

REVIEW ON STUDY OF FACTORS AFFECTING QUALITY OF CONSTRUCTION PROJECT

Netaji V. Shejul^[1], Prof. S. D. Bonde^[2], Prof. B. A. Konnur^[3]

^[1]PG Scholar (M.Tech-Construction Management), Government College of Engineering, Karad, Maharashtra [India]

^[2], ^[3]Assistant Professor (Civil Engineering Department), Government College of Engineering, Karad, Maharashtra [India]

Abstract - The construction industry plays a vital role in the economy. The construction industry is complex in its nature because it comprises large numbers of parties as owners (clients), contractors, consultants, stakeholders, and regulators. Despite this complexity, the industry plays a major role in the development and achievement of society's goals. The need for achieving quality of the finished product in the building construction is very important. Quality is an essential element for sustainability and customer satisfaction. Quality in its simplest form can be defined as 'meeting the customer expectations', or 'compliance with customer specification'. No matter what definition we follow for quality, it becomes very complex when we try to put it into actual practice. This study is intended to provide clients, project managers, designers, and contractors with necessary information needed to better manage the quality of a construction building projects by identifying the factors that affect process quality of construction projects and to rank them by degree of importance.

Key Words: Quality, Quality assurance, Customer satisfaction.

1. INTRODUCTION

Quality is an essential element for sustainability and customer satisfaction. In construction projects, quality performance is considered as vital for client satisfaction. This study is intended to provide clients, project managers, designers, and contractors with necessary information needed to better manage the quality of a construction building projects by identify the factors that affect process quality of construction projects and to rank them by degree of importance. For a user, quality is nothing but satisfaction with the appearance, performance, and reliability of the project for a given price range. Developing a quality system is the first step towards improving quality in construction industry.

The maintenance of quality management creates a high-performance team atmosphere and a culture of continuous improvement, making it possible to work toward a zero rework environment. In this study, it will be studied the factors affecting the quality performance of construction projects. It can be used to measure performance in

construction projects. The product in any industry should be manufactured to a required standard, one that provides customer satisfaction and value for money. The need for achieving quality of the finished product in the building construction is very important.

1.1 General

1) Quality Management in Construction: The construction industry is typified by highly differentiated, fragmented and loosely structured system. Developing a quality system is the first step towards improving quality in construction industry.

A quality system consists of the following,

- a. Quality Policy
- b. Organizational Structure
- c. Procedures
- d. Processes
- e. Training
- f. Quality Manual

2) Scope of Project:

In a modern construction market, quality is a major construction organization. This project helps the future projects to reduce the construction defects, minimizing rework and enhancing safety. The maintenance of quality management creates a high-performance team atmosphere and a culture of continuous improvement, making it possible to work toward a zero rework environment.

- 3) To improve their products quality
- 4) To minimize the rework
- 5) Helps to meet the customer requirements
- 6) Helps to raise the company's image

1.2 Performance Quality of Construction Projects

The construction industry like any other production industry is faced with challenges that affect the performance and output of the endeavor. Identifying potential critical factors that affect the quality performance of small scale contractors before the commencement of projects will ensure client satisfaction at the completion of project. Identifying the potential critical factors will however not eliminate the problem of quality but to a large extent help

project team to avoid such negative factors and strictly adhere to project specifications to reduce errors which will call for re-work by both consultants and contractors. client's will are not satisfied if the end product fails to meet their price, quality, time frame, functionality and delivery performance standard. In view of this, the consultants will not develop the skills and knowledge, or make the effort to design and manage processes, unless the client meets their required employment conditions.

1.2 Discussion

This paper aims to present literature relevant to assessment of project quality-related factors with special reference to Construction projects. Major projects success has significant impact not only on the operation of the participants, but also it will affect the local community and the State as well. The positive or negative results of large infrastructure projects are shared by the entire society.

Therefore, the study of project quality-related factors in Major Construction projects is of crucial importance. During the construction phase the contractors must focus on factors such as design, technological requirements, project information, contract requirement, project duration and market requirement. Therefore, the project director, project manager need to be aware of project quality from the beginning of the project in order to develop appropriate strategies and assign competent team members to control the quality.

2. Factors Affecting Quality of Construction

There are many important factors which have impact quality of construction project. One needs to study all these factors and it is necessary to evaluate the impact of these factors. Some of factors are given as below:

Table 2.1: Factors Affecting Quality of project

Sr. No.	Factors
1	Design
2	Lack of Communication
3	Conformance to Codes and Standards
4	Selection of Designer
5	Selection of Contractor
6	Financial Issues
7	Top Management Support
8	Material

9	Equipment
10	Interaction among Participants
11	Work Execution
12	On-Site Supervision

Conformance to codes and standards:

This factor is the most important one for contractors because this factor is an important to owner's satisfaction. The owner usually seeks to implement project according to standard codes specification. This factor is significant for contractors because this factor is strongly related to client satisfaction.

Top management support:

Top management support is essential for achieving desired quality. It is the top management's prerogative to set all the policy issues (including quality policy) and control resources. In addition, top management arranges training of human resources involved in the project and they have a big role to play in identifying the project manager. It can be seen that top management controls all the key factors and hence their support is highly desired for the quality compliance.

Interaction among Project Participants:

Any project involves interaction among different project participants. The participants include the internal participants, such as the contractor's team members, as well as the external team members, such as different subcontractors and vendors. Most of the activities require proper understanding of the needs of the others. There are instances when the quality of the project suffers for want of proper interaction between the participants.

This fact is more vivid if one executes projects that involve multiple categories of work; say, for example, civil works; electrical works; mechanical works; HVAC (heating, ventilation, and air-conditioning); and building automation etc. One can appreciate the havoc created to the quality of project activities on account of lack of interaction among project participants. The coordinating ability and positive attitude of project participants are great assets in such conditions. A short and informal line of communication as well as regular construction control meetings among project teams further support the achievement of the desired quality level.

Equipment:

Equipment work products are having more quality than manual work and the speed of work is higher for equipment than manual. So this factor is significant for contractors.

Financial Issues:

Expenditure of that project can decide the quality of construction work. Quality can be improved by using good quality resources like materials, manpower, equipment etc.

3. Conclusion

There are various important factors which affect the quality and these are required to improve the quality of product, work, and service. They will raise the overall level of quality management. To know the impact of each factor, the study of these factors should be given due consideration for forecasting the performance level of a Major Construction project before it commences in order to gain desired quality levels and achieve project success.

4. REFERENCES

- [1] Davidkumar. C, Kathirvel. P, "A Study on Factors Influencing Quality of Construction Projects", International Journal Of Applied Engineering Research, ISSN 0973-4562, S Volume 13, Number 8 (2018)
- [2] Teena Joy, "A Study On Factors Influencing Quality of Construction Projects", International Journal of Innovative Research and Development, Vol 3, Issue 5, 2014.
- [3] AyodejiOke, "Factors Affecting Quality of Construction Projects in Swaziland", The Ninth International Conference On Construction inDubai (CITC9), March 5th-7th, 2017.
- [4] K. H. Chua (Member ASCE), Y. C. Kog and P. K. Loh, "Critical Success Factors for Different Project Objectives", Journal of American Society of Civil Engineers (ASCE).
- [5] Agu. N. N1 and Ibe, B. O., "Assessment of Factors Causing Delay On Building Construction Projects in Enugu, Nigeria", IJISSET - International Journal of Innovative Science, Engineering & Technology, Vol. 3 Issue 6, June 2016, ISSN (Online) 2348 - 7968