importance of improving the quality of services provided by Libyan SEIs (Libyan delegation report, 1998; University of Garyounis, 2008). Higher education in Libya therefore suffers from numerous problems and is confronted with many challenges. There is also an immediate need to apply TQM in education

to address these problems (Nilufer et al. 2002). The aim of this study is therefore to identify major factors affecting the implementation of the TQM in higher education in Libya and its impact on the performance of the institutions. The current report, with the best knowledge of researchers, is the first in which the extent of TQM implementation in public and private Libyan universities is investigated and compared. This study helped to ensure that the limited number of empirically based and validated studies available on the influence of significant factors affecting the application of TQM, especially in developing countries, were used both to develop TQM knowledge and to improve TQM practices. This research aims to classify, evaluate and thus be the first of its kind the extent of implementation of TQM in Libyan universities.

Literature Review

Total Quality Management

Several scholars, researchers, educators and consultants wrote about TQM and its principles. Nevertheless, some of the writers in the field of TQM are well-known and their contribution is measurable. Four quality experts have made a significant contribution to the growth of TQM and its methods and principles, in particular: W. Those are the methods of Edward Deming, Armand V. Feigenbaum, Joseph M. Juran, Philip B. Crosby, and the following pieces. To promote the introduction of TQM, a number of management tools and personnel have been developed to more effectively carry out the specified functions. Those include problem design and research methods, data collection and analysis, new approaches creation and testing (13).

TQM highlights that tools and techniques are important in analyzing and interpreting the data needed for a continuous process of improvement; therefore, correct decisions could be based on reliable information and data (14). Resources and techniques are functional processes, skills, means or mechanisms which can be used for particular tasks. We are used to promote meaningful changes and progress, among other issues. A single device that has a clear purpose can be defined as a single tool. This is often concentrated and used on its own (15). It is often used on its own.

Higher Education Sector and TQM

"Higher education quality is a multidimensional term that should include all its roles and activities: education and academic programmes, study and academic programmes, staffing, students, facilities and learning environments. Particular attention should be paid to work advancing awareness.

(9) stresses that higher education quality can be described as:

Quality as exceptional – Traditional quality notion which refers to extremely good standards and performance. The definition of consistency is also respectable.

Perfection or accuracy quality – refers to few defects in keeping with a certain standard. This also tracks production metrics such as school student success by graduation levels, career creation, etc.

Quality as fitness for purposes – Firstly, meeting the requirements or expectations of customers (e.g. students) or, secondly, fulfilling or meeting institutional or tasks objectives.

Value as value for money – implies cost-efficient and cost-effective operations. Also, this is a metric used by the UN and world higher education institutions to assess return rates and the quality of education.

Quality as a transformation – This latest concept of quality refers to empowering and improving the student and provides added value – qualitative changes for the student.

While schools have been slow to see the importance of TQM, many now use TQM to enhance their administration and tackle internal and external challenges. The literature review showed that many studies have been carried out all over the world in this field, for instance:

Quality education is all about systems that lead to good academia, excellent academic outcomes, progressive and adaptation management, transparent administration, prominent profile of the students outgoing and especially review and change of inputs (16). All stakeholders will play a prominent role. He added that TQM must be tested for the full success of students and employees in universities. (17) explores the scope of the facets of total quality control practiced by secondary schools in Kenya. We found that most schools are not dedicated to effective strategic planning, although we support efforts to improve human capital. (16) proposed a model for implementing TQM in institutions of higher education. Their model consists of performance criteria that help organizations achieve organizational excellence. Such requirements include leadership, policy and strategy, human resources management and collaborations and processes. The higher education sector became involved in TQM because of numerous challenges faced by universities and schools, including: higher operational costs, higher education, evolving demographics of students, increasing technology and demands for employers for better qualified graduates. (18) cited reasons for the need for higher education TQM rules, including: reduction of funding and increased public accountability pressure. Salameh. S. Salameh. R et al. (2011) emphasize that TQM adoption has many factors and motivations, including:

A low level of higher education spending means that colleges and universities pursue cost control. (TQM) is a mean of cost control tools and principles during service. Education costs are increased and need to be connected to the value of a return to the real development role that leads to the advancement of civilization through the standard of results (19). The HEIs compete strongly as every institute strives to attract as many students as possible in accordance with international standards. HEIs should be characterized by fulfilling students and society's best needs. Adoption of (TQM) increases reputation to fulfil the performance requirements of the University, which enhances its competitiveness among similar academic institutions. Governments want to evaluate higher education quality more than ever and to make more use of quality and reliability for the development of society. This puts HE under considerable pressure from different stakeholders such as students, governments, companies and society as a

whole. These pressures lead to the popularity of quality in HE and to the adoption of TQM in HEIs.

