

Key success factors of total quality management and employees performance in Iraqi oil industry

Aletaiby, A, Kulatunga, U and Pathirage, C

Title	Key success factors of total quality management and employees performance in Iraqi oil industry				
Authors	Aletaiby, A, Kulatunga, U and Pathirage, C				
Publication title	13th IPGRC 2017 Full Conference Proceedings				
Publisher	University of Salford				
Type	Conference or Workshop Item				
USIR URL	This version is available at: http://usir.salford.ac.uk/id/eprint/43863/				
Published Date	2017				

USIR is a digital collection of the research output of the University of Salford. Where copyright permits, full text material held in the repository is made freely available online and can be read, downloaded and copied for non-commercial private study or research purposes. Please check the manuscript for any further copyright restrictions.

For more information, including our policy and submission procedure, please contact the Repository Team at: library-research@salford.ac.uk.

KEY SUCCESS FACTORS OF TOTAL QUALITY MANAGEMENT AND EMPLOYEES PERFORMANCE IN IRAQI OIL INDUSTRY

A. Aletaiby, U. Kulatunga and C. Pathirage

School of the Built Environment, University of Salford, Salford, M5 4WT, UK

Email: a.a.aletaiby@edu.salford.ac.uk

Abstract: In times of the business world, under globalisation and overlapping variables, the concept of total quality management (TQM) as a philosophy to excel organisational performance is growing in significance. Many companies across the globe including oil and gas companies employ TQM, as its effectiveness has been observed to improve business performance in various aspects. The oil industry has a critical impact on the economy of Iraq as it represents the backbone and the major source of income to this country. The main aim of this paper is to developing a conceptual framework to improve the employee performance in Iraqi oil industry through applying key success factors of TQM. Therefore, the researcher conducted an extensive literature review on the TQM studies in order to identify and evaluate the key success factors of TQM in addition to the key measures of employee performance. The results of this paper find that there are nine TQM key factors: top management commitment, customer focus, continuous improvement, process management, training and developing, quality culture, employee empowerment and participation and communication. Moreover, three measures of employee performance have been investigated in this study: employee satisfaction and improving work climate. The main finding of this paper is a proposed conceptual framework which contains key success factors of TOM and their impact on employee performance. The proposed framework validate by interviewing ten decision makers in one of the most significant oil company in Iraq which is Iraqi oil company.

Keywords: Total Quality Management, TQM Key Factors, Employee Performance, Iraqi Oil Industry.

1. INTRODUCTION

In recent times, companies face continuous and massive changes in its business environment. Technological and economic levels are affected by the rapid development of globalisation, information technology, increased competition and modern management approaches. Thus, maintaining successes has become more challenging as companies face an environment that has become more complex, dynamic and challenging (Al-Khalifa & Aspinwall, 2001). TQM considered being one of the most long-lasting management innovations in the recent decades. TQM views an organisation as an integrated process that should be constantly improved by merging employees' knowledge and experience in order to attain organisational aims. It must be accomplished by management and employees in all company's activities (Hashmi 2004). Successful implementation of TQM assist the companies to run their activities more efficiently. It has been suggested that implemented TOM leads to better organisational performance (Nilsson et al, 2001). Abusa & Gibson (2013) argued that many multi-national companies especially Oil Company have already boosted up their organisational performance by effectively utilising the practices of TQM. The organisational performance is achieved by key indicators including customer performance, employee performance, financial performance, operational performance and environmental performance. However, according to Alsaidi (2014), the success to achieve TQM standards in many oil companies in the Middle East still lower than expected. Brah et al., (2002) stated within the context of TQM

implementation, there is increasing recognition of the significant role of employees in achieving the success.

In Iraq, the oil industry plays a critical role in the economy as it represents the major source of income for the economy. However, Iraqi oil companies are at the very initial stage of TQM development, despite its benefits and results on employee performance, even the quality management and developing performance was only developed in Iraq in early 2008 (IMOO, 2013).

