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Investigation of factors influencing cost analysis on progressing the project

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ABSTRACT

Construction in India tends to grow day-by-day in its technologies and processes along with the associated direct cost and indirect costs such as cost of resources, procurement on own/hiring of world class technologies, labor hiring, price hike of construction materials, etc., These cost implications results in economy of an individual/owner/contractor who are involved in construction business regardless of the nature and type of projects. Many a time the costs estimated for construction are under-estimated leading to cost over-run at the end course. The impact of cost over-run reflects mainly in projects of cost oriented whereas time oriented projects has a less or zero impact. Thus a research for this issue has been proposed by identifying the factors influencing the problem of cost over-run regardless of complexity of projects. This manuscript portrays the identification of such factors on the view point of contractors, consultants and clients.

Keywords: Cost over-run, Factors of cost over-run, Construction Cost, Financial Management, Budgeted cost.

INTRODUCTION

In the existing scenario, with all the complexities of the project construction industry is viable to the cost over-run which is comparatively high in large scale construction projects to that of small scale. Cost overruns have become the hallmark of construction projects in India. [1-5]

Cost is amongst the major considerations throughout a project management life cycle and is considered as prime factor of success. In general, cost overruns reduce the productivity of available economic resources, edge the development potential and diminish the effectiveness of the economy. Despite the importance and the significance of the construction sector in India, it is noted that the owners, consultants, and contractors don't give its importance to evaluate the time and cost overruns at the end of project. It is therefore essential to identify actual causes of time overruns to minimize and avoid delays and increasing cost in any construction project. Due to few short falls in receiving the materials, labor problem, material price hike, fixing a standardize in preparing construction contracts mentioning the work parts of each employee or heads involved in particular project and miscommunication between contractor and client. [6-10]

Despite the importance and the significance of the construction sector in India, it is noted that the owners, consultants, and contractors don't give its importance to evaluate the time and cost overruns at the end of project. [11-15]

The problem of cost overrun can be country specific and project characteristics may be region specific also. Therefore it is imperative to take into account country specific and area specific uniqueness before arriving at or evaluating the rank and degree of risk factors for cost overrun factors in Indian construction industry (Savita Sharma, 2014). The industry wide perception of

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cost performance being heavily reliant on the contractor's performance alone (Hemanta Doloi, 2013). The project life cycle is classified into five phases which are feasibility phase, design phase, construction phase, exploitation phase and dismantling phase. The construction phase is the major contributor to the problem of cost overrun (Issmaini Ismail, 2013). The five most significant factors causing time and cost overruns in Indian construction are material market rate, contract modification, high level of quality requirement, project location, depends on the fresher's to bear the whole responsibility for time overruns and high transportation cost change in material specification, escalation of material price, frequent breakdown of construction plants and equipment's and rework for cost overruns. The contractors should have enough cash before beginning in any project to avoid the financial problems and to avoid cost overrun in any construction project (S.Shanmugapriya, 2013). The client requirement on construction quality is the major factor that influences the cost overrun. The complexity of design and construction has a very critical influence on the construction costs, while expected project organization is not a critical factor influencing the costs of building construction projects. The factors influencing construction cost may also include project complexity, technological requirements, project information, project team requirement, contract requirements, project duration and market requirement (Tien Choo Toh, 2012). The wide spectrum of factors causing cost overrun in infrastructure project. The paper discusses lot about the factors such as lack of experience, mistakes in design, size of project, inaccurate estimation, price fluctuation and change in the scope of the project. The highest frequency of cost overrun comes under the group 'market volatility'. They are increase in material prices, inflation, difficulties in obtaining construction materials at official current prices, increase in wages, labor cost increased due to environment restriction, monthly payment difficulties form agencies, cash flow during construction, financial difficulties of owner, financial difficulties of contractor, slow payment of completed works, market conditions, fluctuation in money exchange rate, high interest rate charged by bankers on loans, cash flow and financial difficulties faced by contractors, and shortage of materials (Fahad saud Allahaim, 2011). An integrated approach has to be done to reduce the defects that occurs in cost performance of the project. The cost and time certainty are highly related to each other and therefore one of the factor will influence the other. Even though contractors may claim an extension and/or compensation from clients, fundamentally, contractors are exposed to more risks than clients whatever contracts are used and they should not rely on the sharing of cost overruns and delays with clients through contracts (Hong Xiao, 2003). The owner and consultant can have common understanding of cost and schedule change so the change order can be issued and settled with fewer disputes. The owner's request and owner's failure are the two major reasons mainly within the owner's control consultant's failure is the reason within the consultant's control and other reasons are beyond either the owner's or consultant's control (Andrew Shing Tao Chang, 2002). The more resources, engineering know-how, labour, materials, equipment, capital, and market exchange are provided from within the national economy, the higher the extent of self-reliance. The increasing complexity of infrastructure projects and the environment within which they are constructed place greater demands on construction managers to deliver projects on time, within budget and to high quality (Enshassi, 2003, 2008).

