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RELATIONSHIP BETWEEN TOTAL QUALITY MANAGEMENT (TQM) PRACTICE AND ORGANISATIONAL PERFORMANCE: A CONCEPTUAL MODEL BASED ON LIBYAN MANUFACTURING INDUSTRIES

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ABSTRACT

Most competitive organizations around the world have implemented Total Quality Management (TQM) to continuously improve their organizational performance. Based on the review of literature, Libya is a late adopter of TQM and Quality Management Systems (QMS). Number of certified ISO9001 companies in Libya versus the Arab world is relatively very low possibly due lack of enthusiasm and awareness of the need in Libyan society. The present study focuses on the development of a conceptual model of TQM in the Libyan industrial sector, and also to map the relationship between TQM, ISO9001 certification, organizational culture and Organizational Performance. A proposed conceptual model includes Hofstede dimensions of national culture to examine whether the theoretical constructs underlying the TQM model criteria are relevant across national cultures. Path analysis using Structural Equation Modelling (SEM) will be employed on the establishment and validation of TQM implementation and its effect on the organizational culture and organizational Performance The proposed model will promote a better understanding on the relationship between TQM and Organization Performance in Libya.

Keywords: total quality management, ISO 9001 certification, organizational culture, organization performance, structural equation modelling.

INTRODUCTION

Over the past two decades, one important factor that has emerged in the organizational movement is quality management (Ahmad, Zakuan, Jusoh, Yusof, & Takala, 2014) The organizational movement has evolved within a business landscape that was quite volatile, with rapid technological advances, global competition and demanding customers (M. F. Ahmad *et al*., 2014) The organization, therefore, has to be proactive in its technological capability, mass customization and agile manufacturing. It also has to develop a customer-driven culture and be able to offer the right product in the right place at the right time and at the right price .Regarding the role of national culture in the implementation of quality management, there has been limited research on whether or not quality should be managed differently according to different national cultures, despite the fact that national traits are viewed as an important field of study in most business disciplines (Lagrosen, 2002) Although many authors have suggested that organizational culture transformation is a requirement for quality management, the role of national culture has not been systematically investigated. The Baldrige award provides a well-accepted framework for operationalizing the constructs of quality management. It has been described as "the most important catalyst for transforming"(Flynn, Schroeder, & Sakakibara, 1994).

Although the importance of quality has always been underscored by the presence of global competition, it is only recently that organizations in developing countries, like that of the Libyan manufacturers, have realized the need for effective quality management systems in order to justify their right to compete on the global market. This is reflected by the increasing number of firms in Libya and other developing countries that hold ISO 9001 certificates These manufacturing companies in Libya would like to get ISO 9001-2008 certification, as well as quality assurance and accreditation, for reasons listed below.(Heras-Saizarbitoria, Arana, & San Miguel, 2010)

- Facing competition,
- Acquiring public acceptability,
- receiving a stamp of quality and improved organizational performance,
- responsibilities,
- standardization of work procedures and renewal of the documentation process,
- management,
- production and development of capital,
- Increase in production quality apart from providing goods and services that meet customer requirements, and
- Production and development of capital,
- Increase in production quality apart from providing goods and services that meet customer requirements, and
- Organizational performance.

This research proposes a framework to map the relationship between TQM and Organizational Performance through the use of ISO 9001 and organizational culture. Several studies have been

conducted to investigate the relationship between TQM and OP. The results indicated that TQM could improve the performance (Meftah Abusa & Gibson, 2013) and (Valmohammadi & Roshanzamir, 2015) . However, the previous studies have ignored the mediating effects of ISO and the culture on such relationship, which reflect the absence of answering why such relationship exist. This gives opportunity to study such relationship.

Background of the study

The manufacturing sector in Libya is considered the driver of economic and social growth and this sector is expected to play a significant role in responding to local demand for foreign products. This is aimed at increasing exports and rationalizing imports in order to boost the Libyan economy. The challenge for Libya's business however, is how to survive the competition with imported goods, as well as simultaneously preserving Libyan traditions and Islamic beliefs in a changing environment.(Abusa, 2011) Libyan manufacturing companies need to improve their organizational performance, as well as to provide the local market with export quality goods. To do that, the companies need to establish an accepted level of organizational performance and product quality at an international level. This can be done through the adoption of TQM and QMS (ISO 9001 certification) by manufacturing companies. But in order to ascertain whether or not the path to certification is worthwhile, it is necessary to examine the effectiveness and impact of ISO 9001 on the organizational performance of manufacturing companies (Al-Mijrab, 2011)

