

CRITICAL SUCCESS FACTORS FOR TOTAL QUALITY MANAGEMENT IMPLEMENTATION WITHIN THE CEMENT INDUSTRY OF PAKISTAN

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ABSTRACT

The cement industry has been growing in Pakistan for last two decades – keeping in mind the growth of the cement industry, the researcher conducted a study to enlist the Critical Success Factors for Total Quality Management Implementation that the quality departments of these cement units consider for the success of their projects. The researchers identified Critical Success Factors for Total Quality Management Implementation through rigorous literature review. Questionnaire was developed for this research. The respondents were asked to rank and score the Critical Success Factors for Total Quality Management Implementation. For this ranking, criticality score and criticality index were used and top factors were identified. The scoring assessment criteria was adopted from the previous study in which the criticality index and criticality score was used. The factors were identified by the researchers and these factors are listed in descending order as (i) customer satisfaction (ii) commitment of top management (iii) team work (iv) communication (v) continuous improvement (vi) participation of team members in decision-making (vii) leadership (viii) developing quality policy (ix) training. This research is about the identification of Critical Success Factors for Total Quality Management only and the success was not measured in this research.

Keywords: *Critical Success Factors, Total Quality Management, Cement Industry, Criticality Score, Criticality Index.*

1. INTRODUCTION

The cement industry had rapid growth in Pakistan in last few years. According to [1], the demand for cement increased by 12% in 2015. The production of cement increased by 7.7 million tons from 45 to 53 million tons per annum. According to Muhammad Fazal Ullah Sharif, CE, Thatta Cement (2016), 60% of the cement is used in infrastructure projects and the housing sectors. According to news reports (News, 2015 May), there is a backlog of a million housing units especially for the poor. The cement industry in Pakistan is divided into North and South zone. North zone consists of Punjab, Azad Kashmir, Khyber Pakhtunkhwa and the upper region of Baluchistan. Sindh and the remaining portion of Baluchistan comes under South zone. Karachi Stock Exchange has listed 21 companies in the cement sector. According to Ravi magazine (16th April 2015) Rs. 15.584 billion is the total paid up capital of these companies and the network is Rs. 24.947 billion. The cement industry of Pakistan has potential of growth in coming years, so the researchers wanted to find out the factors that contribute to the Total Quality Management Implementation of this cement industry.

2. WHAT IS TOTAL QUALITY MANAGEMENT?

Total Quality Management is the consistent and continuous effort by the management and employees to make sure that customers are satisfied with the product or service they receive from the organization and as a result stay loyal with the product or service providers. Total Quality Management makes sure that every member of the organization is involved in improving the culture and processes of the organization for its success. Total Quality Management is divided into (i) Plan (ii) Do (iii) Check (iv) Act phases.

3. LITERATURE REVIEW

Edwards Deming, Joseph Juran and Armand V. Feigen Baum are the pioneers of Total Quality Management concept. [2] consider commitment of top management essential for Total Quality Management Implementation. They emphasize on the importance of establishing quality policy and quality management structure. [2] also lay emphasis on management commitment. They lay emphasis on the participation of members in the decision-making to improve total quality management. [3] lays strong emphasis on the management inclination towards total quality management and leadership. According to [3], TQM cannot be implemented without top management support. For [5], continuous improvement is one critical success factors for Total Quality Management Implementation. According to [4], in order to apply continuous improvement in any organization, support from all stakeholders is required. According to [4], consideration of customer satisfaction is the important thing for improving quality standards of an organization. [5] considers employee involvement very important for Total Quality Management Implementation because they say that the involvement of employees will help them in understanding the quality policies of the organization. [6] considers training, a very important factor for Total Quality Management Implementation because this training can develop and enhance the capabilities of the staff. [4] consider communication very important factor for the Total Quality Management Implementation. They consider communication a key factor for quality improvement because it involves employees to share information and sharing information is very important. Teamwork is considered a key factor by [8] because team members can produce innovations that are required for implementation of Total Quality Management. According to [6], customers should be the starting point of an organization and not the ending point. [7] consider customer focus, quality culture, teamwork, training, communications and product design as basic critical factors for Total Quality Management.

4. PMBOK VIEW

PMBOK was published by Project Management Institute (PMI). PMBOK is the guide of “Best Practice” according to [9]. PMBOK is divided into 10 knowledge area, 5 process groups and 47 processes. PMBOK emphasizes on developing Project Management Plan that must contain Quality Management Plan and other plans i.e. Scope, Cost, Risk, Schedule, Stakeholders, Procurement etc. According to PMBOK, the project team must follow Quality Management plan to give the customers the desired quality product.

5. RESEARCH NEED AND AIM

The need and aim of this research is to identify Critical Success Factors for Total Quality Management Implementation, so that the new investors in the cement industry in Pakistan know which factors they should consider to develop their quality plans in order to provide customer with the desired product quality. The existing cement units can also take benefit from this research and prioritize their CSF's for Total Quality Management Implementation (TQM) in order to improve the quality of their products.

6. RESEARCH STEPS

For this research, the researchers did some work. This work included;

- Development of a questionnaire to find out Critical Success Factors for Total Quality Management Implementation.
- The researchers conducted one on one interviews and emailed questionnaire to the intended people.
- Assessment from the feedback was done by the researchers.

Questionnaire consisted of two sections. Section 1 was compared of work experience (ii) position in company. Section 2 was composed of critical factors that were found out through existing literature.

The questionnaire was given to 120 people of different cement units of Karachi, Lahore and Peshawar. 100 people responded to questionnaire and analysis was done. Multi-staged sampling was done for the sample size.

7. ANALYSIS

Analysis was done by the researcher from the feedback from 100 people. The criticality index for each factor is identified. This criticality assessment criteria is taken from the research conducted by Muhammad Saqib, Rizwan U. Farooqi and Sarosh H. Lodhi. The factors were identified by the researcher and he listed it in the table-2.

Table-1:Critically Assessment Criteria

Mean Factor Score Range	Critically Index	Critically Level
1.0 – 2.5	1	Least significant towards project success
> 2.5 – 5.0	2	Mildly significant towards project success
> 5.0 – 7.5	3	Moderately significant towards project success
> 7.5 – 10.0	4	Most significant towards project success

The above mentioned criteria was developed by Muhammad Saqib, Rizwan U. Farooqi, Sarosh H. Lodhi.

Table-2: Identified Factors with Mean, Mode

Factors	Mean	Mode	Criticality Index
Commitment of top Management	9.6	10	4
Participation of team members in decision making	8.2	10	4
Leadership	7.2	8	3
Continuous Improvement	8.7	10	4
Customer satisfaction	9.8	10	4
Training	6.0	7	3
Communication	8.8	9	4
Team work	9.4	10	4
Developing Quality Policy	6.5	7	3

8. CONCLUSION

Top most five Critical Success Factors for Total Quality Management in descending order in terms of their means:

- Customer Satisfaction (9.8)
- Commitment of top management (9.6)
- Team work (9.4)
- Communication (8.8)
- Continuous Improvement (8.7)

9. NOTE

This research is about identifying Critical Success Factors for Total Quality Management Implementation and not about the measurement of the project success.

10. LIMITATION OF THE RESEARCH

This research was done in Pakistan, so the results of this research cannot be generalized to the rest of the world. The results could have been different, if some other Critical Success Factors for Total Quality Management Implementation were identified, scored and ranked.

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