

Socio-Economic Influences on the Adoption of Total Quality Management in the Libyan Construction Industry

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Abstract

The Libyan construction industry has evolved significantly in recent years and this paper sets out to explore the socio-economic influences that may present barriers to the wider adoption of quality management practices in the Libyan construction industry. Building on established paradigms of Total Quality Management (TQM) and empirical evidence from a survey of two Libyan construction companies, this paper presents a quantitative measure of TQM practice within the Libyan construction sector and outlines proposals to enhance future practice. The outcomes from this research are threefold. The first is a conceptual model for TQM that draws together threads of academic theory into a unified framework for analysis and which will be of interest to academics and researchers. The second is an assessment of TQM knowledge and understanding within the construction sector of Libya, which international businesses with an interest in engaging with the construction process in Libya will find of significant value. Thirdly the paper identifies socio-economic influences that have acted to help or hinder the adoption of TQM practices within the Libyan construction industry and proposes ways of addressing the issues raised.

Keywords

Total quality management, Culture, Libya

1. Introduction

Within Libya there is a growing recognition that Total Quality Management (TQM) is an important issue in the battle to compete both in the global economy and in an open domestic market. Quality management initiatives such as TQM are increasing in popularity in the construction industries of many developing countries and Libya is not exempt from this trend. Management within the construction industry aims to integrate the complex tasks of project design and construction while keeping to schedule, within budget and ensuring a completed product of the highest quality. So the construction management faults may e.g. not building to drawings or specifications, poor supervision leading to bad workmanship, and insufficient management of the quality in construction. In order to eliminate those potential problems (Dickenson *et al.*, 2000).

To ensure that all project objectives are fully met, construction management personnel are required to utilize their skill and experience to develop realistic schedules, prepare accurate construction estimates,

analyze alternative designs, study labour conditions, perform value engineering, and effectively coordinate the activities of the construction team (Round and Chi, 1985). This research therefore sets out to identify and analyse socio-economic barriers stemming from this cultural shift and which may act to hinder the implementation of quality management in the Libyan construction industry and to develop findings that can be used to help organisations overcome any barriers they encounter. It is thought that this research represents one of the first such empirical studies looking into the barriers affecting the implementation of total quality management within the Libyan construction industry.

2. Socio-Economic Conditions in Libya

To understand contemporary socio-economic problems affecting project managers, it is important to have an understanding of the historical context that had led to the development of the current situation. In this section a brief outline of Libya's recent history is presented highlighting issues of relevance to this paper.

The development of the Libyan economy from its independence in 1951 can be divided into five periods, which differ in respect to governmental policies. The first period, before 1959, was one where the population was primarily engaged in agriculture and animal husbandry and when aid from the UN and other organisations helped the country to survive. In the second period, from 1959 until 1969, the economic situation had changed after the discovery of oil and the need for direct foreign subsidies declined as international oil companies began to invest in Libya. The third period, from the revolution in Libya in 1969 until 1986, saw the country change from a capitalist to a socialist state and where most businesses became owned or controlled by the State. The fourth period, from 1987 to 2003, followed crises in the Libyan economy where the Libyan economic conditions and standards of living worsened and the State introduced a series of liberalisation measures including a significant role for the private sector. The fifth and current period, from 2003 onwards, was marked by the wholesale privatisation of the country's oil and other vital industries transforming state owner organisations into companies in which employees and others would be able to own shares (East-West Debt 2004; Johns, 1960; Haftari *et al.*, 1994).

