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Original Research Article

Does Organizational Culture Influence TQM Implementation in Malaysian Universities?

Maamoun Elmelhy[1*], Dr. Asniza Yusuf[1], Dr. Nahg Abdulmajid Alawi[1]
[1]Iqra Business School, University Geomatika Malaysia, Lot 5-5-7, 5th Floor, Prima Peninsular, Jalan Setiawangsa 11, Setiawangsa, 54200 Kuala Lumpur, Federal Territory of Kuala Lumpur, Malaysia

***Corresponding Author**
Maamoun Elmelhy
Iqra Business School, University Geomatika Malaysia, Lot 5-5-7, 5th Floor, Prima Peninsular, Jalan Setiawangsa 11, Setiawangsa, 54200 Kuala Lumpur, Federal Territory of Kuala Lumpur, Malaysia

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Abstract: This study aims to examine the influence of organizational culture on TQM (Total Quality Management) implementation within Malaysian universities. A questionnaire was developed to collect the data. Organizational culture is classified into (Hierarchical culture, group culture, and rational culture) as the independent and TQM implementation (Total Quality Management) which is classified into (Top management commitment, Quality Policy, Communication and information system, and Continuous improvement) as the dependent variables. The sample of 50 people who are in a relationship with Malaysian universities whether they are academic or administrative was selected using convenient sampling. The collected data was analyzed using descriptive means and regression. The results show that only all three dimensions of organizational culture have a great influence on TQM implementation in Malaysian universities. Limitation of this study is noted including the generalizability of the findings within Malaysian universities. Suggestions for future research include an examination of other variables that potentially influence the implementation of TQM.

Keywords: Organizational, Culture, Quality, universities; TQM; Malaysia

INTRODUCTION

All advanced civilizations need higher education to train their citizens regardless of their professions or positions, but only in medieval Europe did an institution recognizable as a university arise: a school of higher learning combining teaching and scholarship and characterized by its corporate autonomy and academic freedom. University originally was a place where ethical and intellectual renewal took place, as well as where independence of thought was nurtured. It was further highlighted that later in the eighteenth century, a new model of professorial organization combining teaching and research emerged in Europe and this form of university supported the requirements of the modern society resulting from the Industrial Revolution. After World War II, a worldwide expansion of higher education took place and the role of universities was to provide the new society with specialized professionals with high-level training to produce a highly competent workforce needed for national development. Scientific research outputs also were an essential contribution by universities in supporting national development (Perkin, 2007). Due to the evolution of massification, the traditional higher education role which is serving the public good has changed to serve the private good as a tradable commodity. In the past, the university was established to serve society by creating, applying, and disseminating knowledge, as well as being the cultural center and repository of knowledge. Nowadays, higher education especially the private

sector focuses primarily on the dissemination of knowledge through teaching and offering credentials. Hence, the primary contribution of these institutions is producing graduates with better skills who may eventually attain more prestigious careers and higher incomes, depending on the value of the certificate, actual knowledge, and skill acquired, as well as the economic conditions and job availability at that time. In addition, these institutions also contribute to attracting international students where higher education is treated as an export commodity (Perkin, 2007).

Meanwhile, the higher education industry in Malaysia evolved starting from the 1960s to 1970s when only five public universities were established, other four public universities were established between the 1980s and early 1990s plus ten public universities between the late 20th and the early 21st century. In the mid-1990s, the economy changed to be more knowledge-based so the public institutions' capacity could not cover the rising demand for higher education, higher education in Malaysia has been divided into public and private systems (Wong & Hamali, 2006). In the mid-1980s, Dr Mahathir Mohamad (Malaysia's 4th Prime Minister) initiated a twinning movement between local private colleges and higher education institutions in Australia and countries elsewhere (Tan, 2002). The growth in the number of high school graduates, parents' income rising, and the rising costs of public higher education were also reasons for the rapid growth of Malaysian private HEIs in the 1990s (Ayob & Yaakub, 1999).

