



THE BARRIERS IN IMPLEMENTING TQM ON CONSTRUCTION PROJECTS IN IRAQ

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KEYWORDS: This study aims at identifying the barriers for construction firms to engage in TQM and also test the level of implementation of TQM on construction projects in IRAQ.

ABSTRACT

Many construction companies are engaging in Total Quality Management (TQM) to improve the quality of their products and work which, ultimately will lead to higher level of customer satisfaction. However, there are still a number of players in Iraq construction industry who refuse to implement TQM.

INTRODUCTION

Construction is a one-of-a-kind production: its products are highly complex; its supply chain is extremely fragmented; its processes are somewhat different. As such, many construction companies have difficulty in maintaining the expected satisfaction required by its customers. Total Quality Management has proved to be a useful tool in ensuring the achievement of a set standard and successful productivity improvements in the construction industry.

TQM has taken a strong place in all sectors and emerged out as an approach for process improvement, construction production, business optimization and quality performance.

There are demands for improvement in the quality of products and services, transparency in policies and procedures, increased emphasis on pre and post product and service delivery procedures, and cost of quality. Construction organizations and companies must improve the quality of their services, achieve competitive advantage, and move on a path of growth and excellence. One of the purposes of the present study is to understand the concept of TQM and barriers associated with TQM.

MATERIALS AND METHODS

TQM IN THE CONSTRUCTION INDUSTRY:

The construction industry has been reluctant to embrace the full concept of TQM. *Schriener et al. (1995)* points out that construction, historically is an industry reluctant to change, but is now trying to catch up with the Total Quality Management revolution that has transformed many businesses. Earlier studies indicate that the nature of the industry in itself creates problems for effective quality management systems. *Grover (1987)* notes that when the construction industry is stripped to its basic elements, it's one that designs and assembles structures made up of other industries, a task that involves formidable problems of organization. The nature of the construction industry is however, unique as most building Projects encompass the participation of numerous parties, including design consultants, contractors, building materials, manufacturers and suppliers. However some organizations are beginning to see the positive aspects of TQM. One contracting organization has equated the cost, inefficiency and waste in the contracting industry as being equal to giving away a house a day.

Reasons for TQM implementation in the construction industry:

TQM can be a solution for many problems such as costs, productivity, occupational safety and health. Many authors found that the overall motivation for implementing TQM remained essentially the same over a period of three years, and that most companies understood the benefits of TQM implementation. The methods and effectiveness of implementing TQM however, did vary substantially between companies over the three years. Some firms completely abandoned their TQM implementation while others achieved award-winning results.

RESULTS OF THE STUDY

For this purpose, a questionnaire and technical data collection from construction firms and contractors who are working on the various construction projects inside Iraq was carried out.



Since the year 2003, there have been hundreds of failed and delayed construction and development projects in IRAQ.

Despite the state’s budgets reaching record figures, as oil prices were close to \$100 a barrel, these projects were not accomplished.

Following was the Labor distribution in the Road projects :

Category of Labor	Number For 10 projects
Skilled Labors	130
Un-skilled Labor	420
Forman	10
Technical Person	15
Engineers	10
Supervisor	20
Quality officer	15
Auditor	10
Q C Engineer	15
Site Manager	10

Budget & Cost of Quality of some of ROAD projects in the Following Details:

Project Budget & Cost of Quality Details	USD	For 10 project	% Cost/total budget	Ranking
Total Project Budget	230,000	2,300,000	-----	-----
Cost of Rework	2,000	20,000	0.8696%	5
Cost of Training	500	5,000	0.2174%	7
Cost of Retest	5,000	50,000	2.1739%	2
Cost of Re-inspection	3,400	34,000	1.4783%	4
Cost of Downtime	1,800	18,000	0.7826%	6
Cost of Redesign	8,000	80,000	3.4783%	1
Cost of Overtime	4,000	40,000	1.7391%	3

For each project, there were 5 participants in the questionnaires. These participants were: Quality officer, Auditor, Q C Engineer, Site Manager and local contractor. So the total of received questionnaires for the second part of the form was 25. The barriers are listed below based on their ranking:



Type of barriers	Percentage	Ranking
Personal knowledge associated with the level of implementation of TQM.	94.50%	1
Extra cost and time associated with the level of implementation of TQM.	92.20%	2
Supervision associated with the level of implementation of TQM.	90.50%	3
Availability of measurement associated with the level of implementation of TQM.	85.60%	4
Effective communication associated with the level of implementation of TQM.	78.60%	5