Factors Affecting TQM implementation

Employee involvement

Many students and practitioners who have addressed TQM are agreed that their performance depends on people's support, as demonstrated by programs such as function at the team, training and growth, employee engagement and involvement (20). According to (21), employee engagement is the mechanism by which organizational leaders are motivated to address issues and take decisions at their level. It is advantageous because they are closer to the challenges or opportunities and are also in the best place to agree to solve issues and to improve processes. The engagement of employees will start with a personal commitment to quality. If employees accept quality philosophy and commit to it, they more often use and adopt high-quality tools and techniques in their daily work (22–24). Quality leaders use a variety of primary strategies to encourage employee engagement.

also highlighted the need for horizontal integration and collaboration between departments which are considered as part of a single system by involving employees to ensure effective implementation of TQMs. According to (25) the Top Management must motivate all its staff in the planning, execution and assessment of development programs in order to ensure everyone's participation in an organization in quality improvement. Organizations should use collaboration, feedback programs and encourage their workers to deal with quality issues and to connect around the company to achieve employee engagement. The engagement of workers is an important tool for altering the application of TQM; in addition, participation is at the core of TQM values (2,26–28).

Employee Empowerment

[29] argued that workplace satisfaction and engagement are closely related concepts. There are important differences in engagement and empowerment. Employees concerned are asked for their feedback, but their jobs are not controlled. Employees who are empowered are responsible for the processes and the products or services generated by them. (8) defines employee empowerment as: • empowerment shares the power and power to decide and implement decisions with non-management employees. (30) pointed out in the same context that empowerment means that all staff feel they have the right and responsibility to participate in problem solving and decision-making at their appropriate levels of operation. Moreover, some researchers (31–33) considered employee empowerment to be the key problem in building a work environment that would allow employees to take responsibility.

Rewards and Recognition

The purpose of a compensation and recognition program is to affect the performance of employees by reinforcing positive values and ethics. Organizations effectively

implementing TQM are seeking to introduce a standard that catches people from a values or behavior point of view in doing the right thing (1,34,35). The key reason that an company develops a program of awards is to inspire its workers to work harder and to operate more efficiently. (10) claims that workers need their accomplishments and contributions to be appreciated and rewarded for doing a good job. They need leaders who respect and lead them to even more achievement. This system could combine two types of rewards: tangible and intangible rewards such as staff recognized for well done work. (36) believes that a reward system is an important factor to promote the development of organisation. He argued for the value of the recompense program: The compensation scheme is not only meant to compensation the success of workers but also to remind those concerned of the expectations of the top management. If targets are revised, but the reward system is not, the result is conflicting signals from subordinates. The majority of subordinates overcome this dispute by following the compensation scheme objectives (p.211). After reviewing six empirical studies, (37) identified seven crucial success factors for TQM implementation. Reward and recognition systems were one of the things he recommended.

Communication and Information Systems

(38) have defined communication as the transfer of the received and understood message (information, concept, emotion, purpose and feelings or something else). He added that contact is the oil that holds the engine in motion and noted that it plays a facilitative role in the overall quality climate. Communication and information systems are essential processes for any team that aims to enhance their efficiency, according to (39). (40) state that communication and information systems are key factors in TQM implementation. Across all levels, workers must carry out quality management duties within the company and must also be informed of any relevant input to check whether prior decisions have an effect on overall quality improvements. Employees must be granted the right to take charge of their jobs and therefore the freedom to continue to develop. Management guidance is essential to ensure the achievement of organizational goals. (41) have also found that communications and information systems play a significant role in literature 's positive TQM implementation. In addition, the establishment of effective communications and information systems is essential for TQM implementation according to (42).

Continuous improvement

(43) mentioned continuously improving products, services and organizational systems in the context of the need to improve customer value. The expression continuous improvement comes from the Japanese word "kaizen." (32) describes kaizen as a philosophy of continuous development by all workers in an organization, in order to improve their everyday tasks constantly and incrementally. This is a mechanism which is not meant to have an end point, but instead to include an ongoing, incremental development and reform mechanism. In its 14 administrative offices, (1)

states that an organization's performance depends on continuous development of its production and service network, changes in quality and efficiency, and ultimately lowers costs constantly. Management is responsible for ensuring that there is an ongoing development mechanism around the company.