Competition has dramatically increased worldwide due to the globalization of the marketplace, international trade, and rapid technological innovation. To survive and compete in an environment characterized by rapid change, several organizations across the globe have begun to implement new ways of thinking and strategies to improve their organizational performance to become more efficient and flexible and to achieve the benefits attainable with quality management; in particular, Total Quality Management (TQM) (Al-Khalifa & Aspinwall, 2000). The concept of TQM emerged during the work of Walter Shewhart, who used to work in the Bell Telephone Laboratories in the 1920s. Shewhart developed techniques to control and evaluate the products' quality and suggest ways of improvement. In addition, he designed a cyclical model, known as the "plan-do-check-act cycle", which is applied scientifically to improve any productive process (Evans & Lindsay, 2001).

Despite the emergence of "quality" over a long period, it is difficult to determine the history of this concept, but the starting of large-size industrial companies and the development of mass production at the start of the twentieth century is most probably its origin.

TQM became popular in the mid-1980s, yet many fundamental elements were developed during the period between the 1950s and 1970s. Most theoretical developments in the advancement of the concept were made in the US; although Japan has held the initiative in terms of application (Martinez-Lorente *et al*., 1998, p.385).

Krüger (2001) used to call Deming, Juran, Ishikawa, Crosby, and Feigenbaum the "big five" and considered them the most important gurus of the quality management movement even though their views about TQM and its approaches were not the same. Oakland (1993) stated that all these gurus focus on the basic principles of total quality, but behave as if they are presenting different solutions to the requirements of quality management. They are all talking the same "language" but they use different dialects.

During the 1990s, TQM was considered one of the most important competitive strategies utilized by top management in developed economies; it was widely implemented throughout different regions of the world. A consensus developed that TQM represents a philosophy that provides an organization with the ability to improve its overall effectiveness, allowing it to compete globally (Anderson *et al*., 1994; Kanji & Tambi, 1999).

The benefits of TQM include such examples as products with fewer defects, a reduction in rework and lead times, cost reductions, improved business competitiveness, increases in market share and profitability, improved flexibility, and enhancement for both employee and customer satisfaction (Youssef *et al*., 1996).

The global market, as it exists in the early twenty-first century, is highly competitive, and the demands of customers are becoming more and more exacting, as they can access improved quality products and services from markets in regions all over the world. Modern business organizations therefore require a process of continuous improvement in all of their business activities and must place the needs of the customer at the center of all organizational activities, with an emphasis on flexibility and quality as a means of confronting the competitive threats that are constantly evolving (Dale, 2003).

Culture has surrounded us and has been the mainstay of the study and practice of civilizations. It resides in us as individuals and is the hidden force that drives most of our behavior, both inside and

outside. While the layman uses it as a word to indicate sophistication, in the circles of organizational researchers and managers, it has been referred to, as a climate and a set of practices which becomes its credo. (Schein, 2004) explains 'Culture is a factor that constantly gets enacted and created with our interactions with the other and is shaped by individual and societal behavior. Culture therefore is a dynamic phenomenon. The group culture could be defined as a pattern of shared basic assumptions that was experienced by a group while solving its problems of external adaptation and internal integration, this experience has worked well enough to be considered valid and, therefore, to be taught to new members as the right way to perceive, think, and feel about those problems. Due to the non-concrete nature of culture, it is best to view culture in relative terms, such as levels, rather than trying to describe it directly (Martins *et al*., 2004). Knowledge of these levels of culture will assist management at the selected municipality in fully understanding the background and development of organizational culture. This will enable managers to make the correct decisions regarding their organization's employees (Martins *et al*., 2004). There are three levels of culture at the macro level that are identifiable as most important to managing organizations: (1) Societal culture, (2) industry culture, and (3) organizational culture (Hellriegel *et al.*, 2004).

