



THE RELATIONSHIP BETWEEN TOTAL QUALITY MANAGEMENT AND SERVICE QUALITY IN HIGHER EDUCATION OF UAE

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Abstract:

The impact of Total quality management (TQM) on service quality is significant and could enhance the quality of education service of higher education institutions. TQM represents a set of factors to achieve sustainable success for service organizations such as universities and colleges through implications of certain quality principles such as decision making process, customer focus, leadership, education process approach, continuous improvement, relationships management, and engagement of people. The influences of these factors on service quality of higher education institutions in UAE have been examined in this study using quantitative approach based on Pearson collection coefficients to measure the strength of association of TQM factors with service quality within higher education context. Two institutions are selected to conduct the quantitative survey. The result of this study indicates that TQM factor have moderate and strong association with service quality of UAE universities and colleges. It is recommended to implement all factors of TQM without exemption to deliver high educational service for students in UAE or other countries.

Keywords: total quality management (TQM), service quality, higher education quality

1. Introduction

TQM efforts typically draw heavily attention from the mid of last century because of its developed principles and techniques of quality control. This concept has taken wide attention during the late 1980s and early 1990s before being overshadowed by ISO 9000 (Deming, 1986). TQM has proved to be efficient and effective management in all areas of an organization, in respect to its processes, products, employees, and for the satisfaction of relevant customers and shareholders (Fawzia, 2010). Quality

management has been brought to education as an effort to enhance the quality of life in communities by improving the quality of education, quality in the schoolrooms, and the quality in the process of teaching (Evans and Lendsay, 2005).

Customer's expectation of a particular service quality is determined by factors such as recommendations, personal needs and past experiences. The expected service and the perceived service sometimes may not be equal, thus leaving a gap. The relationship between service quality and customer satisfaction has received considerable attention in academic literature. The results of most research studies have indicated that the service quality and customer satisfaction are indeed independent but are closely related that and a rise in one is likely to result in an increase in another construct (Shanka, 2012; Uysal, and Mehmet, 2013; Azam and Moha Asri, 2015; Tham et al., 2017; Udriyah et al., 2019).

In UAE, higher education institutes are exercising mainly three functions, namely "teaching"; "research"; and "community services" and the role of above mentioned agencies is to monitor these Institute's performances in these three types of functions. Teaching here is the core of all types of education and serving to transfer knowledge and skills from teacher to students (Reyaz, 2012). Today, there are various challenges and obstacles facing the application of TQM in the UAE. Khadijah (2016) conducted survey in University of Sharjah, the found that faculty members have negative attitudes towards TQM. The reason might be the small and weak sample utilized or the lack of information concerning TQM. Based on a group survey conducted by Noura et al., (2014) the target group was asked if they were able to achieve their higher education degree personally, without governmental support. The result showed that over 50% of the responses agree that they would not be able to pursue their higher education goals, if the government had not provided the means for building quality and affordable educational options and providing full or partial scholarships. It is evident that applying TQM in UAE universities is not encouraging and requires further investigation on the influence of TQM factors like decision making process, customer focus, leadership, education process approach, continuous improvement, relationships management, and engagement of people on service quality of higher education institutions in UAE.

2. Service Quality

A business with high service quality will meet or exceed customer expectations whilst remaining economically competitive (Peter and Kundenbindung, 2008). Evidence from empirical studies suggests that improved service quality increases profitability and long term economic competitiveness. Improvements to service quality may achieved by improving operational processes; identifying problems quickly and systematically; establishing valid and reliable service performance measures and measuring customer satisfaction and other performance outcomes (Parasuraman, 2005; Haque et al., 2014; Rachmawati et al., 2019; Tarofder et al., 2019).

There are many theories of service quality, but the most familiar one in literature is GAP model which was developed in 1985, highlights the main requirements for delivering high service quality. It identifies five 'gaps' that cause unsuccessful delivery (Azam et al., 2014; Haur et al., 2017; Tarofder et al., 2017; Katukurunda et al., 2019). Customers generally have a tendency to compare the service they 'experience' with the service they 'expect'. If the experience does not match the expectation, there arises a gap. Ten determinants that may influence the appearance of a gap were described by Parasuraman, Zeithaml and Berry (1988) in the SERVQUAL model: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding the customer and tangibles.

Measuring service quality may involve both subjective and objective processes. In both cases, it is often some aspect of customer satisfaction which is being assessed. However, customer satisfaction is an indirect measure of service quality (Parasuraman, 2005).

The ISO 9000 series are based on seven quality management principles in service sector (ISO. International Organization for Standardization, 2017):

Table 1: Management principles in service sector

Principle 1 – Customer focus	Organizations depend on their customers and therefore should understand current and future customer needs, should meet customer requirements and strive to exceed customer expectations.
Principle 2 – Leadership	Leaders establish unity of purpose and direction of the organization. They should create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives.
Principle 3 – Engagement of people	People at all levels are the essence of an organization and their full involvement enables their abilities to be used for the organization's benefit.
Principle 4 – Process approach	A desired result is achieved more efficiently when activities and related resources are managed as a process.
Principle 5 – Improvement	Improvement of the organization's overall performance should be a permanent objective of the organization.
Principle 6 – Evidence-based decision making	Effective decisions are based on the analysis of data and information.
Principle 7 – Relationship management	An organization and its external providers (suppliers, contractors, service providers) are interdependent and a mutually beneficial relationship enhances the ability of both to create value.