TQM and Organizational Performance

As (31) have noted, performance management shows the achievement of the company's organizational goals. As an output of the organizations' achievement or operations, (44) defines organisation effectiveness in the three dimensions: corporate and financial efficiency and operational effectiveness. Operational and non-financial performance includes market share, new product introduction, market efficiency and financial quality. Organizational performance is a multinational variable or structure measurable on key factors such as efficiency of product quality, customer satisfaction and financial performance. The perceptions of consumers affect the quality of a service or product produced. The quality of their service or product is often judged by companies on the basis of their target customers. As per (45), undertakings can quantify the quality of their services or products based on rework costs, scrap costs and defect rate. (46) thinks that the most effective and quality-determining method for a product is by assessing its level or reliability, whether or not it meets customer requirements and its fitness for use. Many companies today determine if the quality of the product or service is high in terms of customer satisfaction.

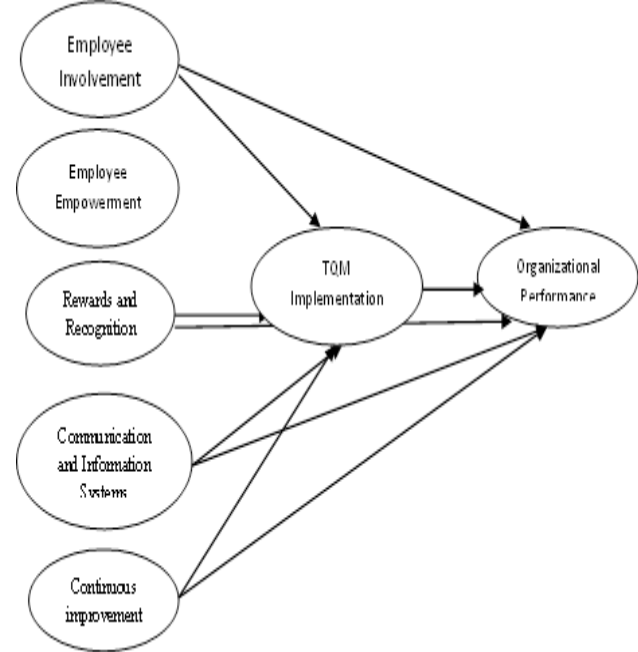


Figure 1: Conceptual Model

Research Approach and Instrument Development

The positive paradigm used in this research was determined in the current study by the nature of the research goals investigated. The research employed a positive approach by using a broad sample of researchers to assess the level of

TQM implementation and to examine the impact of five independent factors on TQM implementing factors. A positive approach was suitable for this study, since it tends to use data collection questionnaires and statistical analysis for specific testing hypotheses. One of the principal features of a positive philosophy is to explore relationships to find causal explanations for influences between variables. In this study, the primary data were used to test the hypothesis and collected through a structured questionnaire. Many important measures were taken to create the questionnaire, including operational definition, target population definition, pilot test, appropriate measurement scale definition, and so forth. The questionnaire consisted of three sections, first demographic, followed by behavior and suggestions. The nominal scale was used for population and the Likert five-point scale for behavioural. Open questions were used due to two reasons: (a) SPSS easy to code and (b) quantitative analysis easy to perform. Three important validities, facial, content and structure, have been confirmed through the adoption of constructs from past studies and discriminatory validity by exploratory analysis. 20 respondents from various hospitals were randomly selected in the pretest stage of the questionnaire to ensure the reliability of scales. The alpha value of Cronbach (.739) demonstrated strong internal consistency and helped finalize the questionnaire.

Sampling strategy

A total of 3562 workers from both private and public universities in Libya were reported. To pick the respondents, simple random sampling was used. Initially, an invitation was sent to all the schools and universities with permission. In addition, 10 native researchers were hired to collect data from this study. At the beginning of the data collection, they were briefly informed about the research that helped respondents react freely. This research succeeded in collecting 327 responses from different universities with three months of effort.