From what has been mentioned previously, what is the impact of TQM implementation on the employee performance and does TQM practices and key factors provide benefit for the employees? This paper is seeking to enhance the literature review through highlighting the relationship between the key success factors of TQM and the employee performance in the context of the oil industry.

2. RESEARCH METHODOLOGY

This paper depends on conducting an extensive literature review as a method to identify the relevant book, journals, articles websites that describe, examine and concentrate on the key success factors of TQM in addition to the measures and indicators of organisational performance in general and employee performance in particular. A comprehensive literature search based on the keywords search method was conducted using the search engines like Solar, Scopus and Google Scholar. The keywords searched for "TQM", "oil industry", "employee performance"

3. TOTAL QUALITY MANAGEMENT

TQM is a term that was initially coined by the Department of Defence in the United States (Evans & Lindsay, 2001). TQM is considered as a new managerial concept; it took place in the USA in the early 1980s as a result of poor manufacturing product quality compared with their Japanese competitors (Talha, 2004). By 1982, American corporations were in a near panic due to the high productivity of Japanese companies who spread their products throughout America and they gained a high market share as a result of low labour costs in Japan, the Japanese work ethic, conflict between labour and management and burdensome government regulations in the USA (Mele and Colurcio, 2006). The spread of the TQM philosophy is expected to be accompanied by greater sophistication in the implementation of tools and techniques and extra emphasis on people. The process will also extend beyond the organisation to include partnerships with suppliers and customers. Activities will be reoriented to focus on the internal and external customer (Dale et al., 2013). By the 1990s quality programmes for productivity and innovation had been intensified to respond to new, often harsh, world conditions and contingencies. Quality management provided the basis for "a new approach in business management for the turn-around" (Mangelsdorf, 1999). Lau & Tang (2009) mention that the complex and dynamic technology, resources and task environment, and customer expectations and orientation are the primary factors behind adopting TQM in today's organisations. They add that TQM has shifted management style away from traditional thinking in terms of process control and organisation aims to giving more attention to the organisational culture as the essential driver of process control. TQM approach is now seen essential to long- term survival in business and a key factor that everyone in the company should be involved and committed from the top to the bottom of the

organisation. The successful total – quality-managed company ensure that their goods and services can meet their following criteria: (Harris et al., 2013)

- 1. Be fit for purpose on consistency reliable basis.
- 2. Delight the customer with the service that accompanies the supply of a good.
- 3. Supply a quality of the product that is so much better than that of `the competition that the customers want it regardless of price.

Therefore, TQM can have a transforming impact on an industry that is in a state of substantial structural change and facing increased competition by raising performance. Invariably, the implementation of TQM by the Iraqi oil industry could result in the provision of overall high-quality standard that contributes effectively to improving the entire performance.

4. KEY SUCCESS FACTORS

The identification of key success factors of TQM assist the companies to understand more regarding the dynamic and active nature of this approach. For achieving successful TQM implementation within any company, thus, the characteristics prominent in these factors consider as essential elements that influence the implementation of TQM within any company. According to Najeh (2006), key factors there can be the production of two logical statements. Firstly, quality philosophers and empirical researchers. Secondly, there is no agreement observed on the sacrosanct critical factors of quality. Therefore, the majority have cited various factors that are common. For instance, leadership has always been included. Therefore, 'near-universal' acceptance has been expected by some of them whilst the rest are secondary or just marginal. Communication, teamwork, training and education are some examples of 'nearly-universal' quality factors. Labour-union relations are an example of marginal factors. Researchers such as (Flynn et al., 1994; Yasamis et al. 2002; Koh & Low 2010; Kumar, et al., 2011; Hietschold et al., 2014; Neyestani and Juanzon 2016) have contributed to the examination of the key factors of TQM implementation where they came up with more or fewer factors but of the same ground. Forming a general conclusion from these studies is that, there is a range of factors which have to be considered by each organisation for TQM implementation process to be precise and sure. The TQM concept is enforced by key factors which differ from each other as they are determined by the specific company. Table 1 reveals the numerous TQM factors that can be identified as being significant to the successful TQM implementation.