It is evident that an improvement in service design and delivery helps achieve higher levels of service quality. For example, in service design, changes can be brought about in the design of service products and facilities. On the other hand, in service delivery,

changes can be brought about in the service delivery processes, the environment in which the service delivery takes place and improvements in the interaction processes between customers and service providers.

3. The Key Concepts of TQM

There is no widespread agreement as to what TQM is and what actions it requires of organizations, a review of the original United States Navy effort gives a rough understanding of what is involved in TQM. The key concepts in the TQM effort undertaken by the Navy in the 1980s include:

- Quality is defined by customers' requirements.
- Top management has direct responsibility for quality improvement.
- Increased quality comes from systematic analysis and improvement of work processes.
- Quality improvement is a continuous effort and conducted throughout the organization.

TQM is a management philosophy, a paradigm, a continuous improvement approach to doing business through a new management model. The TQM philosophy evolved from the continuous improvement philosophy with a focus on *quality* as the main dimension of business. Under TQM, emphasizing the quality of the product or service predominates. TQM expands beyond statistical process control to embrace a wider scope of management activities of how we manage people and organizations by focusing on the entire process, not just simple measurements.

TQM is a comprehensive management system which:

- 1) Focuses on meeting owners'/customers' needs by providing quality services at a cost that provides value to the owners/customers;
- 2) Is driven by the quest for continuous improvement in all operations;
- 3) Recognizes that everyone in the organization has owners/customers who are either internal or external;
- 4) Views an organization as an internal system with a common aim rather than as individual departments acting to maximize their own performances.

The improvement system must not only be applied continuously, but consistently, throughout the organization. This requires a disciplined continuous improvement system based on trust, with everyone in the organization striving to improve the system (Crosby, 1979).

Lau & Idris (2001) investigated the critical soft factors needed to ensure the success of consequently, the philosophy and key elements form the reference points for most discussions on TQM today. However, when one talks about quality today, ISO 9000 will always be part of the conversation. It is a set of standards established for the management of quality assurance. Unlike product standards, these standards are for a quality management system. Each country, which has adopted the standard, has its own set of standards technically equivalent to the ISO series.

4. The Quality of Higher Education

Higher education has a leadership and effective role in education. Higher education plays a key and active role in developing the society (Khadijah et al., 2016). For many centuries, universities had played critical role in educating the political leaders, potential professionals, religious and social scholars and business men who provide services to the society in order to enrich its values and enhance its resources (Evans and Lindsay, 2005).

Al-Atiqi (2009) defined Quality as the 'Fitness for purpose' while Crosby and Cowles defined it as 'conformance to requirements' in education sector, Quality in higher education is defined as *"the process that assures the delivery of international standards of quality in education. These agreed standards and standards must assure that any educational organization possess quality is its courses to grant a high quality of educational content and educational outcome as well"*. The National Unions of Students of Europe (2014) sets the following standards of quality in higher education:

- 1) **The Control of Quality:** It indicates the both formal and informal procedures of verification that institutions used them to observe the quality and the standards to a satisfactory and as intended standard.
- 2) **The Enhancement of Quality:** It refers to the process of changing activities positively for ensuring a constant enhancement and improvement in the institutional provision quality.
- 3) **The Assessment of Quality:** It refers to the external evaluation process that an external body of the quality of educational provisions in institutions undertakes it, particularly the quality of the experience of students.
- 4) **The Culture of Quality:** It is the process of creating internal high quality in the educational institution with full assessment of educational techniques used in courses and the implementation of study results. Moreover, Quality Culture could be considered as the capacity of the institution program to improve the quality assurance in the institution day to day work.

Due the rising demands of better quality higher education by students and whole society, the Higher Educational Institution (HEI's) becomes facing the same pressures that the business sector has been facing for long time. These implications become more critical for Higher Education Institutions that are weak in the infrastructure and finance resources and also face strong competition with local and international education institutions. The following are some lessons to be learnt from industry (Iman, 2015):

- Making the desire for quality a comprehensive principle in any process (creating a culture of quality)
- Be aware of the students and academics needs (actors participate in the service)
- Create the desirability of the institution of higher education by meeting economic and social trends while keeping a high level of academic integral and a high quality.

Some numbers of factors such as marketing, internationalization, competition, reproduction, growth of higher education and increased accountability, have raised interest in the quality of higher education at the primacy of the national debate. The following are some key indicators of good education (Fawzia, 2010):

- staff and faculty quality;
- students quality;
- curriculum quality;
- infrastructure quality;
- management and governance quality;
- accountability quality

The management of the organization quality as a whole is coordinated and coherent, interacts with its environment, and it is impossible for higher education institutions to exist as isolated enclaves. The speedy growth of knowledge is beneficial to the management and will require a high standard of managers. The Management functions as follows (Massey, 1992; Jayasuriya and Azam, 2017; Dewi et al., 2019; Nguyen et al., 2019): organizing, decision making, planning, recruitment, follow-up, communicate.