Table 1: Respondents' Characteristics

	Frequency	Percent
Male	211	64.52
Female	116	35.47
Bachelor	68	20.80
Masters	195	59.63
PhD	64	19.57
20-29	56	17.13
30-39	149	45.57
40-49	87	26.61
50 and Above	35	10.70
Less than 5 Years	49	14.98
5 to 10 Years	157	48.01
10 to 15 years	79	24.16
More than 15 years	42	12.85
Total	327	100

Participant characteristics indicated that about 64.52 percent of complaints were reported by male (Table 1). More than 45,56% of the respondents from universities in Libya are between the age of 30 and 39, followed by 40-49 (26,60%)

and 20-29 (1712%). Table 1 shows that 48.01 percent of respondents have between 5 and 10 years ' experience in the educational sector and 10 to 15 years of experience (24.15 percent). Finally, the frequency findings showed that 59.63% of respondents had a master degree. The findings also showed that the interview frequency for both bachelor and PhD is approximately identical (Table 1).

Exploratory Factor Analysis

Table 2 displays the outcomes of the factor analysis and the reliability evaluation. The results of the reliability test show that the minimum Cronbach alpha for this analysis is 0.868, ensuring high reliability of all components. Moreover, KMO was adequate at 0.827. Table 1 demonstrates the extraction and loading of the final products used for the analysis of the six components. A total of six variables with a value greater than 1.0 have been published. Such variables explained 91,437 percent of the total discrepancy. Because of the six organisation's performance conditions considered in this study, the combined results of factor analytics (Table 1) indicate that employee participation is prioritised by a value of 6.75, with a variability of 23.521%, and own-value management of employees by 4.952 and 19.123 percent (Table 2). For this study, six variables were calculated using 27 components.

Table 2: Exploratory Factor Analysis

KMO	.827				
Factor Items	Factor Loading	Component Mean	Cronbach Alpha	Initial Eigenvalues	% of Variance
Employee involvement		3.85	.882	6.75	23.521
EI 1	.901				
EI 2	.886				
EI 3	.854				
EI 4	.831				
Employee Empowerment		3.43	.876	4.952	19.123
EE 1	.896				
EE 2	.863				
EE 3	.842				
EE 4	.807				
EE 5	.786				
Rewards and Recognition		3.68	.905	4.218	17.985
RR 1	.883				
RR 2	.862				
RR 3	.831				
RR 4	.806				
RR 5	.783				
Communication and Information Systems		3.59	.934	3.215	14.568
CIS 1	.867				

CIS 2	.852	3.76	.868	2.319	9.896
CIS 3	.801				
CIS 4	.786				
Continuous Improvement					
CI 1	.862				
CI 2	.834	3.21	.883	1.213	6.352
CI 3	.802				
CI 4	.795				
TQM Implementation					
TQMI 1	.884				
TQMI 2	.869				
TQMI 3	.801				
TQMI 4	.756				
TQMI 5	.731				

Hypothesis Testing

Predictor Variables	Beta	T value	Sig Value	Tolerance	VIF
Employee Involvement (EI)	.354		0.000	.542	1.231
Employee Empowerment (EE)	.568		0.000	.745	1.465
Rewards and Recognition (RR)	.687		0.000	.741	1.213
Communication and Information Systems (CIS)	.316				
Continuous Improvement (CI)	.485		0.000	.621	1.364
Dependent Variable: TQM Implementation; Adjusted R² .721; F value: 105.005; Sig value: 0.000					
Employee Involvement (EI)	.459				
Employee Empowerment (EE)	.513				
Rewards and Recognition (RR)	.487				
Communication and Information Systems (CIS)	.647				
Continuous Improvement (CI)	.442				
Dependent Variable: Performance of HEI; Adjusted R² .681; F value: 105.005; Sig value: 0.000					

Table 3: Multiple Regression Analysis

Multiple regression analysis was performed in order to evaluate the direct effects of the 10 study hypotheses on TQM implementation and organisational efficiency. As for the model suitable for the organisational performance of dependent factors and for the implementation of the TQM, the results indicate that both factors were explained in five independent variables by over 65 percent. The TQM implementation value of R² and organisational output ranged from .721 to .681 (Table 3). Reward and appreciation of the TQM, with a 68.7 per cent variation, in combination with staff empowerment, continuous improvements, staff engagement and communication and information systems were explained (Table 3). Similar results have been published by other researchers (Thomas and Tracy 2014 and Suveera 2014): awards and awards have a major effect on the implementation of the TQM, particularly in the service industry. For higher education organisations, however, the improved productivity of communication and information systems represented almost 65%, along with employee happiness, compensation and recognition, employee loyalty and quality improvement. In both cases, these five variables have a significant positive effect.

