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“A STUDY ON QUALITY MANAGEMENT & CONSTRUCTION PLANNING OF CONSTRUCTION ORGANIZATION”

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ABSTRACT

The purpose of the work is to find out the knowledge of quality control and management and its impact towards engineers and labors. Construction Industry plays a vital role in the advancement of any areas, Project manager has primary responsibility within the construction and the Quality control/assurance procedures are correctly administered. This paper aims to influence of quality control circle implementation on company performance in construction industry. Now-a-days, management of construction companies is focusing on quality issue on a competitive edge and other firms. Delivering projects that satisfied client requirement has become a main priority in order to maintain business relationships and hence the construction industry should develop standards during every stage in order to deliver satisfactory outputs.

Key Words: Total Quality Management, Project, Construction, Quality Circle..

I. INTRODUCTION

Indian Construction Company is a pillar of economy for our country .It is time bound and employs huge resources of man, material and machinery. Construction sector has undergone severe cycle changes day by day. Construction contributes to the growth of many related industries such as manufacturing of construction material, cement, pipes, sanitary wares, tiles, ready mix concrete, window and iron door etc. Besides from being an important asset that generates profit to the country, construction encourages the development of human resources and generates more employment than other industrial sectors.

Considering the significance of construction, it is necessary to identify major issues affecting the efficiency of this sector. The poor state of technology adopted by the construction industry in many countries as well as fragmented relation between construction cost and time delay which in turn affects the quality.Now-a-days, management of construction companies is focusing on quality issue on a competitive edge and other firms. Delivering projects that satisfied client requirement has become a main priority in order to maintain business relationships and hence the construction industry should develop standards during every stage in order to deliver satisfactory outputs.[1-5]

Construction quality can be viewed as one part of a triangle as shown in Fig.1.1. The cost level as planned should be maintained by the contractor; at required level of quality schedule deadlines should meet.

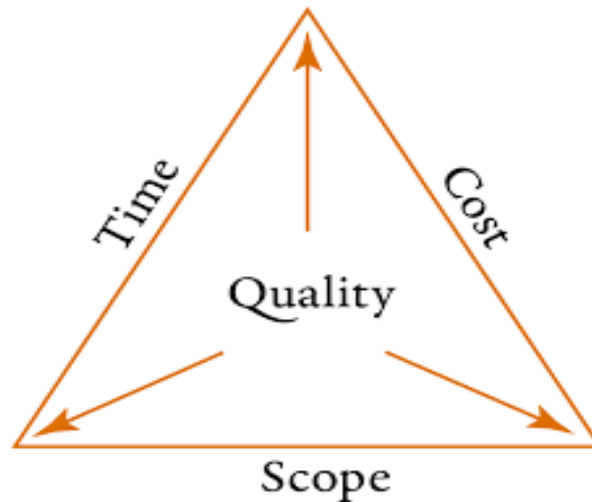


Fig. 1.1 Construction of quality Triangle

II. LITERATURE REVIEW

Sila and Ebrahim (2002) provided a comprehensive discussion on critical success factors by reviewing research studies performed from 1989 to 2000. They identified 25 critical success factors from 347 studies. Fig. 2.5 shows the theoretical framework used by Sharma (2006) in conducting his research study.

Le Van Thong (2003) discussed about determination of quality management activities in the construction in the Oil and Gas Company and reviewed the effectiveness of quality management in construction of the Oil and Gas Company. Recommendations were given to improve the quality management system in oil and gas Construction Company.

Steyn Basson et al., (2004) stated that quality never happens by itself: it is always an outcome of careful research into the requirements of the deliverables that will meet all the needs of the customers as well as expectations of the stakeholders involved. Quality is one of the major areas in the construction industry that has to be looked into critically before a project is initiated.

Aynur Kazaza et al., (2005) reported that the achievement of acceptable levels of quality in the construction industry has long been a problem. Great expenditures of time, money and resources are wasted each year due to inefficient or non-existent quality levels. The situation is even worse in the case of mass housing projects addressed to low and middle income groups. It is the scope of this paper to identify the type of deviation resulting in rework in mass housing projects. Finally, the quality of mass housing projects in Turkey is examined. In order to achieve this objective, data have been derived from 500 cases in two mass housing regions by means of a questionnaire including 108 questions, and results of this survey were evaluated by t-test and the percentage values calculated by frequencies of the answers. It is concluded that the residents are not adequately satisfied by the quality of products/services provided.

Turk (2006) discussed the characteristics of the contractor firms in the construction industry of Turkey, the perceptions, behaviour and experiences of the firms with respect to ISO 9000 quality management system. A field study has been executed and a questionnaire has been carried out. In total, 138 construction firms in Turkey were selected for this study. The evaluation of the data points to the fact that the surveyed construction firms generally have a positive approach towards ISO 9000 QMS and that ISO 9000 QMS provides important advantages for the firms. However ISO 9000 QMS cannot be made widespread and applied effectively due to certain disadvantages and difficult in practice.

Burcuakincia and Frank Boukampa (2006). In this paper, we outline a process of acquiring and updating detailed design information, identifying inspection goals, inspection planning, as-built data acquisition and analysis, and defect detection and management. We discuss the validation of this formalism based on four case studies.

Sharma (2006) performed an empirical study to establish the quality management dimensions and contextual factors which contribute significantly in enhancing organizational performance in Queensland business by incorporating quality management programs like TQM, ISO 9000, and both TQM and ISO 9000, simultaneously. The author replicated same 12 quality management factors suggested by Powell (1995) as comprehensive dimensions of a complete quality management program.