Table 1: Comparisons of TQM key success factors Propositions by different authors

Flynn et	Flynn et Black and Yasamis et Lewis et Kohl and Kumar et Gherbal et Hietschold Dedy et al., Neyestani								
al., 1994	Porter 1996	al. 2002	al., 2006	Low 2010	al., 2011	al., 2012	et al., 2014	2016	Juanzon
′					,		,		2016 Customer
Top	people and	Leadership	Customer	Top	Management	Communicati	Human	Top	
manageme	customers		satisfactio	managemen	commitment	on to	Resource	Management	focus
nt support			n	t leadership		improve	Management		
	7.5	~		~	~	quality			
Quality	Management	Customer	Human	Customer	Customer	Organisation	teamwork	Leadership	Leadershi
informatio	supplier	focus	resources	managemen	satisfaction	management			p
n	partnerships		utilisation	t					
process	communicati	Employee	Manageme	People	Continuous	Training and	Top	Communicati	Process
manageme	on of	empowerm	nt of	managemen	improvemen	development	management	on	manageme
nt	improvemen	ent	process	t	t		commitment		nt
	t information		quality						
Product	customer	Partnership	Training	Supplier	Teamwork	Employee	process	Customer	Supplier
design	satisfaction	developme	and	managemen		involvement	management	focus	quality
	orientation	nt	education	t		and			manageme
						recognition			nt
Workforce	external	Information	Manageme	Quality	Employee	Culture	Customer	Teamwork	Employee
manageme	interface	and	nt	information	training		focus		involveme
nt	management	analysis	commitme	Managemen	_				nt
		·	nt	t					
Supplier	strategic	Project	Continuou	Process	Feedback		Supplier	Training	Informatio
involveme	quality	managemen	S	managemen			partnership		n and
nt	management	t process	improvem	t					analysis
	C	1	ent						
Customer	Teamwork	Continuous	Leadership	Organizatio	Effective		Training and		Training
involveme	structures	improveme	*	nal learning	communicati		learning		
nt	for	nt		J	on				
	improvemen								
	t								
	Operational		Strategic	Continual			Information		

quality	quality	improvemen		and analysis	
planning	planning	t			
Quality	performan			Strategic	
improvemen	ce			quality	
t	measurem			planning	
measuremen	ent				
t systems					
Corporate	Customer			Culture and	
quality	focus			communicati	
culture				on	
	Suppliers			Benchmarki	
	profession			ng	
	al				
	Associates				

An extensive review and analysis have been conducted on the above-mentioned studies by several industries worldwide. Based on professionals, researchers and experts findings and supported by the writing of quality pioneers, empirical surveys, case studies and quality awards and models, Eight factors have been identified which form the basis of the most significant factors to be considered as the key success factors of TQM. According to the nature of quality management implementation within the Iraqi oil industry, the identified eight key factors of TQM expect to be more relevant in the Iraqi context.

4.1. Top management commitment

With respect to its vital role in implementing TQM top management commitment considered as the initiation point in which quality activities stems from it (Hietschold et al., 2014). Top management commitment represents the main driving force behind the TQM thus, it is a responsibility to create an appropriate environment for TQM implementation. According to Seetharaman et al. (2006), an organisation cannot be transformed into a TQM if the TQM practices have not performed in the organisation by the top management. Having said that, the essential task of the top management is to guarantee this transformation and ensure its commitment towards the TQM activities.

4.2. Customer Focus

The main factor of TQM, in accordance with Richards (2012), is customer focus. Richards emphasizes that quality is defined by the customer but not by the organisation or the product or service manufacturer since quality is what the end user desires. Brah et al., (2002) claims that the success of any organization in near future would depend upon the satisfaction of its customers' needs efficiently and effectively on a continuous basis. In the same regards, Zhang (2000) stress that customer focus is the extent to which an organization continuously satisfies customer needs and expectations. Thus, it is one of the major means of TQM for improving and enhancing business performance.