Mediating Effect of Consumer Satisfaction

Hypothesis 5 focuses on mediating relations between five determinants of the implementation process and mediated corporate efficiency of TQM implementation. The mediation effect should be tested using a three-step approach according to Baron and Kenny (1986). In this study, types of explanations are independent variables (predictor), application of the TQM mediates variable and organisational output (result variable). The first step is to determine if the independent variable (Engagement of employees) determines the variable result. Without an independent variable, the mediation analysis will not proceed because there is no significant relation between the predictor and the result variable (Baron and Kenny, 1986). Second step is to check if the TQM variable can be predicted by the independent variable. The final step evaluates the combined effect on the dependent variables of independent and mediating variables and compares the outcomes to step 1 for mediation. Step 3 results are higher than phase 1 so the mediator has a significant mediating effect on the outcome of the independent variables. The mediation analysis is illustrated in Table 4 and Figure 2. Table 4 supports TQM's mediating feature because it is apparent that in step 3 the effect of the independent variable is less than in step 1. For eg, Table 4 forecasted employee engagement (EI) for Step 1 organisational performance (β -based EI=.491, $p<0.0005$) and foreseeable TQM for Step 2 implementation (β -EI=0.354, $p<0.0005$). At Step 3, the influence of participation on employees decreased significantly when applying TQM as the second predictor (β EI=0.012) and the value of P is 0.541, which is over 0.5 and suggests that we can deduce a substantial mediating effect. We may also argue that the application of TQM is greatly influenced by the effects on the organisational performance of employee participation. Hypotheses 5b and 5e have the same rationale (Table 4). Based on this observation, it is

clear that the five TQM determinants have a significant mediating effect on the efficiency of the organisation.

Table 4: Results of Mediating Effect

Hypothesis	Step 1	Step 2	Step 3
5a	EI $\rightarrow$ TQM $\beta_{EI}=-.354$, $p<0.0005$	EI $\rightarrow$ OP $\beta_{EI}=-.459$, $p<0.0005$	EI + TQM $\rightarrow$ OP $\beta_{EI}=-.012$ - $p=0.541$ $\beta_{TQM}=.613$, $p<0.000$
5b	EE $\rightarrow$ TQM $\beta_{EE}=-.568$, $p<0.0005$	EE $\rightarrow$ OP $\beta_{EE}=-.513$, $p<0.0005$	EE + TQM $\rightarrow$ OP $\beta_{EE}=-.025$ - $p=0.481$ $\beta_{TQM}=.543$, $p<0.000$
5c	RR $\rightarrow$ TQM $\beta_{RR}=-.687$, $p<0.0005$	RR $\rightarrow$ OP $\beta_{RR}=-.487$, $p<0.0005$	RR + TQM $\rightarrow$ OP $\beta_{RR}=-.067$ - $p=0.341$ $\beta_{TQM}=.643$, $p<0.000$
5d	CIS $\rightarrow$ TQM $\beta_{CIS}=-.316$, $p<0.0005$	CIS $\rightarrow$ OP $\beta_{CIS}=-.647$, $p<0.0005$	CIS + TQM $\rightarrow$ OP $\beta_{CIS}=.054$ - $p=0.497$ $\beta_{TQM}=.453$, $p<0.000$
5e	CI $\rightarrow$ TQM $\beta_{CI}=-.485$, $p<0.0005$	CI $\rightarrow$ OP $\beta_{CI}=-.442$, $p<0.0005$	CI + TQM $\rightarrow$ OP $\beta_{CI}=.048$ - $p=0.643$ $\beta_{TQM}=.876$, $p<0.000$

Discussions and Contributions

These research results are significant for two main reasons. Firstly, while previous research has highlighted the inadequate dimensions of management of human capital, particularly in educational institutions with regards to organisational developments such as TQM and staff participation. Secondly, as this section seeks to demonstrate, research and rising literature indicate that the capacity of a company for increasingly engaging its employees can be related directly to increased exposure to effective implementation of TQM.