Motivation of the study

Libyan companies generally suffer from a lack of vision, poor leadership, waste of expensive resources, and disregard for the potential of human resources as an important agent for change, overlooking customers, and the absence of a scientific, systematic approach towards organizational management. All of these challenges are preventing the country from developing (Meftah Abusa & Gibson, 2013)

Study by(Alsaidi, 2014) revealed that the barriers to TQM implementation in Libya can be represented by the lack of top management commitment as one of the major obstacles to implementing TQM successfully in Libyan manufacturing Companies. Top management did not participate in quality management activities personally. Furthermore, they did not encourage employee involvement in quality management activities which hindered successful TQM implementation. Libyan manufacturing Companies did not have detailed plan towards achieving successful implementation of TQM. Instead, they had only annual business performance plans and product quality goals. In this regard, having a weak vision and plan statement may lead to a failure in implementing TQM. The government influence the complicated procedures set by government departments reduce the ability of the company to respond to its customers and to implement quality tools and techniques. There is no national quality policy and there is a lack of government support to quality programs, there is a lack of government support to quality policies which negatively affect the implementation of TQM in Libyan manufacturing companies

Libya is considered as a developing country and in recent times had little investment internally or from foreign companies therefore, the implementation of any type of TQM was deemed unnecessary. Hence, improving industrial performance by implementing a successful TQM will have a positive impact in many areas including increased market share, improved service provision, increased productivity and streamlined procedures and processes.

Expected outcome of the study

This study will attempt to link TQM, the effectiveness of ISO 9001 certification and organizational culture with the various dimensions of organizational performance (OP), namely operational (employee productivity, efficiency of operations, product quality) and business (profitability measures) performance. Suitable statistical methods will be used. Also, the research will create an addition to the literature by constructing a framework to measure the correlation between TQM, effectiveness of ISO 9001 certification, organizational culture and organizational performance (OP) in the Libyan context.

This study will try to show the effectiveness of the implementation of TQM in Libyan manufacturing companies in relation to their performances, customer satisfaction as well as becoming competitive on the world market. Companies will be able to determine how much energy and resources to direct for TQM, organizational culture and ISO 9001 and their impact on organizational performance in Libyan manufacturing companies

Organizational performance (OP) will be kept in sight of companies when they make decisions on creating a competitive edge. Furthermore, this will assist the government in its long-term goal to establish a strong economy which will be supported by high standard competitive companies. The findings will be valuable for other researchers to carry out an identical research in other manufacturing companies in other developing countries. Overall, this study will focus on the development of a new conceptual framework that map relationship between TQM practice, effectiveness ISO9001 certification, national culture and organizational performance.

LITERATURE REVIEW AND CONCEPTUAL DEVELOPMENT TO THE HYPOTHESIZED MODEL

Total quality management (TQM)

Many studies have suggested that TQM practices can have an impact on organizational performance, (TQM) is the integration of all functions and processes within an organization in order to achieve constant improvement of the quality of its goods(Valmohammadi & Roshanzamir,

2015) There is a strong relationship between TQM and business performance .The benefits of TQM are improved quality, employee participation, teamwork, working relationships, customer satisfaction, employees satisfaction, productivity, communication and market share(Ahmad, Zakuan, Jusoh, & Takala, 2013) .TQM is important for today's emerging global markets, even though the focus remains on customer satisfaction. There is also a rapid rise in demand for quality from suppliers. The term quality covers soft people aspects of business whereas the terms cost and productivity cover the hard notions. Motivating employees is certainly a good strategy towards cost reduction and hence increased production. The concept of quality has been integrated in human history for a long time, longer than the cost and productivity aspects. The aspects related to TQM as explained by(Bikshapathi, 2011) include the following.

- Leadership and Top management commitment,
- Customer management,
- Training and education,
- Team-building,
- People management and empowerment,
- Supplier partnership,
- Quality planning and strategic process management,
- Rewards and recognition and
- Effective communication

Quality is a vital factor of products, but consumers often find it difficult to assess. Trade between economic agents becomes difficult if retailers have more information than customers (e.g. financial market, insurance market). This problem of asymmetric information can be mitigated by certification, which is a kind of guarantee that certain requirements have been met in the production of goods.
Concerns over quality always have great impact on the production of goods. At the same time, the trade of goods, services and handcrafts are responsible for the quality of their items. The importance of quality is highlighted by the issue of mass production in that production processes of goods should require consistent supervision in order to ensure that products conform to the necessary quality standard. Sampling and statistical quality control techniques (e.g. control chart) have been developed and employed. Inspections need to be performed to identify low quality products and thwart the commercialization of sub-standard items. Earlier quality management focused on the quality of products and relatively little attention was being paid to the production process. Since 1950, the scope of quality management was extended to the entire production process. Since then this management approach is known as the "Total Quality Management". The purpose of quality control and management is to identify and solve the root cause of low quality during the production process rather than controlling lower quality products at the end of the production process (Ishikawa & Lu, 1985)