Farley (1971) found that under the supervision of the Libyan civil service, the construction industry had played a prominent role in the economic development of Libya adding that the industry got its first big boost as a result of foreign oil company investment during the 1960s. Since 1969 its growth had been regulated in accordance with successive five-year public expenditure plans set out by the government. In 1975 the government began to reorganise the construction industry to make it more efficient. At that time, there were about 2,000 contractors, many of them small proprietorships or partnerships. The minister of housing was given the authority to merge contracting firms into a smaller number of larger firms capable of carrying out large construction projects. Firms with capital in excess of LD30,000 were converted into corporations, and the majority shares were sold to the public or the government. Previously, the government had set up several state-owned construction companies to build factories and to carry out civil engineering projects. Among the firms were the National Industrial Contracting Company, the General Corporation for the Construction and Maintenance of Roads, and the General Corporation for Civil Works (The reports of General Peoples Committee for Economy and Commerce). Libyan quality managers are increasingly recognising that to be effective, quality management systems must address both the technical and non-technical (or behavioural) issues when trying to improve quality and performance as defined by the TQM approach (Low and Goh, 1998). There is also a growing awareness of an underlying premise associated with quality systems that everyone within an organisation shares a common cultural platform. But this premise is accepted as being untenable in international construction projects where people from diverse cultural background and nationalities work together (Cameron and Quinn, 1999), and to this end the adoption of a TQM approach is seen as a necessary precursor to any lasting improvement.

3. TQM in the Construction Industry

3.1 Rethinking Construction

“Rethinking Construction” was a report produced by a government-commissioned construction task force in the UK headed by Sir John Egan (Egan, 1998). According to this report;

“Much of construction does not yet recognise that its people are its greatest asset. Too much talent is simply wasted, particularly through failure to recognise the significant contribution that suppliers can make to innovation... Difficulties are posed by ... the fragmented structure of the industry, but construction cannot afford not to get the best from the people who create value for clients and profit 5s for companies” (Egan, 1998: p.17).

Overall, the Egan report recognised that the industry could and indeed needed to do better and it concluded that this was best achieved through the application of best practices, Figure 1 illustrates how these drives would work to produce change. To achieve best practice it identified five Key Drivers to Change:

- **Committed leadership:** Management believing in and being totally committed to driving forward an agenda for improvement, cultural and operational changes throughout the whole of the organisation.
- **A focus on the customer:** The best companies provide precisely what the customer needs, when the customer needs it and at a price that reflects the product’s value to the customer.
- **Integrate the process and the team around the product:** The most successful business do not fragment their operations –the work back from the customer. The process and the production and the value it delivers to the customer.
- **A quality driven agenda:** Quality means the total package- not only zero defects but right first time, exceeding customer expectations, delivery on time and to budget, innovating for the benefit of the client and stripping out waste in all its forms.
- **Commitment to people:** This means not only decent site conditions, fair wages. it means a commitment to training and development of managers and supervisors,

In particular, the ‘Rethinking Construction’ report stated that the industry fell short in management skills, customer satisfaction, quality and ultimately profits. It highlighted the requirement and challenges to bring the best of the industry’s practices to the attention of all companies so that it became the norm to deliver buildings on time, for a predictable cost and to a consistent standard of performance and it worked to address what was commonly perceived as a lack of consolidated knowledge on best practice (Drensek and Grubb, 1995). This coincided with the publication of work by Masters who’s research on barriers to success resulted in the identification of eight common problems that led to construction project failure:

1. Lack of management commitment. Management must commit time and resources and clearly communicate the importance and goals to all personnel.
2. Inability to change the organizational culture. Change takes time and effort. In order for the culture to change, the employees need to want change and be willing to participate. This requires reasons that management must convey. The change will only occur if the employees trust the management. It cannot occur from a state of fear.
3. Improper planning. Planning must involve all parts of the organization and be communicated clearly to employees.
4. Lack of training. The most effective training comes from senior management. Informal training needs to occur on a continual basis.
5. Organizational structure problems and isolated individuals or departments. Multifunctional teams will help break down some of these barriers. Restructuring is another method.

6. Ineffective measurement and lack of data. Effective decisions require that the employees have access to the necessary data.
7. Inadequate attention to internal and external customers.
8. Inadequate empowerment, lack of teamwork. Teams require training. Their recommendations should be followed whenever possible. Individuals need to be empowered to make decisions.