Wan Yusoffwan Mahmood, et al., (2006) discussed the problems related with quality culture and its development in construction industry. The authors reported that the current organizational culture must shift to total quality culture. Dimensions of quality culture like top management commitment, communication, quality planning, training and education, teamwork and supplier partnership were adopted by organization towards the implementation of total quality management for its continuous improvement.

Rodney (2008) incorporated grounded theory research method and developed a quality management model that encompasses quality aspects maintained by traditional quality management models and strategic aspects of quality management. Operational and strategic quality drivers model proposed by the author. From quality management models, it is observed that there is strong homogeneity in theoretical understanding of quality management irrespective of significant impact of difference in national cultures and other contextual factors on applicability of quality management.

Firas (2008) examined the effect of total quality management on client satisfaction, employee satisfaction, quality of construction implementation and project performance. Through questionnaire survey the findings revealed that supplier quality management has positive effect on the performance of construction projects in Yemen construction projects. The findings further indicated that project teamwork satisfaction show positive effects on construction project implementation and construction project implementation show positive effects on client satisfaction.

Soltani (2008) proposed a hypothetical model to identify the role of top management in success or failure of total quality management. The author stated that in order to meet the challenges imposed by ever-increasing market competition, the postmodern business demands effective role as leader from the top management. Fig. 2.8 shows the hypothesized model of linkages between top management commitment and total quality management success.

Muhammad Asim et al., (2013) conducted a study to explore the issue of appropriateness and degree of implementation of quality management practices in Pakistan construction industry. The key issues were evaluated through questionnaire survey conducted among 30 contractor firms in Pakistan construction industry. The authors concluded that construction contractors were the decision makers and majority of them were unsure about the implementation of total quality management system in construction industry. The results further indicated that effective communication and improvement in project coordination improves the employees work performance.

Tahir Nawaz and Amjadaliikram (2013) highlighted the benefits and obstructions in the implementation of total quality management in Pakistan construction industries. The authors analysed the data collected through questionnaire survey and reported that training program among employees and managerial staff as major critical factor in implementing total quality management in construction industries of Pakistan. The results further indicated that cost and schedule were the most important factors in the performance of projects.

Ashok kumar (2014) reported that small scale construction industries not have that much of awareness on quality management system and developed a measurement methodology for customer satisfaction with continuous improvement in construction process. The questionnaire survey was conducted among various small scale construction industries and the collected data were analyzed using SPSS. Questionnaires were mainly focused on execution process of super structure. The author identified the critical factor that affects the construction quality which in turn increases the construction cost due to defect in quality. The results further give remedial measures to minimize the wastage of material, workmanship, time and indirect cost.

R Lakshmi (2015) suggest that, the purpose of this thesis is to evaluate the use of quality function deployment (qfd) as a management tool to benefit project managers. the united states building construction of engineers is one of the largest construction management organizations in the world, annually performing over 3.5 billion dollars worth of work. the project manager has primary responsibility within the construction, to ensure the design both fulfils user requirements and prepared correctly, and that quality control/assurance procedures are correctly administered.

Hesham Abdel Khalek, Remon F Aziz, Esraa A Sharabash (2016) suggest that, quality management is one of the important elements of any construction project as cost and time.this paper focuses on evaluating the practices of quality management in construction projects from the perspective of tools and techniques applied, identifying the level of commitment towards the implementation of quality management in construction projects and find the solutions to all problems that companies faced in the industry and put a set of proposals and recommendations aimed to improve this industry to the best level and to the development of implementation the quality management in the construction sector management in construction projects.

Preethi S, Monisha Manoharan (2017) suggest that, quality is the symbol of human civilization, and with the progress of human civilization, quality control will play an incomparable role in the business. it can be said that if there is no quality control, there is no economic benefit. construction projects are an extremely complex process, involving a wide range.

Ofila Irhamna, Rahmat Nurcahyo (2018), suggest that, quality is a key element that cannot be ignored in the competition and is one of the critical issues for the success of the company, including in the construction industry. on the other hand, if the quality management policy is not implemented or limited participation will both negatively affect the management of the project and competitiveness of the firms. this will also decrease the survival potential of construction firms within the industry. achievement of performance can be better if the implementation of integrated quality management is supported by the company. quality control Circles (Qcc) Have Been Found To Be A Simple And Productive Technique Of Total Quality Management (TQM) and proposed implementable in construction industry. This paper aims to influence of quality control circle implementation on company performance in construction industry.

V. Venkateswara Rao et al. (2018) in the review paper is found that concerns about climate change and environmental emissions have led to conservation of energy in buildings through the development of several energy-efficient technologies.. The building envelopes which may seem to be consuming more energy can be modified by tailoring the construction materials, such as mortar, with heat storage materials for regulating the indoor temperature and achieving enhanced energy efficiency.

A.K.S Priyadharsan et al (2020) The purpose of the thesis is to find out the knowledge of quality control and management and its impact towards engineers and labors. The paper includes the outcome of the research methodology decided by authors based on interview of project participants and analysis of data. The project includes visiting construction companies and conducts the questionnaire survey, then analyse the factors that include quality control and its management and also suggest that the improvement of quality measures in the execution of the projects.

III. CONCLUSION

The following conclusion can be identified that it is shown in below.

1. it was to evaluate the effectiveness of quality management system in construction projects.
2. The study concludes that role of quality management system seems to have a positive influence in construction projects
3. To evaluate the critical factors that affects the quality management system on quality improvement of projects.
4. To implementation framework for quality management system in construction projects.
5. To propose regression equation for the identified strongest predictor among the independent variables.

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