4.3 Quality Culture

Quality is not a process that can be operated through evaluation and assessment only, but it is also a set of values and practices shared by the organisation environment and community and should be undertaken by all the organisation levels. The employees' roles in the success of quality culture in an organisation. These are considered as the asset of an organisation and its success depends on how the employees are treated (Watson & Howarth, 2012). The activities and efforts of employees are affected by the dominant culture in a working environment. Gherbal et al., (2012) stated, within the TQM culture an open and co-operative culture has to be established by the management in which all the employees regardless their managerial levels or positions have to be made to feel that all of them are responsible for achieving the organisation's objectives.

4.4 Continuous Improvement

Continuous improvement is the planned, organized and systematic process of continuing, incremental and company-wide change of current practices meant to enhance company performance (Boer & Gertsen, 2003). According to Dean and Bowen (1994), this key factor refers to an organization's ongoing quest for better work methods and organizational processes. A commitment to continuous improvement is ideally recognizable at the work unit and employee level. Moreover, continuous improvement is able to elevate the performance of an employee who is engaging in the TQM implementation.

4.5 Training and Development

Effective training and development of employees have been observed as an important part of human resource management. Training considered as a vehicle for applying and reinforcing TQM practices (Dedy et al., 2016). Training and developing lead employees better understand quality-related issues and improve their role within the quality management approach (Hietschold et al., 2014). Thus, effective training and development equipped employees with knowledge, skills and abilities for constructive contributions to quality.

4.6 Employee Empowerment

The success of TQM implementation is facilitated by employee empowerment and involvement in the company. Additionally, it stimulates employees to offer better job quality and contribute more in the new business process and therefore observed to be a crucial factor (Hietschold et al., 2014). Therefore, managers should motivate and encourage employees to take responsibility, authority and communicate effectively to improving the quality at all aspects of work. This will enhance the belongingness feeling of employees to their company.

4.7 Process Management

Process management as stated by Ibrahim et al. 2011), includes the set of behavioural and methodological practices that emphasis on companies activities and actions rather than achieving results. Kanji, (2012) reveals in a TQM organization, the focus is not on formal systems or structures. Rather, the focus is placed on setting up process management teams to solve the organization problems. The essential point, in this case, is to alight employees and their responsibilities with the organization and the processes in it. The success of an organization is based on its focus on the processes i.e. activities and tasks themselves rather than on abstract issues

4.8 Communication

Effective communication is established starting with communicating the values, policies and measures of the organisation to its employees. Thus, the organisation should communicate to its employees about its goal and quality policies without any doubt. To have an effective administrative system with least bureaucratic, all employees should be clarified with their own roles and responsibilities (Li et al., 2000). Kanji (2012) pointed out that without

communication, organisations would not function. If communication is diminished the entire organisation suffers. When communication is thorough, accurate, and timely, the organisation tends to be vibrant and effective.

Having discussed the above eight key success factors of TQM, it can be concluded that applying the TQM key success factors has a significant advantage on the entire organisational performance. The success of TQM implementation depends heavily on employees who will be directly involved in the implementation process. According to Ibrahim et al. (2011), TQM implementation depends mostly on employees' attitudes and activities in the company. Therefore, TQM must focus not just on the quality of the product but also on the quality of its employees to remain an effective management approach.

5. THE EFFECTS OF TQM ON EMPLOYEE AS A MEASURE OF COMPANY'S PERFORMANCE

Employees are the most important asset for any organisation as they provide support in productivity and performance enhancement. In order to become more successful and competitive, companies must consider their employees as the main engine towards achieving their goals in both short and long term (Mehmood et al., 2014). Performance improvement is approached as an operational philosophy that management adopts to benefit customers, employees, suppliers and shareholders alike in a context where quality improvement is a major organisational strategy to achieve competitive advantage. The performance improvement programs cannot be ignored in a company as they directly benefit the bottom line while providing a competitive advantage (Gharakhani et al., 2013). Considering the focus of TQM improving and empowering employees as well as conferring them with autonomy and authority, results in employees are likely to manifest in different dimensions. Among the various employee benefits to be gained by implementing TQM this study has been focused on Employee satisfaction and improve work climate as the most significant indicators that influenced by the eight key success factors of TQM.