This study holds both theoretical and practical value. The theoretical significance lies in its aim to comprehend and investigate the effect of organizational culture types on the outcomes of (TQM) adoption inside a developing nation. The Total Quality Management (TQM) project serves as a complementary changing methodology to other initiatives, aiding organizations in achieving a sustainable competitive advantage within the current global competitive marketplace (Sahoo, 2019). This particular study possesses the capacity to provide valuable assistance to other researchers engaged in the evaluation of Total Quality Management (TQM) implementation in developing nations, with a specific focus on Malaysia. Moreover, this study is among a limited number of studies conducted within Malaysian universities that specifically examine the impact of different forms of organizational culture on the adoption of Total Quality Management (TQM) within the higher education sector in Malaysia. Consequently, this research adds to the recent body of knowledge on these themes by adding more information. The effects of organizational culture have been overlooked in previous studies, which have mostly concentrated on examining the direct relationship between Total Quality Management (TQM) and student satisfaction, as demonstrated in the research conducted by Bin Hassan and Farid Shamsudin (2019).

METHODOLOGY

Framework

Figure 1 indicates the research framework that will be examined in this study. Referring to the framework in Figure 1, the study examines the relationship between organizational culture as an independent factor and the TQM implementation as a dependent factor.

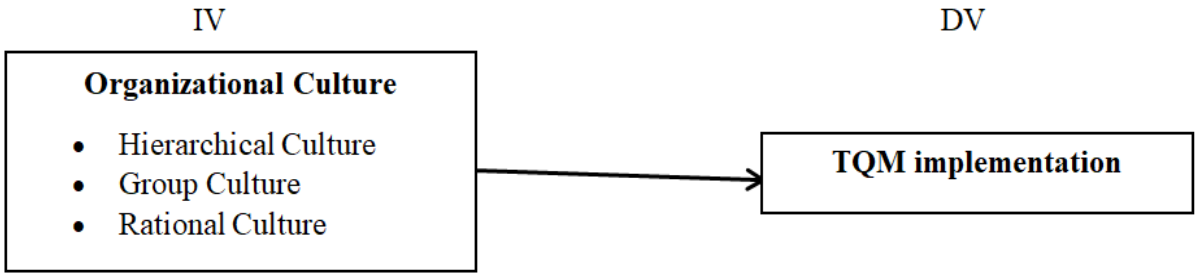

Figure 1: Conceptual Framework

Figure 1 shows the independent variable organizational culture whose dimensions are (Hierarchical Culture, Group Culture, and Rational Culture) and TQM implementation as the dependent variable.

Hypotheses Development

To achieve this study's objectives, the following hypotheses were formulated:

H1: Hierarchical culture has a positive influence on TQM (Total Quality Management) implementation in Malaysian universities.
H2: Group culture has a positive influence on TQM (Total Quality Management) implementation in Malaysian universities.
H3: Rational culture has a positive influence on TQM (Total Quality Management) implementation in Malaysian universities.

Building on the above-suggested research hypotheses, this study adopted a proposed model that aimed to identify and explore the influence of organizational culture on TQM implementation.

Population of the Study

To achieve the objectives of this study a sample of 50 employees of Malaysian universities. These employees are divided between administrative and academic positions. Convenience sampling was employed because of the paucity of statistics on the target group. The questionnaires will be distributed to the higher education organizations in Malaysia and in distributing the questionnaire via Google Docs forms the interviewees could easily fill and submit the questionnaire freely without any interference from the interviewer.

Data Collection

The data collection for this research was achieved by two kinds of data:

Secondary Data

Secondary data for this study were collected from books, journals, reports, and newspapers, both published and unpublished, as well as from online sources and previous research.

Primary Data

This data was directly collected from the field. Data was collected from the sample population through a survey that was distributed among the academic and administrative employees in Malaysian universities electronically via emails and mobile phones.

Questionnaire Survey

The questionnaire is the most appropriate technique for collecting the intended primary data (Neuman, 2003). Thus, to investigate the influence of organizational culture on TQM implementation in Malaysian universities a questionnaire was designed. The reasons for self-administering the questionnaires were: Firstly, according to Sekaran (2003), the self-administered questionnaire approach can ensure an almost 100% response rate. Secondly, it is suitable for collecting data about attitudes and opinions as suggested by Burns and Bush (2000) and Elanain (2003). Thirdly, they were appropriate because they can cover a wide geographic area, the cost is relatively low; it is convenient for respondents as respondent can take their own time and this allows them to think before answering, the respondents are kept anonymous, and the questions are standard (Zikmund, 1994). Finally, self-administering questionnaires have been extensively employed in many similar studies (Perez and Canino, 2009; Wang and Ang, 2004; Chowdhury *et al*., 2013).