Analysis clearly demonstrates that staff engagement is essential for effective implementation of TQM and has a positive mediating impact on the organisation's results. TQM advocates claim that their productivity will improve if businesses overhaul their management system by involving workers in problem solving, decision-making and strategies. Many previous studies have also empirically confirmed the results of this study. Organizations devoted to employee engagement have also been found to be committed to total performance. However, no TQM device is bound to fail if both components do not exist. Teams are a key component and important to support TQM. The TQM uses in particular three main types of teams: consulting commission, problem

solving teams of expertise and self-managed teams. The engagement of these teams is well associated with the level of TQM efficiency.

Successful TQM implementation requires employee empowerment based on results. Employee empowerment is important to make the expertise of the employee work. A key element of empowerment is to authorise or to grant workers the right to act in ways necessary to perform tasks (Schermerhorn, 1993). It should be understood that as workers get more power to satisfy their customers' needs, problems can be solved easily, even on the field. McConnell (1995) argues that the empowered employee must be able to produce those desired outcomes if a certain amount of decision-making authority was given. That team leader should have the opportunity to be creative in order to achieve his goal or goals. For effective use of resources and workforce, a team work and an empowerment of workers in the TQM organisation. It increases the ability to solve problems and allows a good decision maker for an employee. The decision-maker should bear in mind that his own organisation has made the decision. Several researchers investigated the effects of team empowerment on innovation and creativity, while others addressed the value of team empowerment success steps.

Similarly, the results show that successful implementation of TQM has significant positive effects on compensation and appreciation, and this new implementation ultimately increases organisational efficiency. Several previous studies have found similar results. The achievement of employees, customers and suppliers is important to recognise in the TQM ecosystem. Each employer should receive awards. The most important thing is to achieve results by complying with employer standards. It is very important that real accomplishments are awarded, but not a routine affair. The recipients of the award should be taken into consideration so that the few who have done an outstanding job can be given. The awards should extend to whole companies and should not be restricted to a particular discipline. The winners are also remembered by the others. This is the litmus test of the prize. The results showed more positive management and employee interactions and increased awareness from the top management in the TQM organisations. These contact components also illustrate the difference in the TQM's organisational engagement and support. However, the engagement and institutional support regressions perceived according to TQM or non-TQM environments were critical by different communication elements. In order for TQM to be effective, management systems must be compatible and integrated into a TQM environment. A different decision support or management system is created for the TQM process in many organisations. It would just cover a bureaucratic system already in place. In order for TQM to comply, the old bureaucratic system must now be updated. This study demonstrates a significant positive effect on quality improvement and successful implementation of TQM. Sobel research also highlighted the mediation impact on TQM implementation's organisational success by ensuring quality improvement. Practitioners should recognise that performance enhancing techniques should not be confused or dependent on the use of quality instruments or procedures. The development of organisational skills is much more nuanced and essential for performance

improvement. The study consisted of 11 skills to support programmes for continuous improvement: understanding of corporate objectives, management system for continuous improvement, involvement in management and support, group-specific improvement, improvement independence, development of employee skills, and an ongoing culture oriented to betterment. Both managers and analysts believe that employees can boost performance and productivity in problem solving, decision making and business processes with senior executive involvement. Employees should be empowered to monitor and participate in the processes of their organisation. To succeed, employees should be given power, knowledge, skills and corporate performance rewards.

Limitations and Further Study

During the development of this study, several limitations were found, which could impact the result obtained by extension. The cross-sectional approach to data collection was the most important. However, based on the detailed data required to achieve the goals of this study a quantitative approach would be more unreasonably complicated. Therefore, the non-longitudinal approach used to achieve the goals of the study used in other similar studies was satisfactory. Common method partialities, frequently connected to one method, were omitted and the Harman's specific factor test found that common method partialities were not a problem in this analysis. The study acknowledged that the Dean and other staff, as appropriate, understand the principal aspects of this research subjectively and that it could theoretically limit the results obtained. The implicit tendency of the survey respondents who answered the survey which emanate from the constraint, either to justify the actions of their companies or to clarify their perception of the efficient organisational management. The results of the study therefore have different management implications. Through quality and worker success, managers should be able to promote the positive effect of TQM activities in order to achieve the core concept behind TQM. The introduction of these activities, together with continuous methods of improvement, would improve the efficiency of educational institutions. The future research will be based on this study on the impact of culture on the implementation of TQM as the structure of the organisation has an impact on corporate performance.

References

- [1] Garza-Reyes JA, Yu M, Kumar V, Upadhyay A. Total quality environmental management: Adoption status in the Chinese manufacturing sector. *TQM J.* 2018;30(1):2–19.
- [2] Ojekalu SO, Ojo O, Oladokun TT, Olabisi SA. Factors influencing service quality. *Prop Manag.* 2018;37(2):215–28.