This paper critically portrays cost overrun in construction projects in different countries to identify the main potential causes. The causes of cost overrun have been found in seventeen contexts with the main potential causes being frequent design change, contractors financing, payment delay for completed work, lack of contractor experience, poor cost estimation, poor tendering documentation, and poor material management. [16-21]

OBJECTIVE

To study the factors that lead to cost overrun in South Indian construction projects, correlate the relationship between the various factors and finally rank the major factors that influence the cost

overrun which helps to avoid loss in the project & gain profit for the contractors.

Scope of the study

The scope of the study is to identify the factors cautious for the cost overrun in construction industries of South India. The scope of the study is also to propose a model for analyzing the cost overrun due to the identified factors in the future papers.

METHODOLOGY

The research methodology used for identifying the factors of cost overrun concerned in construction industry was the review of literatures pertaining to the construction cost overrun and came up with ten major factors that are considered to be holistic and realistic causes of construction cost overrun.

Factors of cost overrun

The following are the cost overrun factors that are tabulated in Table.1.

Table.1. Leading Factors of Construction Cost Overrun From Literature Study

Undefined Goals	Poor Financial Management
Changing Scope	Unanticipated situations
Poor Time Management	Poor Communication
Poor Resource Management	Conflict of interest

The table.1 portrays the leading factors identified from the study of various literatures and using this a questionnaire would be prepared for the further preparation of a model for analyzing construction cost overrun which would be the future scope of study for authors.

RESULTS & DISCUSSIONS

The above said factors in table.1 are discussed for the accountability of the each factor in extending the problem of construction cost overrun.

Undefined goals

One of the biggest challenges in construction project management is undefined goals. Sometimes stakeholders don't know what exactly they want, other times they can't agree. However, when the goals aren't clear to a project manager it's difficult to manage the project. Project managers can help prevent this by asking direct questions and continuing to communicate questions throughout the project. A lack of defined goals is one of the big challenges in construction project management, but they too can be managed.

Changing scope

Another one of the biggest challenges in construction project management is changing scope. Also known as scope creep, it can arise from a lack of defined goals. It can be a huge reason why projects end up delayed or over budget. A good project manager can communicate concerns to scope changes to the stakeholders. Thereby informing them of all the changes to schedule and budget it will cause.

Poor time management

It is an important non-human resource for a family for achieving the goals. Time is such a resource which is available in equal amount to each and every member of the family. Every individual has twenty four hours a day to complete his job. For the proper utilization of time, basic awareness along with practice is necessary. Time is the most easily perishable of all the resources. Time and energy are closely related to each other. Using the right amount of energy and vigour to complete a task, saves time and energy for other activities in the home. One must always be conscious of time available and time needed to carry out various activities. Time is a useful resource not only for occupational activities but also for rest and leisure. Planning the wise use of

time enables the homemaker to achieve more by reducing tension and worries.

Poor resource management

Resource management can be expressed in two forms that is Human Resource management and Non-Human Resource management. Human resources are less tangible resources which originate internally and they constitute the personal characteristics or attributes. Some resources are more tangible than the others. They are used for productive purposes. Human resources play a vital role in creating a satisfied and a successful individual. The potential of human resource is often not realized and they tend to be overlooked. Some of the important human resources are Knowledge, Abilities, Skills, Interest, Attitude, Energy etc. Non-Human Resources are time, money, properties, goods, services and community facilities. These are also known as material resources. These are easily identified and are essential for the achievement of most of the family goals. Material resources include everything possessed by the family and by the community to which the family belongs.

Financial management

Financial Management is a vital activity in any organization. In other terms, Financial Management is the application of general principles of management to the financial possessions of an enterprise. It is the process of planning, organizing, controlling and monitoring financial resources with a view to achieve organizational goals and objectives. It is an ideal practice for controlling the financial activities of an organization such as procurement of funds, utilization of funds, accounting, payments, risk assessment and every other thing related to money.

Unanticipated situations

Sometimes stakeholders have unrealistic expectations. Whether it's from impossible deadlines or a lack of resources. Unrealistic expectations create challenges in construction project management because they can hurt morale and productivity. With impossible deadlines looming or a lack of resources, teams sometimes become less productive. In some cases they won't make the deadline regardless of their high productivity. As the project manager, it's important to advocate for workers and against unrealistic expectations and set realistic ones.

Poor communication

A lack of communication or poor communication can be the death of a project. Project managers need to have updates on project status and feedback, since project managers are responsible for updating their teams as to the requirements of the stakeholders and upper management. The project manager has to foster open communication or risk falling to the communication challenges in construction project management.

Conflict of interest

Interest is also a human resource. Members of the family possess different types of interest. For e.g. the daughter may be interested in cooking and sewing while the father or the son may be interested in gardening or painting. All these interests of the family should be developed and made use of for the benefit of the family which are important human resources. Interest in interior decoration also becomes a wonderful resource to decorate the house with minimum expenditure.

CONCLUSION

Since the construction industry being one among the leading business industries in South India it tends to make its way in a wrong path showing deaf ear to the problem of cost overrun leading to over budgeted project which depicts a black shadow on the growth and development of construction industry. Through this paper the cautious entities of the problem are revealed with greater care and a sincere study of the author that helps the future researches to find a deep impact solution to the problem.

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