Design of Questionnaire

The questionnaire will be developed from those used in previous studies (Elfaituri, 2012). An assessment of TQM implementation, and the influence of organizational culture on TQM implementation in Libyan banks.

However, the questions have been modified to suit the Malaysian universities' situation. The questionnaire will be divided into three parts. The first part will seek general information on the respondents' background profiles. The second part of the questionnaire will consist of 22 questions about Total Quality Management (TQM) adoption and implementation. The third part of the questionnaire will consist of 12 questions about the types of organizational culture and how far they are compatible with Malaysian higher education organizations.

The respondents will be asked to express their personal views on each statement on a scale of 1–5 (as in the construction of a Likert Scale; see Indarti and Langenberg, 2005; Huggins, 2000), where 5 represents strong agreement and 1 represents strong disagreement.

The five-point scale was specifically chosen because, firstly; five points have been widely used in previous studies that investigated the implementation of TQM and its level of awareness. Secondly, McDonald (2004) indicated that respondents preferred a five-point rating scale in most surveys for three reasons. Firstly; respondents believe the five points of options were adequate to cover the range of responses. Secondly, the five-point scale was easy to use, and lastly, it did provide a mid-point.

Administration of Questionnaire

The questionnaires will be distributed to the employees of different universities in Malaysia. This sample was chosen because they own the required awareness to judge their organizations and to what extent they can implement TQM within them.

Statistical Analysis

Using the SPSS Statistics software (Version 21), data were analyzed by using frequency and percentage mean. All numerical data were analyzed using descriptive statistics and are presented in chapter four.

RESULTS AND DISCUSSION

Distribution of Respondents by Age

Table 1 indicates that respondents between the age group 31 – 40 represented the largest group (36%), followed by the age group 20- 30 (34%). Both groups of 41 -50 and above 50 are (12%) each and

below age 20 is the smallest group which represents only (6%).

Table 1: Distribution of Respondents by Age

Age Group	Frequency	Percent %
Below 20	3	6
20 - 30	17	34
31 - 40	18	36
41 - 50	6	12
Above 50	6	12
Total	**50**	**100%**

Distribution of Respondents by Gender

The results in Table 2 indicate that most of the respondents were male (52%) and females were only (48%).

Table 2: Distribution of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	26	52
Females	24	48
Total	50	100

Distribution of Respondents by Academic Qualifications

The results in Table 3 indicate that the majority of the respondents' academic degree is a master's degree (42%) followed by a bachelor's degree and diploma (20%) each, then the Ph.D. percentage is (16%) and coming as last is SPM only (2%).

Table 3: Distribution of Respondents by Academic Qualifications

Academic Qualifications	Frequency	Percent %
Diploma	10	20
Bachelor	10	20
Master Degree	21	42
PH. D.	8	16
SPM	1	2
Total	**50**	**100%**

Distribution of Respondents by Position Type

Table 4 shows that (52%) of the respondent's job type was administrative while (48%) of the respondent's their job type was academic.

Table 4: Distribution of Respondents by Position Type

Position Type	Frequency	Percentage (%)
Academic	24	48
Administrative	26	52
Total	**50**	**100**

Descriptive Statistics of Variables
TQM (Total Quality Management)

Table 5: Descriptive Statistics of Top Management Commitment

	5	4	3	2	1	Mean	Std. D
Senior management has a clear vision toward quality, this guides all aspects of running our business.	10%	44%	26%	18%	2%	3.42	0.971
Senior executives are visibly and explicitly committed to quality.	14%	42%	24%	16%	4%	3.46	1.054
Top management allocates adequate resources and time for quality management efforts.	10%	50%	22%	12%	6%	3.46	1.034
The top management has a clear quality vision (based on customer focus) and the vision forms the basis for strategic planning and decision-making.	6%	52%	34%	6%	2%	3.54	0.788
Top managers often discuss the importance of quality at meetings and give high priority to quality.	14%	36%	36%	12%	2%	3.48	0.953
Top managers support any change required in style or structure to promote the new culture.	6%	40%	40%	12%	2%	3.36	0.851
Total						**3.45**	