This study concluded that quality in higher education represents a multidimensional concept which contains all main educational functions association with the educational activities that are essential part of the academic life in the university. Thus, the quality assessment must consider the quality of achievement of students as well as teachers, administrative staff, the infrastructure of the university, curriculum, and finally learning outcomes. TQM management should be measure according to the factor defined by ISO, these factors are: decision making process, customer focus, leadership, education process approach, continuous improvement, relationships management, and engagement of people. The influence of these factors on service quality of higher education is examined on quantitative analysis after conducting a survey in two colleges in UAE as described in the next section.

4.1 Pearson Correlation Analysis

In correlation analysis, the study estimates a sample correlation coefficient (r), more specifically the Pearson Product Moment correlation coefficient. Correlation matrix is important because it is used to test the degree of association between the variables predefined in the theoretical framework.

This study used a quantitative method based on Person correlation coefficient to measure the association between decision making process, customer focus, leadership, education process approach, continuous improvement, relationships management, and engagement of people and service of quality of higher education. The population defined in this study consists of individuals represents university staffs, students, and lecturers in two selected institutions as mentioned above. Data was collected using questionnaires and analyzed using SPSS software. The number of valid questionnaires equal 392.

The correlation is not a direction relationship or causal relationship like regression. It is a statistical measure (expressed as a number) that describes the size and type (positive/negative) of a relationship between two or more variables. A correlation between variables, however, does not automatically mean that the change in one variable is the cause of the change in the values of the other variable. Therefore, correlation analysis will not be used to predict the changes in the Education Quality.

The highest level of correlation is found between relationship management and service quality of education. A correlation of $r = 0.580$ ($p < .0005$, $p = 0.000$) suggests a strong positive correlation between these two variables and show the importance of this factors on education quality.

As shown in Table 2, the lowest level of correlation is found between leadership and service quality of education = 0.379. But the magnitude of this correlation is still acceptable and shows a satisfactory degree of association between leadership in UCMOTHER University and Higher College of Technology Sharjah Women’s Colleges (SWC) and their education quality.

Table 2: Correlation Table

	Correlation coefficient
Decision Making and	$r = 0.570$, statistically significant, positive and moderate Pearson correlation between
Customer Focus and	$r = 0.409$, statistically significant, positive and moderate
Leadership and	$r = 0.379$, statistically significant, positive and moderate
Education Process and	$r = 0.427$, statistically significant, positive and moderate
Continuous Improvement and	$r = 0.472$, statistically significant, positive and moderate
Relationships Management and	$r = 0.580$, statistically significant, positive and moderate
Engagement People and	$r = 0.519$, statistically significant, positive and moderate

As shown in the Table-1, there is a moderate correlation between ISO factors (decision making process, customer focus, leadership, education process approach, continuous improvement, relationships management, and engagement of people) and service quality of education in UCMOTHER University and Higher College of Technology Sharjah Women’s Colleges (SWC). These correlations are non-directional. In other words, the directional and causal relationship is not possible to identify using Pearson correlation coefficient. Thus, conducting linear regression analysis is important to identify the casual relationships between these variables.

5. Conclusion

The whole education process should be improved through TQM practices (Maghfuriyah et al., 2019; Pushpakumara et al., 2019). Developing education quality is a long-term strategy to achieve comprehensive quality, so it requires sufficient time and intensity of the efforts of all employees in the educational institution and direct coordination between them.

The research findings indicated that this study considerably contributed towards an improved understanding of education quality in U.A.E. For a long time, researchers have been attempting to find out reasons low education quality. The principle of continuous improvement could be achieved through training on regular basis to develop the skills and knowledge of staff and lectures. Focusing on continuous improvement is the final outputs in education process (De Silva et al., 2017; Kuruwitaarachchi et al., 2019; Pambreni et al., 2019).

It is highly recommended that the management of the university do not fails to provide the necessary training, knowledge, quality tools, and empowerment for effective self-management of staff and employees. Hence, all training should be geared to specific, clearly defined objectives, must be performed as close as possible to the time it is required and is reinforced to ensure the desired results and increase the quality of education.

Effective leadership is important for higher education institutions. Universities need for the availability of shared or cooperative leaders who have experience in the concept of TQM to ease the implementation of TQM. Thus, it is a good strategy to establish a department of quality office in each college headed by specialist managers in TQM who will be responsible for following-up and monitoring the application of TQM. The findings and results from this study will help educational institutes to face the challenges in higher education influenced by several factors including quality of students & faculty, and academic factors associated with quality assurance. This is the first study that examined the effect of TQM factors on education service quality in U.A.E, and particularly in UCMOTHER University, and Higher College of Technology Sharjah Women's Colleges (HTC-SWC). This study makes several theoretical contributions to higher education quality. The first contribution of current research was that the results were based on data collection at point of working, which measured the perceptions about the actual quality factors rather than throughout experimental design with manipulated situation, which has been usually used in prior studies investigating impacts of ISO quality principles.

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