3.2 Leadership

According to Burke, (2003), on a construction project leadership is the key to successfully meeting overall project goals. Leaders should establish the unity and purpose for the internal environment of the organizations. For a project manager to lead his team effectively, rules and regulations must be laid down properly and made known to all team members. He highlighted that the hallmarks of good leaders are; communications, vision, change, respect for all individuals. Burati *et al.*, (1991) had previously found that leadership was strongly related to the organizational culture and, more recently, Hoyle (2001) stated that the leadership must create and maintain the internal environment in the organizations to make people become fully involved in achieving the organizations objectives. In TQM these leadership principles are reflected through the requirements of addressing; internal communication, creating an effective work environment, planning and the setting of objectives and policies. Organizations rely on leaders to establish a unity of purpose and set the direction the organization should take, they must create an environment that encourages people to achieve the organization's objectives, or as Burke, (2003) said; action-centred leadership is required to focus on the three basic project needs, the individual's needs, the team's needs and the task's needs.

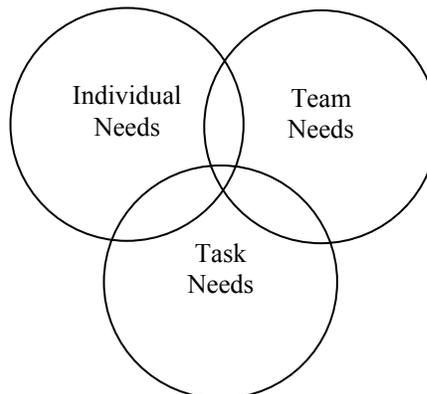


Figure 1: Action – Centred Leadership
(Source: Burke, R. 2003)

These needs are presented as intersecting circles to indicate the separate needs and mutually overlapping needs (Figure 2).

4. Research Methodology

The survey included 322 respondents from two Libyan construction companies (Hereinafter referred to as Company A & Company B). The number of respondents from each company reflected the relative size of each organisation, with 223 respondents in company A and 96 in company B. In order to gather opinion from all levels within the companies respondents were selected from four different levels of management; top management, middle manager, first line manager, employees. Questions in the survey were presented using a semi-structured interview format. Yin (2003) states that interviews are one of the most important

sources of information in case study research and both Mason (2000) and Sekaran (2000) identified that the semi structured interviews have important characteristics, which enable the researcher to clarify doubts and ensure that the respondents understood the questions and the responses are also understood by the interviewer. As this research dealt with complex social, economic and technical issues the semi-structured interview approach was considered to be the most suitable.

The survey included 59 questions with a mixture of qualitative and quantitative response options. Question content was based upon a conceptual model (see Figure 1 below) of TQM management an practice drawn from established theory (Crosby, 1979; Dale, 1999; Deming, 1986; Egan, 1998; Haigh and Morris 1995; Hofstede, 1980, 1991 and 2001; Johnson and Scholes, 1993; Kanji, 1996; Kumar 2006; Low and Winifredo 2000; Oakland, 2000, Riley *et al.*, 2004; Triandis, 1990, 1994 and 2002; Yusof and Aspinwall, 2000). The questions aimed to identify the barriers affecting the implementation of TQM and to reveal attitudes towards these barriers within the different management tiers of the organisations surveyed.