Table 6: Descriptive Statistics of Quality Policy

	5	4	3	2	1	Mean	Std. D
Quality goals are effectively deployed within the university.	8%	52%	26%	10%	4%	3.50	0.931
University strategy formulation takes into account TQM principles.	8%	52%	28%	10%	2%	3.54	0.862
Long-term strategic quality planning is considered.	12%	48%	34%	4%	2%	3.64	0.827
The quality policy is appropriate to the organization and relies on continual improvement.	4%	58%	24%	12%	2%	3.50	0.839
Mission and business policy statements cover the whole business, and everyone understands them.	10%	42%	34%	8%	6%	3.42	0.992
Total						**3.52**	

Table 7: Descriptive Statistics of Communication and Information Systems

	5	4	3	2	1	Mean	Std. D
The mission statement, organization objectives, and quality values are clearly communicated among the organization's members.	6%	38%	42%	12%	2%	3.34	0.848
There is effective inter-communication between various levels.	10%	42%	34%	12%	2%	3.46	0.908
Advanced technology for information systems is used to support TQM implementation.	4%	46%	28%	18%	4%	3.28	0.948
In order to provide high-quality data and information to employees, university management uses information systems to improve quality education services.	8%	48%	22%	14%	8%	3.34	1.081
Total						**3.355**	

Table 8: Descriptive Statistics of Continuous Improvement

	5	4	3	2	1	Mean	Std. D
In our university, the emphasis on continuous improvement is applied in all operations and at all levels.	8%	42%	38%	6%	6%	3.40	0.948
A team approach is taken as a main feature of solving problems and decision-making.	6%	52%	28%	10%	4%	3.46	0.908
Problem-solving and continuous improvement processes are based on facts and systematic analysis.	4%	58%	30%	4%	4%	3.54	0.813
The competitive advantage of the university is built on providing high-quality services basis.	4%	66%	24%	2%	4%	3.64	0.776
All employees are trained to look for continuous improvement in their daily work.	6%	38%	42%	12%	2%	3.34	0.848
Quality improvement culture spreads across the organization‘s departments.	8%	46%	38%	6%	2%	3.52	0.814
There is a focus on continuous improvement (never-ending improvement) in services.	2%	58%	30%	6%	4%	3.48	0.814
Total						**3.48**	

Organizational Culture

Table 4.9: Descriptive Statistics of Hierarchical Culture

	5	4	3	2	1	Mean	Std. D
The university is a very controlled and structured place. Bureaucratic procedures generally govern what people do.	4%	50%	28%	14%	4%	3.36	0.920
Managers in the university are rule-enforcers. They expect employees to follow established rules, policies, and procedures.	10%	48%	24%	14%	4%	3.46	0.994

	5	4	3	2	1	Mean	Std. D
The glue that holds the university together is formal rules and policies. People feel that following the rules is important.	6%	50%	34%	8%	2%	3.50	0.814
The university emphasizes permanence and stability. Keeping things the same is important.	4%	64%	20%	8%	4%	3.56	0.861
Total						**3.47**	

Table 4.10: Descriptive Statistics of Group Culture

	5	4	3	2	1	Mean	Std. D
The management style in the university is characterized by teamwork and consensus.	4%	44%	40%	6%	6%	3.34	0.895
Managers in the university are warm and caring. They seek to develop employees' full potential and act as their mentors or guides.	6%	48%	22%	16%	8%	3.28	1.070
The glue that holds the university together is loyalty and tradition. Commitment to this university runs high.	8%	52%	18%	14%	8%	3.38	1.086
The university emphasizes human resources. High cohesion and morale in the organization are important.	8%	42%	38%	8%	4%	3.42	0.905
Total						**3.355**	