5.1 Employee Satisfaction

Employee satisfaction is one of the primary cornerstones of TQM and is included as one of the quality goals, as satisfied employees are prerequisites for a desirable business result (Dedy et al., 2016). According to Alsughayir (2014), a strong link is expected to exist between an organization adopting TQM practice and employee job satisfaction with TQM giving emphasis on the significance of teamwork in facilitating the ability of employees in working together in getting a job done. Furthermore, Peris-Ortiz et al., (2015) advance that the tendency of TQM philosophy to let employees to control the quality of their work, to be more autonomous and to suggest improvement actions contribute in contributing to ensure that employee experience the benefits of job enrichment. From these, it can be derived that TQM is designed in a manner that employee satisfaction is one of the results of implementing TQM practices in companies.

5.2 Improve Work Climate

A key aspect in TQM in the workplace includes teamwork, which prospers when the different factions share the same vision of the organisation and which influence the roles they assume in the organisations. As quality is influenced by the environment which the employees operate in, TQM has to give attention to fostering the necessary work environment and endeavour to manage it with a view of achieving its conformity with the company's product requirements (Kaynak, 2013). According to Anvari et al (2011), the leadership informed by TQM provides the tools for working effectively and the work environment fostering productive work. With the workers satisfied and having the feeling of being part of the organisation, the employees are likely to work harder towards achieving organisational goals. Furthermore, the focus given to quality by TQM promotes a work climate that encourages learning to take place among employees while in the workplace and this further fosters improvement in quality and productivity. As it emerges, the workplace environment promotes in companies implies that those companies that adopt TQM exhibit improve work climate favourable for employee performance.

6. THE PROPOSED CONCEPTUAL FRAMEWORK

The above discussion is conceptualised in (figure 1). The conceptual framework illustrates the overall links between the main issues discussed in the theoretical and empirical literature review. In other words, the conceptual framework suggests the impact of eight key success factors of TQM and its implementation on improving the employee performance. Having said that, in this study top management commitment, customer focus, quality culture, continuous improvement, training and development, employee empowerment, process management and communication represent the key success factors of TQM.

In order to reflect the resulted eight KSFs from the literature to adapt to the oil industry practice in Iraqi, validation process was conducted through interviewing 10 leading executives in one of the significant Iraqi oil company which is Iraqi drilling company IDC. Thus, the proposed framework with the eight KSFs reflects on practitioners of the oil industry in Iraq through improving the employee performance particularly in terms of achieving employee satisfaction and improve work climate.