Total quality management (TQM) and business excellence model

To be competitive in the 21st century, organizations need to improve continuously and aim for excellent performance standards. One way to achieve excellence is by using Business Excellence Models (BEMs). Examples of widely used BEMs include Baldrige Excellence Framework and European Foundation for Quality Management (EFQM) Excellence Model. BEMs are used by organizations to assess and improve their work practices and performance. BEMs are adopted by at least 94 national Quality/Business Excellence (BE) Awards in 83 countries. The main purpose of using the BEMs should be for organizational performance improvement rather than for the sake of merely receiving the award (Mohammad, Mann, Grigg, & Wagner, 2011) In general, a BEM can be considered as a Total Quality Management (TQM) model (Mohammad *et al*., 2011).Recently, the TQM model is usually referred to as 'Business Excellence Model' to communicate the importance of "excellence" in all aspects of a business, not only product and process quality. BEMs help organizations to assess their strengths and areas for improvement and guide them on what to do next. BEMs provide senior managers with a holistic method to manage their business and get buy-in to key decisions that will lead to sustainable and measurable success . Figure-1 shows the Baldrige Excellence Framework which is used in the United States but has been adopted in many countries worldwide.
These seven critical aspects of Baldrige Excellence Framework (BEM) on managing and performing as an organization (Baldrige Performance Excellence Program, 2015) are as follows:

1. Leadership
2. Strategy
3. Customers
4. Measurement, analysis, and knowledge management
5. Workforce
6. Operations
7. Results

Figure-1. Baldrige excellence framework (Baldrige performance excellence program, 2015).

Baldrige is based on a set of core values and concepts, which are the foundation for integrating key performance and operational requirements within a results-oriented framework that creates a basis for action, feedback, and ongoing success. The core values and concepts represent beliefs and behaviors that are found in high-performing organizations as follows (Baldrige Performance Excellence Program, 2015):

- Systems perspective
- Visionary leadership
- Customer-focused excellence
- Valuing people
- Organizational learning and agility
- Focus on success
- Managing for innovation
- Management by fact
- Societal responsibility
- Ethics and transparency
- Delivering value and results

According to (Dahlgaard, Chen, Jang, Banegas, & Dahlgaard-Park, 2013) "BEM should be institutionalized into an organization to provide the overall guidance for pursuing Business Excellence (BE), and the management tools / techniques [such as ISO9001] should complementarily support the activities in the ongoing pursuit of BE…A desirable organizational culture should be cultivated [in the journey towards BE]". The BEM criteria, management tools (ISO9001), and organizational culture have been incorporated in the proposed conceptual model for this study

ISO 9001

This study will pay attention to the ISO 9000 certification, which assures that the quality management system is in accordance with the requirements of the ISO 9000 standards. ISO 9000 is a well-recognized family of standards whose theoretical background lies in the Total Quality Management (TQM) ISO9001 is a managerial approach which is used as a tool towards improving quality and organizational performance. Among more than 18,000 standards published by ISO (International Organization for Standardization), ISO 9000 is predominantly vital because of its widespread adoption by around 1,000,000 organizations in the world. Since the standard does not narrow down its focus on specific quality requirements of products or services, ISO 9000 certification is theoretically applicable to any organization irrespective of size and sector. The current research will investigate the manufacturing sectors. To be more precise, the empirical research will be carried on in Libyan Manufacturing Industries, where services are mainly important. The underlying principles of QMS standards are meant to enhance organization performance. The general principles have to be adapted by the organization for its own context, and these are generally regarded as valuable for effectively managing the organization. Some authors found first versions of ISO 9000 to be procedurally strict and less flexible, but recent versions of ISO 9000 standards (year 2000 and 2008) are more linked with TQM. This version can greatly reduce or solve some rigidities of the previous version ISO 9000 (Martínez-Costa, Choi, Martínez, & Martínez-Lorente, 2009) . In this standard, special attention is paid to process approach. Process can be defined as any activity using resource(s) as input to produce output.(Gutierrez Alcantara, 2013). The process approach is the organized identification and regulation of all associated processes directed towards achieving the goals and managing the resources efficiently. This approach is based on the Plan-Do-Check-Act (PDCA) methodology that is considered a tool for raising efficiency, effectiveness of business operations and increase customer satisfaction. The methodology is applicable to all processes and can be summarized in the following iterative points.