Table 4.11: Descriptive Statistics of Rational culture

	5	4	3	2	1	Mean	Std. D
Managers in the university are coordinators and coaches. They help employees meet the facility's goals and objectives.	8%	40%	32%	14%	6%	3.30	1.015
The glue that holds the university together is the emphasis on tasks and goal accomplishment.	10%	52%	30%	4%	4%	3.60	0.880
The university emphasizes competitive actions and achievement. Measurable goals are important	8%	44%	36%	6%	6%	3.42	0.949
The university defines success based on efficiency. Dependable delivery, and low -cost are critical.	4%	50%	32%	6%	8%	3.36	0.964
Total						**3.42**	

Regression Assumption

Normality

For skewness values, Hair *et al*., (2006) suggest that these values should be within the range of -1 to +1 which indicates the normal distribution, results of Skewness tests range from -1 to +1.

Kurtosis values have a recommended range as suggested by Coakes and Steed (2003) between -2 to +2. Kurtosis values are within the -2 to +2 range. Table 4.5 presents the results.

Table 4.12: Skewness and Kurtosis Tests for Normality

Variables	Skewness	Kurtosis
HC	-0.646	0.707
GC	-0.423	-0.416
RC	1.190	1.500

Multicollinearity

Table 4.13 shows tolerance coefficients and variance inflation factor (VIF) of each explanatory variable are within the acceptable range of less than 10 and the tolerance value is bigger than 0.1. Therefore, there is not any unacceptable level of multicollinearity between variables in the current study.

Table 4.13: VIF Test Results

Variables	Tolerance	VIF
HC	.549	1.822
GC	.966	1.035
RC	.643	1.555

Ordinary Least Squares Regression (OLS)

The ordinary least squares regression was conducted to investigate how organizational culture affects TQM implementation in Malaysian universities. Table 4.14 presents the regression results for all the variables.

The regression model is as follows:

Model

TQM = $\beta o+\beta 1HC+\beta 2GC+\beta 3RC+\varepsilon$

Table 4.14: Result of OLS Regression Analysis

Variables	Coeff	t. Statistics	Sig.
Constant	-5.098	1.205	0.148
Oc			
HC	0.530	0.076	.002**
GC	1.849	0.264	.001**
RC	0.691	0.122	.007**
R^2	.981		
Adj. R^2	.942		
F-value	25.401**		

** Significant at the 0.01 level

Hypothesis H1 expects that hierarchical culture has a positive influence on TQM implementation in Malaysian universities. The result in Table 4.16 supports hypothesis H1 and shows that hierarchical culture has a significant (p = .002) on TQM implementation in Malaysian universities. Therefore, H1 is accepted.

Hypothesis H2 expects that the group culture has a positive influence on TQM implementation in Malaysian universities. The result in Table 4.16 supports hypothesis H2 and shows that group culture has a significant (p = .001) on TQM implementation in Malaysian universities. Therefore H2 is accepted.

Hypothesis H3 expects that the rational culture has a positive influence on TQM implementation in Malaysian universities. The result in Table 4.16 supports hypothesis H3 and shows that group culture has a significant (p = .007) on TQM implementation in Malaysian universities. Therefore, H3 is accepted.

CONCLUSION

The study attempted to examine the influence of organizational culture on implementing TQM in Malaysian universities and tried to achieve the three objectives of the present study by answering three research questions.

The findings of the descriptive results study's questionnaire showed that the overall mean scale value for the level of TQM implementation within Malaysian universities was 3.45 (where 5.0 represents "strongly agree", 1 represents "strongly disagree" and the midpoint is 2.50). According to these results, the level of TQM implementation within Malaysian universities could be assigned as 69%.

The findings of the descriptive results study's questionnaire showed that the overall mean scale value for the level of Organizational Culture implementation within Malaysian universities was 3.4 (where 5.0 represents "strongly agree", 1 represents "strongly disagree" and the midpoint is 2.50). According to these results, the level of Organizational Culture implementation within Malaysian universities could be assigned as 68%.

The findings of regression analysis showed that the adjusted R2 was 0.942, which means that 94.2% of TQM implementation in Malaysian universities is influenced by organizational culture (Hierarchical Culture, Group Culture, and Rational Culture).

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