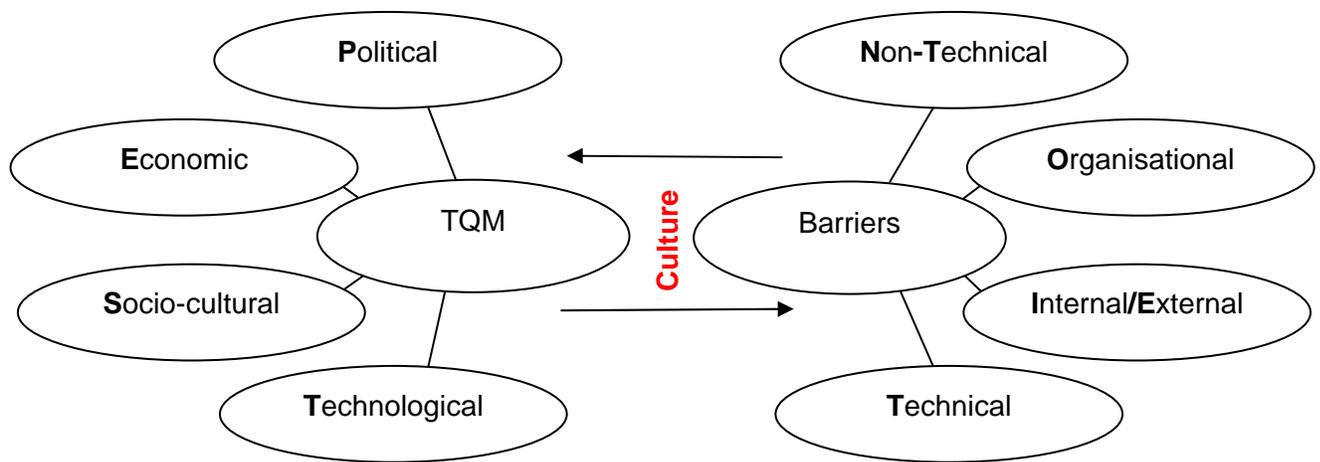


Figure 2: Conceptual Framework Showing Links between Traditional PEST Analysis Approach to TQM Assessment and Barriers Hindering its Effectiveness (Source Author)

5. Research Results

This section focuses on some of the key findings from the survey, which indicate the scale of effect that Libyan culture has in creating barriers to the successful implementation of TQM practices within construction sector organisations.

5.1 Quantification of Results

The results from the survey reveal that TQM in the Libyan construction companies sampled is less advanced than compared to other developed Western nations. The main barriers to TQM implementation, faced by both companies surveyed (A and B) was a lack of management leadership, unhelpful organisational culture, lack of finance to support TQM initiatives, no shared vision and the lack of a clear sense of direction to drive TQM forward within the organisation.

The analysis of the results from company A and B identified a widely held belief that employee autonomy increases control over work, responsibility, and general satisfaction in the workplace, but this is often

hampered by a lack of financial commitment to training. The studies also indicated that a significant reason why the Libyan industrial sector lagged behind other industrialised nations is that Libyan management systems were bureaucratic, lacked efficiency and were often susceptible to corruption. For TQM to flourish in such an environment not only technical changes are required, but also social and economic changes. This culture change must offer an alternative to the current culture without creating a void, thus giving time for new culture establish the vision and goals of TQM. Key to the Libyan context is to increase the respect of the supervisor for the employees, increase employees' understanding of the difficulties faced by supervisors, and increase management's respect for employees. The change must address employees' negative attitudes to the construction company, reduce conflict stemming from the working environment, help employees better understand the reasons why many problems cannot be solved quickly, and instill in the employee a better understanding of the importance of product quality. Moreover all levels of company employee must be trained and educated to ensure they stay committed to the quality process remain aware of the TQM system.

The results from this survey have been used to refine a conceptual model of TQM theory to take account of unique factors that exist in the Libyan construction industry. This in turn has enabled a more focused study to be conducted aimed at developing a better understanding of the unique barriers that exist in Libya. The main aim from both of these further studies is to develop of a set of proposals that both national and international organisations working in Libya can adopt to improve the effectiveness on TQM initiatives.

As identified at the beginning of this study, data related to TQM implementation in Libya is strictly limited and as such this survey provides an important data set that will be of interest to any future researchers interested in TQM in Libya. In addition, managers currently working in Libya with an interest in or with responsibility for Quality Management will find the data from this survey, both instructive and informative. It is expected that these managers could use the result of this survey to reflect on their own practice and to better understand any barriers they are encountering when attempting to achieve better quality management in their organisation.

6. Conclusions

In conclusion, this study reveals that the philosophy, principles, procedures, and practices necessary for providing customer satisfaction as well as achieving productivity and enhanced business performance in the construction industry of Libya are well established. The research has identified that several changes of behaviour will be required before TQM improvements becomes a reality. The implementation of TQM is a long-term and never-ending process, as such it must be closely aligned to the culture of the company and this study has revealed that without an appropriate culture TQM cannot function effectively. Within Libya there is a particular challenge aligning the views of employees and managers about the importance of TQM. If the companies feel the necessity to change they have the capacity to carry out the change.

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