

Causes and Effects of Cost Overrun on Building Construction Projects

Amit Patel¹ Abhishek Jain² Asst.Prof.Sanjay Saraswat³

^{1,2}Research Scholar ³Assistant Professor

^{1,2,3}Department of Civil Engineering

^{1,2,3}Samrat Ashok Technological Institute, Vidisha (M.P.), India

Abstract— Many projects experience cost overrun and thereby exceed initial contract amount. In India the number of public building construction projects is increasing. However, it becomes difficult to complete projects in the allocated cost and time. Taking into account the scarce financial resources of the country, cost overrun is one of the major problems in this research was carried out to dig out information on the factors that cause cost, overrun during construction and their effects on public building construction projects. And how to eliminate these problems.

Key words: Causes, Effects, Methodology, Costoverrun Solution

I. INTRODUCTION

In this article, main causes of cost overrun should be identified and then their effects on construction projects, and after that conclusion. This study will be undertaken with the following five objectives.

- 1) Identifying the main causes of cost overrun and their all effects for public building works..
- 2) Identifying the related responsible party to the causes of cost overrun.
- 3) Identifying the rate of cost overrun for various types of public building construction projects
- 4) Identifying the relationship between rate of cost overrun and contract amount.
- 5) Forwarding recommendations to minimize or to avoid cost overrun and frequency of its occurrence; and hence to reduce its consequential effects on public building construction projects.

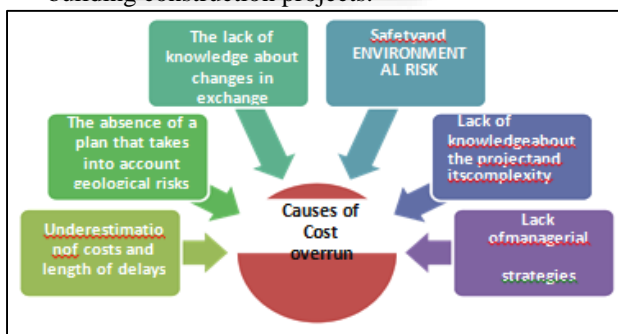


Fig. 1: Causes of cost overrun

II. METHODOLOGY

The statistics used in this report were obtained from both primary and secondary sources. The primary data was collected through the survey procedure, while the secondary data was acquired from the audit of writing and authentic records. The primary data was collected through the use of an arranged questionnaire survey. This was distributed to a total of 20 construction professionals that included; Architects, amount surveyors, structural specialists, development troughs and undertaking supervisors who are contemporary required in construction work in Bhopal. This yardstick was

considered essential for the survey in order to have a true image of the causes and effects of construction project cost overruns. Out of the 20 questionnaires sent out, 15 were received representing a 65% comeback (response) rate. This was viewed as sufficient for the investigation taking into account the statement by Moser and Kalton (1971) that the consequence (result) of a survey could be considered as influence and of little value if the return rate was lower than 30–40%. The information furnishing and examination made use of prevalence distributions and percentages of all the respondents.

- A 5 pointer Likert scale was used to determine the causes of construction project cost overruns in Bhopal, with regards to the identified factors from the survey literature.

Formula:

$$MIS = \frac{1n1 + 2n2 + 3n3 + 4n4 + 5n5}{\sum N}$$

After numerical calculations, the elements were then positioned in diving request of their mean thing score (from the highest to the lowest).

III. DATA ANALYSIS / RESULT

A. Causes of cost overruns in Bhopal

Based on the ranking (R) of the weighted average of the mean item score (MIS) for the listed causes of cost overruns, it was observed that the most dominant cause of cost overruns on construction projects were contractors project inexperience (MIS=4.30; R=1), poor project management (MIS=4.10; R=2), inadequate planning (MIS=4.00; R=3), contractors inefficiency (MIS=3.99; R=4) and inadequate financial provision (MIS=3.98; R=5). Different variables recognized in the study incorporate; site conflicts (MIS=3.78; R=10), delays from employer (MIS=3.7; R=11), material price fluctuations (MIS=3.68; R=12), lack of executive capacity by the employer (MIS=3.67; R=13) and over design (MIS=3.64; R=14). The study further revealed that unpredictable weather conditions (MIS=3.41; R=20), breach of local regulations (MIS=3.32; R=21), unstable economy (MIS=3.22; R=22), project site location (MIS=3.16; R=23) and inflation (MIS=3.12; R=24) were among the cause of cost overruns in Bhopal.

B. Effects of construction project cost overruns in Bhopal

When the respondents were further asked to rate the effects of construction project cost overruns in Bhopal, the following result were obtained; increased project cost due to extension of time (MIS=4.21; R=1), projects abandonment (MIS=4.1; R=2), company/firms liability to insolvency (MIS=3.79; R=3), tying down clients capital (MIS=3.72; R=4), under-utilization of manpower resources (MIS=3.70; R=5), liability of companies or firms to bad debt (MIS=3.60; R=6) and under-utilization of plants and

equipment purchased for the projects (MIS=3.33;R=7) were the causes of cost overruns.

IV. CONCLUSION

- 1) Justification of the presence and degree of cost overrun on building construction tasks is essential before distinguishing the causes of cost overrun. 10 public building projects investigated in the research suffered cost overrun in their accomplishment. For these public building construction projects, the actual cost overrun ranges from 0% to 126% of the contract amount.
- 2) Rate of cost overrun is found to be affecting by the contract amount. The regression analysis of the data gathered from desk study for public building construction projects shows that the rate of cost overrun is found to decrease with expansion in the agreement sum.
- 3) There are remarkable varieties in the aggregate sum of cost invade for the different types of public building construction projects scrutinize (investigated) in this research. From the study educational buildings have the small rate of cost overrun, where as health buildings have the most noteworthy rate of cost overrun.
- 4) From the results of this report 29 causes of cost overrun were identified by the respondents. The reasons for cost invade were recognized in light of the reactions of the respondents. The most regular reasons for cost overwhelm are additionally distinguished by the examination based on the ranking of the rate of happening of the variables of cost overrun. The most widely recognized causes of cost overrun are increase in the cost of construction materials, change in foreign exchange rate, change orders and/or lack of control on immoderate change orders, failure to identify problems and institute the obligatory and timely actions.
- 5) There is strong correlation on the responses of respondents, i.e. between client and contractor; between contractor and consultant; and amongst customer and expert in positioning reasons for cost invades and the rate of happening of the variables of cost overrun.

V. RECOMMENDATIONS

A. *Expected from Consultants*

- 1) Continuous coordination and direct communication, which will abolish design inconsistency and errors as well as omissions in design and also give a chance to experts to audit the contract documents completely. This would help in taking out change requests or varieties because of inconsistency in contract reports.
- 2) As much as possible avoid complex designs, while attempting to accomplish stylish claim, consider seriously the issue of build capacity in the design.
- 3) Guarantee that the degree incorporates all the work required, and only the work required to complete the project successfully.

B. *Expected From Clients/Project Owners*

- 1) Avoid employing fresher contractors with an inadequate experience in the field Of the project.

Employing such contractors may cause delay and cost overrun low quality of work and accidents in the site of project

- 2) Use contractors with good management and supervision experience in the field of the work.

C. *Expected From Contractors*

- 1) It is highly advocate to use senior managers with good level of related work experience and also knowledge on management in critical conditions.
- 2) Estimate the total cost before undertaking a construction project contract. A contract price should not be over the financial ability of the company. Any financial problem in the project expenditure and payments will cause delay and cost overrun accordingly.

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