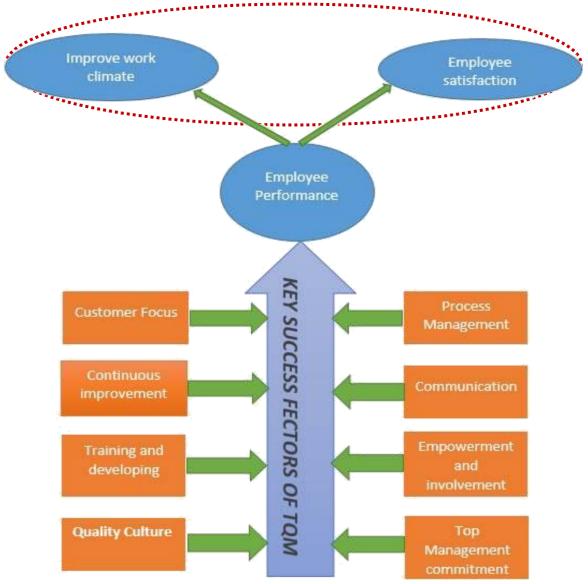


Figure 1: The proposed conceptual framework

7. CONCLUSION

This study reveals the importance of adopting TQM and its benefits/impacts on employee performance. Although there are several studies have been conducted to identify the required key factors of successful TQM implementation, however, there is still a lack of studies to examine the relationships between key success factors of TQM and employee performance, particularly in Iraqi oil industry. This mainly attributed to the fact that Iraqi oil companies are at the very initial stage of TQM journey. Therefore, this study has been identified and emphasised eight key success factors of TQM among many others in various studies. The study attempts to contribute to employ these key factors of TQM to achieve utmost results of employee performance in the context Iraqi oil industry. Therefore, the study proposed a conceptual framework that links the eight key success factors of TQM with the employee performance that directed by employee satisfaction and improved work climate.

8. REFERENCES

- Abusa, F. M., & Gibson, P. (2013). TQM implementation in developing countries: A case study of the Libyan industrial sector; Benchmarking: An International Journal, 20(5), 693-711.
- Al-Khalifa, K. N., & Aspinwall, E. M. (2001). Using the competing values framework to investigate the culture of Qatar industries. Total Quality Management, 12(4), 417-28.
- Alsaidi, A. (2014). Benefits of Total Quality Management in mechanical working in oil companies in Libya. International Journal of Engineering Research and Social Technology, 3(4), 241-247.
- Alsughayir, A. (2014). Does practising total quality management affect employee job satisfaction in Saudi Arabian organizations? European Journal of Business and Management, 6(3), 169-175.
- Anvari, A., Ismail, Y., & Hojjati, S. M. (211). A study on total quality management and lean manufacturing: through lean thinking approach. World Applied Sciences Journal, 12(9), 1585-1596.
- Black, S. A., & Porter, L. J. (1996). Identification of the critical factors of TQM. Decision sciences, 27(1), 1-21. Boer, H. & Gertsen, F. (2003). From Continuous Improvement to Continuous Innovation, International Journal of Technology Management, 26(6), 805-827.
- Brah, S. A., Tee, S. S. & Rao, B. M. (2002). Relationship between TQM and performance of Singapore companies, International Journal of Quality and Reliability Management, 19(4), 356-379.
- Dale, B. G.; Wiele, T. V. D. & Iwaarden, J. V. (2013). Managing quality, 5th ed., Blackwell Publishing Ltd. Dean, J., W., & Bowen, D.E. (1994). Management theory and total quality: improving research and practice through theory development, Academy of Management Review, 19(3), 392-418.
- Dedy, A., Zakuan, N., Bahari, A., Ariff, M., Chin, T., & Saman, M. (2016). Identifying Critical Success Factors for TQM and Employee Performance in Malaysian Automotive Industry: A Literature Review. IOP Conference Series: Materials Science and Engineering, 131(1), 7.
- Evans ,J.R., & Lindsay, W. M. (2001). The Management and Control of Quality, 5th ed., New York: West Publishing.
- Flynn, B. B., Schroeder, R. G., & Sakakibara, S. (1994). A framework for quality management research and an associated measurement instrument. Journal of Operations management, 11(4), 339-366.
- Gharakhani, D., Rahmati, H., Farrokhi, M. R. & Farahmandian, A. (2013). Total quality management and organizational performance. American Journal of Industrial Engineering, 1(3), 46-50.
- Gherbal, N., Shibani, A., Saidani, M., & Sagoo, A. (2012, July). Critical Success Factors of Implementing Total Quality Management in Libyan Organisations. In Proceedings of the International Conference on Industrial Engineering and Operations Management, Istanbul, Turkey, July 3-6.
- Harris, H., Mccaffer, R., & Eduw-Fotwe, F. (2013). Modern construction Management, 7th ed., John Wiley & Son, Ltd.
- Hashmi, K. (2004). Introduction and Implementation of Total Quality Management (TQM). [Online], Available at: http://www.isixsigma.com/library/content/c031008a.asp [Accessed: 08/12/2016].
- Hietschold, N., Reinhardt, R., & Gurtner, S. (2014). Measuring critical success factors of TQM implementation successfully—a systematic literature review. International Journal of Production Research, 52(21), 6254-6272.
- Ibrahim, I., Amer, A., & Omar, F. (2011). The Total Quality Management Practices and Quality Performance: A Case Study of Pos Malaysia Berhad, Kota Kinabalu, Sabah. In International Conference on Business and Economic Research.
- IMOO. (2015). QUALITY MANAGEMENT AND DEVELOPING PERFORMANCE [Online]. Iraqi Ministry of Oil Available: ttps://www.oil.gov.iq/index.php?name=Pages&op=page&pid=106 [Accessed 17/11/2015].
- Kanji, G. (2012). Total quality management: proceedings of the first world congress. Springer Science & Business Media.
- Kaynak, E., & Rogers, R. E. (2013). Implementation of total quality management: A comprehensive training program. New York; London: Routledge.
- Koh, T. Y., & Low, S. P. (2009). Empiricist framework for TQM implementation in construction companies. Journal of management in engineering, 26(3), 133-143.
- Kumar, R., Garg, D., & Garg, T. K. (2011). TQM success factors in North Indian manufacturing and service industries. The TQM Journal, 23(1), 36-46.
- Lau, A. W., & Tang, S. L. (2009). A survey on the advancement of QA (quality assurance) to TQM (total quality management) for construction contractors in Hong Kong. International Journal of Quality & Reliability Management, 26(5), 410-425.
- Lewis, W.G., Pun K.F., & Lalla T.R.M. (2006). Exploring soft versus hard factors for TQM implementation in small and medium-sized enterprises, International Journal of Productivity and Performance Management, 55(7), 539-554.