Table-1. PCDA methodology (Gutierrez Alcantara, 2013).

P	Plan	Establishing the objectives and processes essential to deliver services in accordance with customer, statutory and regulatory requirements and the organization policies
D	Do	Implementing the processes
C	Check	Monitoring and measuring processes and product against policies, objectives and requirements and reporting the results
A	Act	Take measures for continual improvement of process performance

Based on the PDCA methodology, the process approach applied to the quality management system. Even if the description of the processes is not detailed, it shows clearly the importance of customers as in-put and out-put of the process. Moreover, the model highlights the importance of continual improvement of the quality management system. The components of the management circle are the clauses of ISO 9001: 2008 and they are detailed in the next paragraph. It has been noticed that ISO 9000 is a specific type of standard, as it put forth what requirements should be met by a quality system, without regulating how it would be met. The idea behind the standard is that improving quality management will increase excellence of the product produced, as per the management. Following are detailed general requirements of ISO 9001(Gutierrez Alcantara, 2013):

1. Determination the processes required
2. Organizing the execution of these processes
3. Determining criteria and methods desired
4. Ensuring the accessibility of proper resources
5. Monitoring these progressions
6. Implementing actions needed to accomplish intended outcomes and incessant upgradation of these processes

It could be recalled again here that the scope of ISO 9001:2008 certification is only the management system and not the quality of the products. Nevertheless, ISO 9001:2008 necessitates confirming that "product requirements have been met". It has been noticed that ISO 9000 is a specific type of standard, as it put forth what requirements should be met by a quality system without regulating the way it would be met (Levitt & List, 2007)

The requirements of ISO 9001:2008 are extensive and are expected to be generally appropriate. As stated earlier, ISO 9001:2008 requires that organizations will perform some tasks, but the standard will not specify the detailed features of those tasks.(Al-Refaie, Ghnaimat, & Li, 2012) For example, each company requires different processes, but all managed organizations should fix and organize a way to execute the required processes. In this context, ISO 9000 can be defined as a meta-standard (Heras-Saizarbitoria *et al*., 2010). The following paragraph briefly describes the main features of ISO 9001:2008. Not all the clauses of ISO 9001:2008 are suitable for auditing. As already mentioned, ISO 9001:2008 can be implemented by any organization regardless of the size and the sector of activity.

Table-2. ISO 9001:2008.

Clause	Title	Auditable
1	Scope	No
2	Normative Reference	No
3	Terms and definitions	No
4	Quality Management System	Yes
5	Management Responsibility	Yes
6	Resource Management	Yes
7	Product Realization	Yes
8	Measurement, analysis and improvement	Yes

Defining organizational culture

Organizational culture can be defined as the values, attitudes, beliefs and behaviors that represent an organization's working environment, organizational objectives, and vision (Hofstede, 2011). Culture consists of some mixture of artefacts and practices. The most common reason given for the failure of planned organizational change was due to a neglect of organizational culture. Up to 75 percent of re-engineering, total quality management, strategic planning, technology adoption and downsizing efforts have failed or created problems that affect the survival of the organization. Organizational culture is key to success, and effective leadership is the means by which the culture is created and managed. Understanding organizational culture is an important responsibility for managers because it affects strategic development, productivity and learning at all levels of management (Hofstede, 1994) describes culture as the "collective programming" of the mind that distinguishes members of one group from another, developed as a result of the shared experiences of inhabitants of a nation, including educational, governmental and legal systems, family structure, religious patterns, literature, architecture and scientific theories.

Hofstede's dimensions of national culture

The seminal work on national culture was performed by (Hofstede, 1984) who identified four major dimensions: power distance, uncertainty avoidance, individualism/collectivism and masculinity/femininity.

Hofstede's dimensions of national culture are based on his study of 116,000 employees of IBM in 50 countries during the 1967–73. Time period the members of the sample were matched in terms of having the same company superstructure and policies, occupational categories, and educational levels, differing systematically only by nationality

Other studies of organizational culture have extracted similar dimensions. For example (Trompenaars & Hampden-Turner, 1998) identified seven fundamental dimensions of culture, based on categories of dilemmas faced by every culture: universalism versus particularism (rules versus relationships), individualism versus communitarianism (individualism versus groups), neutral versus emotional (range of feelings that are expressed), specific versus diffused (range of personal contact involvement), achievement versus ascription (how status is accorded), attitudes of time (importance of the past vs. the present) and attitudes of environment (power coming from a person vs. the external world culture. For example, individualism versus communitarianism is equivalent to individualism/collectivism, neutral versus emotional and achievement versus ascription map onto masculinity/femininity, attitudes of environment is related to power distance and universalism versus particularism is equivalent to uncertainty avoidance.