- [3] Fernández Cruz FJ, Egido Gálvez I, Carballo Santaolalla R. Impact of quality management systems on teaching-learning processes. *Qual Assur Educ.* 2016;24(3):394–415.
- [4] El Mokadem M. ISO 9000 moderation role over supply chain alignment in manufacturing context. *J Manuf Technol Manag.* 2016;27(3):338–63.
- [5] Sansone C, Hilletoft P, Eriksson D. Critical operations capabilities for competitive manufacturing: A systematic review. Vol. 117, *Industrial Management and Data Systems.* 2017. 801–837 p.
- [6] Turan A, Bozaykut-Bük T. Analyzing perceived healthcare service quality on patient related outcomes. *Int J Qual Serv Sci.* 2016;8(4):478–97.
- [7] Georgiev S, Ohtaki S. Evolution and implementation of quality management practices in the manufacturing sector in Eastern Europe after the end of communism: The case of Bulgaria. *Int J Qual Reliab Manag.* 2016;33(6):804–29.
- [8] Sunder M V, Mahalingam S. An empirical investigation of implementing Lean Six Sigma in Higher Education Institutions. *Int J Qual Reliab Manag.* 2018;35(10):2157–80.
- [9] Plewa M, Kaiser G, Hartmann E. Is quality still free?: Empirical evidence on quality cost in modern manufacturing. *Int J Qual Reliab Manag.* 2016;33(9):1270–85.
- [10] Habtoor N, Habtoor N. Influence of human factors on organisational performance: Quality improvement practices as a mediator variable. *Int J Product Perform Manag.* 2016;65(4):460–84.
- [11] Song H, Turson R, Ganguly A, Yu K. Evaluating the effects of supply chain quality management on food firms' performance. *Int J Oper Prod Manag.* 2017;37(10):1541–62.
- [12] Pattanayak D, Koilakuntla M, Punyatoya P. Investigating the influence of TQM, service quality and market orientation on customer satisfaction and loyalty in the Indian banking sector. *Int J Qual Reliab Manag.* 2017;34(3):362–77.
- [13] Carnerud D. Exploring research on quality and reliability management through text mining methodology. *Int J Qual Reliab Manag.* 2017;34(7):975–1014.
- [14] Singh J, Singh H. Continuous improvement philosophy – literature review and directions. *Benchmarking.* 2015;22(1):75–119.
- [15] Khurshid MA, Amin M, Ismail WKW. Total quality and socially responsible management (TQSR-M): An integrated conceptual framework. *Benchmarking.* 2018;25(8):2566–88.
- [16] Wu HC, Ai CH, Cheng CC. Synthesizing the effects of green experiential quality, green equity, green image and green experiential satisfaction on green switching intention. *Int J Contemp Hosp Manag.* 2016;28(9):2080–107.
- [17] Ahmed S, Abd Manaf NH, Islam R. Effects of Six Sigma initiatives in Malaysian private hospitals. *Int J Lean Six Sigma.* 2019;10(1):44–57.
- [18] Verma S, Prasad RK. The MEQUAL scale: measure of service quality in management education. *Int J Comp Educ Dev.* 2017;19(4):193–206.
- [19] Bhaduri RM. Leveraging culture and leadership in crisis management. *Eur J Train Dev.* 2019;
- [20] Salehzadeh R. Which types of leadership styles do followers prefer? A decision tree approach. *Int J Educ Manag.* 2017;31(7):865–77.
- [21] Pandita D, Ray S. Talent management and employee engagement – a meta-analysis of their impact on talent retention. *Ind Commer Train.* 2018;50(4):185–99.
- [22] Kichuk A, Brown L, Ladkin A. Talent pool exclusion: the hotel employee perspective. *Int J Contemp Hosp Manag.* 2019;31(10):3970–91.
- [23] van Heugten P, Heijne-Penninga M, Paans W, Wolfensberger M. Characteristics of highly talented international business

