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A Case-Study: Effective Implementation of Quality Control System in Building Construction

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Abstract – Total Quality Management increase in productivity, its reliability and decrease in cost of the product. It is an effort to be put in by every work organization, so as to achieve performance improvement. It is a strategic objective targeting its permeation in every aspect. Continuous efforts among all the personnel at every level necessary for continuous improvement and customer satisfaction.

Keywords – Total Quality Management, Quality Control, Quality Assurance

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1. INTRODUCTION

Attaining desired improvement of quality in major issue in construction sector. Human and material resources are expelled unnecessarily due to insufficient or non-existent/ unawareness of procedures relating to quality management. Quality is achieved if the work completed confirms to the requirements stated in it .according to ASCE study, it can be listed a below-

"Meeting requirements of crowners, design professionals, contractors, and the public."

1.1 Quality control/ Quantity Assurance

According to manual of professional practice for quality in construction project, "Quality Assurance in a program covering all the activities necessary to provide quality in the work to meet the project requirements". It involves establishing project related policies procedure, standard, training, guidelines and system necessary to produce quality. The design professional and constructor are responsible for developing an appropriate program for each project. QA provides protection against quality problem through early warnings of trouble head such early warnings of trouble head such early warnings play an important role in prevention of both internal and external problems." Implementing Quality Control effectively, minimizes alterations, omissions, or faults sometimes leading to disputes and conflicts. To maintain clear distinction between quality assurance and quality control is difficult to understand as Quality Control is a part of Quality Assurance, although it is important too. As the time elapsed, owners became more concerned towards quality, As of 1950s,-1960s,the emergence of public sector with private bidders came into existence , assuring quality at competitive price and later the generation of subcontractors including controlled quality work among workers due to complex growth in other systems

2. PRESENT-SCENARIO

Today, meeting the quality aspects very crucial in the organization and quality management an one of the effective approach to achieve it long term public – private partnerships been seen between contractors and owners which are leading to successful project completion due to involvement of quality control plan, life-cycle cost, mutual responsiveness and trust giving economy achievement in all aspect .According to ASCE manual, the project design team should include engineers with field experience.

ISO defines international standards in subjects like designing, testing production, delivery and service. The ISO 9000 series encompasses two standard types-Quality assurance and Quality management. The QM standard ISO 9004 gives guidelines regarding development and implementation of quality system whereas ISO 9001, ISO 9002, ISO 9003 are for appraisal or contractual purpose.IQM was practiced1st in Japan and later UK, Australia, Canada, etc and by developing countries like China and India, etc. India has a very few and recent context in Quality Management (Kakkar and Narag, 2007, Mahanti and Antony, 2009; Tata and Prasad, 2009). Today Indian Companies are facing high competitor with companies worldwide inflame of globalization and cognizance.

Presently, Total Quality Management is a broader concept focusing on customer's requirements, and activities involving Quality Control, thus a boost beginning points for a firm a victimizer.

3. CASE-STUDY

We have visited and worked with some construction companies in Pune city and carried out observations on checklists of material and quality and applied improved or modified checklists to observe the improvement obtained in terms of time, quality and economy.

4. QUESTIONNAIRE SURVEY

By direct interaction, we have propagated 256 questionnaires to site-engineers, contractors, builders of different construction sites and got 15-17 response from them as below.

4.1 TQM field application

About 34%of firms have successfully implemented TQM in field operations. Since, awareness among workers and contractors regarding Total Quality Management is insufficient at larger proportion profit and losses are not met as per targets.

4.2 Transient Nature of Workers.

About 73% of workers are transient to work. As they prefer to seek employment near-by to their home, site may be located at new place making them irrelevant to relocate. Thus, contract-basis relationship must be developed in order to maintain workforce.

4.3 Disregard towards TQM

It has been observed that 15% of people on site consider TQM as an irrelevant method to be adopted in sites, especially minor sites.

4.4 Barrier

Language barrier is a minor problem for interacting. Also, insufficient material availability is about 48% at sites due to long distance.

4.5 Development

72% workers said that by programming training workshops, education can be provided thus boosting quality. Also, 15% quality can be implemented by conducting quality field tests.

4.6 Financial status

About 30% said financial status is responsible for accelerating the work progress.

4.7 Material Quality

Around 90% people regard necessity of maintaining quality as an important factor.

4.8 Quality Control and Quality Assurance

About 95% crowds on the site believe that quality is very essential to achieve economy as well as guarantee.

5. CONCLUSION

In today's competitor world, the potentials of quality should be explored and its vital concepts should be overviewed in broader sense. Apparently, to achieve successful implementation of Total Quality Management, the principles of TQM should not only be used as theoretical concept but also put into practice on construction site. Firms need to bond Quality Control in their work process, empowering workers education, training, effective worker-supervisor relationship, worker motivation program thus leading to meaningful change with implementation of Total Quality Management. Thus, from case studies it concludes that Quality Control System needs to be put strictly into practice in construction industry so as to achieve its benefits in terms of customer satisfaction, economy, time factor, etc.

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