- Li, E. Chen, E., & Cheung, C. (2000). Total quality management in software development process, The Journal of Quality Assurance Institute, 4, 5–41.
- Mangelsdorf, D. (1999). "Evolution from quality management to an integrative management system based on TQM and its impact on the profession of quality managers in industry", The TQM Magazine, 11(6), 419.
- Mele C. & Colurcio M. (2006). "The evolving path of TQM: towards business excellence and stakeholder value". International Journal of Quality & Reliability Management, 23 (5), 464 489.
- Mahmood, S., Qadeer, F., & Ahmed, A. (2014). Relationship between TQM dimensions and organizational performance.
- Najeh, R. T., (2006). A Road Map for the Effective Adoption of Total Quality Management in Libyan Oil Industries. Doctoral Thesis, University of Bradford.
- Neyestani, B., & Juanzon, J. B. P. (2016). Identification of A Set of Appropriate Critical Success Factors for Successful TQM Implementation in Construction, and Other Industries. International Journal of Advanced Research 4(11), 1581-1591.
- Nilsson, L., Johnson, M., & Gustafsson, A. (2001). The impact of quality practices on customer satisfaction and business results: product versus service organizations. Journal of Quality Management, 6, 5-27.
- Peris-Ortiz, M., Álvarez-García, J., & Rueda-Armengot, C. (2015). Achieving competitive advantage through quality management. Cham: Springer.
- Richard, J. (2012). Total Quality Management, Business Management and Strategy, 3(2), 36-42.
- Seetharaman, A., Sreenivasan, J., & Boon, L. P. (2006). Critical success factors of total quality management. Quality and quantity, 40(5), 675-695.
- Talha, M. (2004). "Total quality management (TQM): An over view, the bottom line", Managing Library Finances, 17(1), 15-19.
- Watson, P., & Howarth, T. (2012). Construction Quality Management: Principles and Practice. Routledge. Yasamis, F., Arditi, D., & Mohammadi, J. (2002). Assessing contractor quality performance. Construction Management & Economics, 20(3), 211-223.
- Zhang, Z. H. (2000). Developing a model of quality management methods and evaluating their effects on business performance, Journal of Total Quality Management, 11(1), 129-137.