Conceptual development to the hypothesized model

The primary reason behind choosing a quantitative methods approach is to cover every aspect of the research including respondent experiences, ideas and knowledge. The goal of a quantitative method design is to summarize positive features of the approach and to yield valid, resourceful data. In addition to this, an advanced quantitative methods using structural equation modelling (SEM), approach of data accumulation and assessment can enhance the legitimacy and precision of the information (Yin, 2013) ISO-registered companies had improved Quality Management Practices QMP/s and quality results more effectively than those companies that were neither ISO-registered nor interested in obtaining registration .The growing recognition Companies that are internally motivated to implement ISO 9000 showed a high level of TQM elements .ISO-registered companies would, therefore, be expected to have more effective TQM practices in place than non-ISO-registered companies as a

result of their ISO 9000 efforts. TQM elements are different across ISO-certified and non-ISO certified companies (Abusa, 2011) Based on previous studies there are relationships between TQM and performance, also among ISO 9001 standards certificate and performance (Youssef, 2006) The variables and their hypothesized relationships are illustrated in a conceptual framework as shown in Figure-2.

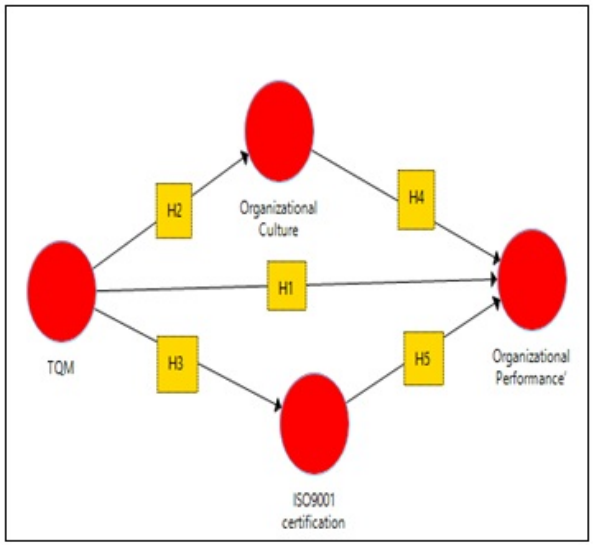

Figure-2. Conceptual model that map the relationship between TQM, effectiveness of ISO9001 certification, organizational culture and organizational performance.

Research hypothesis

H_1- TQM implementation has a significant influence on organizational performance

H_2- TQM implementation has a direct significant influence on organizational culture

H_3- TQM implementation has a direct positive significant influence on ISO effectiveness

H_4 Organizational culture has a significant influence on organizational performance

H_5- ISO effectiveness has a direct positive significant influence on organizational performance

H_6 TQM implementation, Organizational Culture, ISO Effectiveness and Organizational Performance has a significant interaction in the structural model.

Methodology for model development

The present study will employ a set of questionnaire as data collection tool. Likert scale is a psychometric scale commonly involved in research that employs questionnaires. It is the most widely used approach to scaling responses in survey research, such that the term is often used interchangeably with rating scale, Questionnaires were prepared to do a survey to evaluate the current situations, understanding of ISO and problems on the ISO applications in Libya companies. Questionnaires will be prepared according to the ISO standard requirement to identify the ISO status of those companies. The findings and conclusion will depend on the fully utilization of statistical data collected and analyzed using SPSS and AMOS. The researcher approached the study from a neutral perspective with the objective of ascertaining whether correlations exist among the variables. A series of confirmatory factor analysis (CFA) and path analysis of direct indirect effect in the structural model will show the results of hypothesis testing.

CONCLUSIONS

This study focused on identifying the relationship between TQM, ISO 9001 certification, organizational culture and organizational performance. Another significant contribution of the study is the methods and techniques to determine the degree of application of TQM principles and then examining the link between TQM and Performance. The results will be very useful for Libyan companies in implementing TQM practices and improving their Business Performance as well as assisting the Libyan government in encouraging organizations to adopt TQM principles. It will increase and support the performance of the Libyan economy.

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