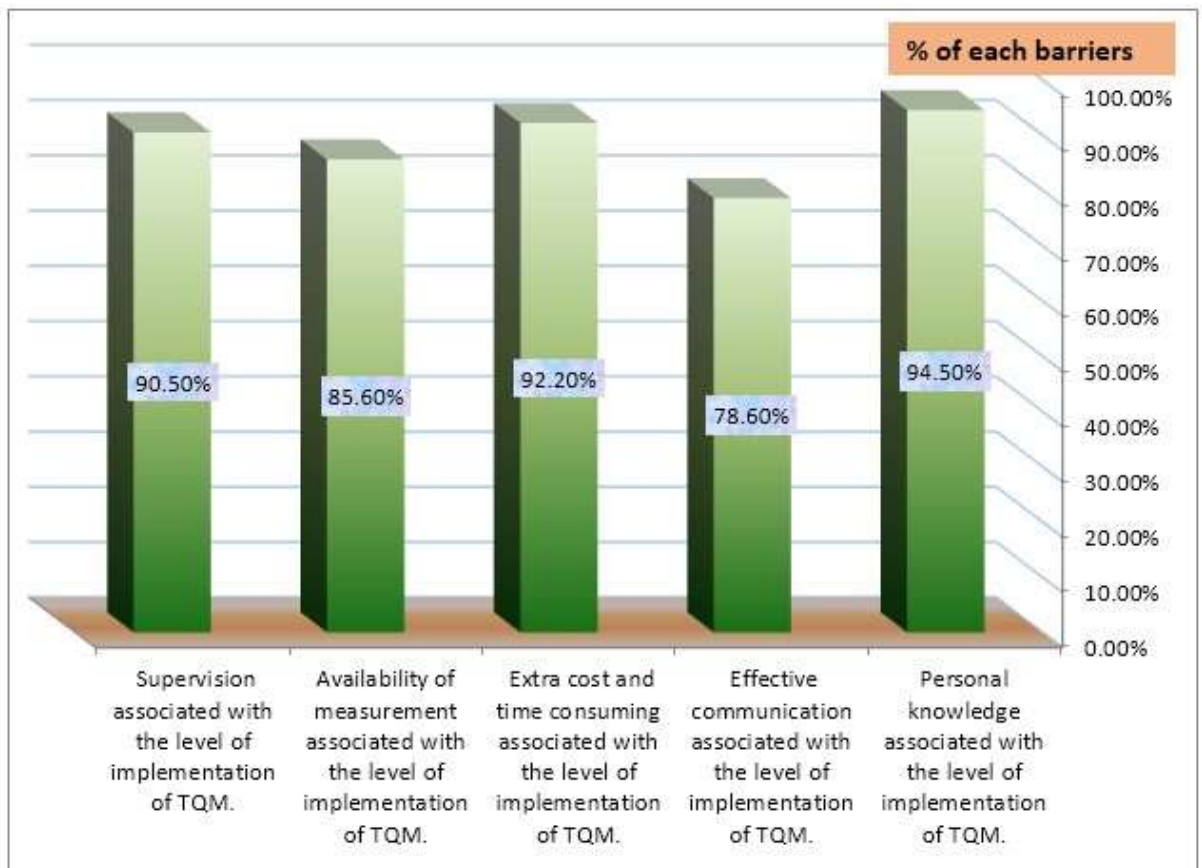


Fig shows the barriers percentage against TQM.

CONCLUSION

The highly competitive economic conditions that exist in today’s construction industry require that construction companies seek to achieve excellence to remain competitive. This excellence can be achieved with a new style of management that focuses on customer satisfaction, the elimination of wastage, continuous improvement, and employee involvement.

The construction industry exists to provide a service to its owners/customers who are becoming more demanding and are seeking higher quality, better value, and lower costs. These owner/customer requirements mirror the



economic pressures they face in their own businesses. Implementing total quality management / continuous improvement in managing everyday construction activities is relevant to all those who participate in and contribute to the construction process. Majority of firms are actually suffering from lack of skilled workers during the implementation of TQM. Unskilled worker is the critical barrier affecting the implementation process. For a firm to produce high quality product, employees need to possess necessary knowledge on how to do their jobs effectively and efficiently.

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