- professionals defined: Qualitative study among international business professionals. *Eur J Train Dev.* 2016;40(2):58–73.
- [24] Malik P, Lenka U. Exploring the impact of perceived AMO framework on constructive and destructive deviance: Mediating role of employee engagement. *Int J Manpow.* 2019;40(5):994–1011.
- [25] Mazzei A, Butera A, Quarantino L. Employee communication for engaging workplaces. *J Bus Strategy.* 2019;40(6):23–32.
- [26] Ferdowsian MC. Total business excellence – a new management model for operationalizing excellence. *Int J Qual Reliab Manag.* 2016;33(7):942–84.
- [27] Cheng CC, Chang YY, Tsai MC, Chen CT, Tseng YC. An evaluation instrument and strategy implications of service attributes in LOHAS restaurants. *Int J Contemp Hosp Manag.* 2019;31(1):194–216.
- [28] Modgil S, Sharma S. Total productive maintenance, total quality management and operational performance. *J Qual Maint Eng.* 2016;22(4):353–77.
- [29] Raja Sreedharan V, Raju R. A systematic literature review of Lean Six Sigma in different industries. *Int J Lean Six Sigma.* 2016;7(4):430–66.
- [30] de Menezes LM, Wood S. Quality management, job-related contentment and performance: An empirical analysis of British workplaces. *Evidence-based HRM.* 2015;3(2):106–29.
- [31] Amin M, Aldakhil AM, Wu C, Rezaei S, Cobanoglu C. The structural relationship between TQM, employee satisfaction and hotel performance. *Int J Contemp Hosp Manag.* 2017;29(4):1256–78.
- [32] Khan MN, Malik SA, Janjua SY. Total Quality Management practices and work-related outcomes. *Int J Qual Reliab Manag.* 2019;36(6):864–74.
- [33] Kumar V, Sharma RRR, Verma P, Lai KK, Chang YH. Mapping the TQM implementation: An empirical investigation of the cultural dimensions with different strategic orientation in Indian firms. *Benchmarking.* 2018;25(8):3081–116.
- [34] Sweis RJ, Al-Ghawi HJ, Alsaleh NAA, Al-Zu'bi ZMF, Obeidat BY. Benchmarking of TQM: The case of Hikma Pharmaceuticals company. *Benchmarking.* 2015;22(3):488–504.
- [35] van Kemenade E, Hardjono TW. Twenty-first century Total Quality Management: the Emergence Paradigm. *TQM J.* 2019;31(2):150–66.
- [36] Kumar V, Sharma RRR. An empirical investigation of critical success factors influencing the successful TQM implementation for firms with different strategic orientation. *Int J Qual Reliab Manag.* 2017;34(9):1530–50.
- [37] Wu HC, Cheng CC. What drives spectators' experiential loyalty? A case study of the Olympic Football Tournament Rio 2016. *Asia Pacific J Mark Logist.* 2018;30(4):837–66.
- [38] Sreedharan VR, Rajasekar S, Kannan Santhosh S, Arunprasad P, Trehan R. Defect reduction in an electrical parts manufacturer: a case study. *TQM J.* 2018;30(6):650–78.
- [39] Psomas EL, Jaca C. The impact of total quality management on service company performance: evidence from Spain. *Int J Qual Reliab Manag.* 2016;33(3):380–98.
- [40] Pasch F, Rybski C, Jochem R. Empirical study on quality management for product-service systems in industrial environment. *Bus Process Manag J.* 2016;22(5):969–78.
- [41] Al-Shboul MAR, Barber KD, Garza-Reyes JA, Kumar V, Abdi MR. The effect of supply chain management practices on supply chain and manufacturing firms' performance. Vol. 28, *Journal of Manufacturing Technology Management.* 2017. 577–609 p.
- [42] Kakouris AP, Sfakianaki E. Impacts of ISO 9000 on Greek SMEs business

- performance. *Int J Qual Reliab Manag.* 2018;35(10):2248–71.
- [43] Psomas E, Antony J. Total quality management elements and results in higher education institutions: The Greek case. *Qual Assur Educ.* 2017;25(2):206–23.
- [44] Nawelwa J, Sichinsambwe C, Mwanza BG. An analysis of total quality management (TQM) practices in Zambian secondary schools a survey of Lusaka district. *TQM J.* 2015;27(6):716–31.
- [45] Lobo SR, Samaranayake P, Laosirihongthong T. Quality management capabilities of manufacturing industries in the Western Sydney region. *Int J Qual Reliab Manag.* 2018;35(6):1232–52.
- [46] Lau AWT, Tang SL, Li YS. The level of TQM application by construction contractors in Hong Kong. Vol. 32, *International Journal of Quality and Reliability Management.* 2015. 830–862 p