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**STUDIES ON COST ACCOUNTING AND COST CONTROL IN CONSTRUCTION PROJECT OF THE SITE**Mr. Banu Chandar<sup>1</sup>, B. Devakrishnaji<sup>2</sup>

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**ABSTRACT**

Accounting plays a crucial role in the success of any business, but it is particularly vital in the construction industry, a complex field that typically requires the Coordination of multiple subcontractors and multiple jobs in any given year. This thesis undertook to study the accounting practices of a Builder. Cost control is an important issue in construction project management. It is widely practiced by contractors in India and needs to carry out throughout the life of a project. A brief interview with a contractor found out that the contractor lack the knowledge of cost control system and cost accounting system. Hence, a study is carried out to study the cost control and cost accounting method in a construction project, to identify the cost control and cost accounting method frequently used by contractor during the construction stage and to identify the problem faced by the contractor in controlling the costs on site. The study is carried out in the Bangalore. A total of 20 questionnaires were sent to the contractor and the data analyzed using the average index and frequency analysis. From the study, the main problem faced by the contractor are shortages of material, labour or mechanical plant, difficulty in collection of cost data, ever-changing environment of construction work, qualified expertise, duration of the project and additional costs to carry out the cost control system

**KEYWORDS:** Cost control, Cost Accounting, , Costing, Estimation ,and Reconciliation.

**I. INTRODUCTION**

“There is probably no type of firm that needs sound accounting practices more than the construction firm,” says certified public accountant and author James J. Adrian, in his book Construction Accounting (1986). “The success of the construction firm is closely aligned to its ability to forecast and control costs. Both of these functions have accounting at their base,” he says. Part of the problem is the numerous methods of accounting available to builders. Some companies prefer to use the cash method of accounting, a system that accounts for revenues, costs and expenses in the period which they are disbursed or received. Others prefer the accrual method, “an accounting system that recognizes revenues when they are earned and incurred, regardless of when the cash transaction takes place” (E. Shinn, 1993). Still others may use a hybrid of the two. Also, in some cases a contractor must choose a method for day-to-day accounting and one for long-term contracts that span more than one calendar year (Wallace, 2001). The cost control is a process that should be continued through the construction period to ensure that the cost of the building is kept within the agreed cost limits. The cost control can divide into two major areas; the control of cost during design stages and the control of cost by the

contractors once the construction of project has started. According to Nunnally (1998), cost control of a project involves the measuring and collecting the cost record of a project and the work progress. It also involves the comparison of actual progress with the planning. The main objective of cost control of a project is to gain the maximum profit within the designated period and the satisfactory quality of work

**II. OBJECTIVE**

- 1) To study the cost control method in a construction project of the site.
- 2) To study the cost accounting method in construction project of the site.
- 3) To identify the cost control method frequently used by Class B contractor during the construction stage.
- 4) To identify the main problem faced by the class B contractor in controlling the costs on site.
- 5) To identify the cost accounting method frequently used by the Class B contractor during the construction stage.
- 6) To identify the main problem faced by the Class B contractor in accounting the costs on site.

*Scope of study*

The study is carried out in the project Royal

Sunnyvale of MS Shelters Private Limited, Bangalore and involves the class B contractors. The study only covers during the construction phase and not in bidding and design phase.

**III.LITERATURE REVIEW**

According to **Nunnally (1998)**, cost control of a project involves the measuring and collecting the cost record of a project and the work progress. It also involves the comparison of actual progress with the planning. The main objective of cost control of a project is to gain the maximum profit within the designated period and satisfactory quality of work. A systematic procedure of cost control will give a good result in collecting important cost data in estimating and controlling of the costs of the coming projects in future.

**Kwayke (1997)** explain that the cost control can define as a process where construction cost of a project is manage with the best method and systematic in order that the contractor would not suffering the loss when doing the activities of the project and the cost construction of a project would not be over-estimated by the developer.

**Muelle(1986)** states that the cost control is the ability to influence the final cost of project positively with modifying negative performance trends.

According to **Ritz (1994)**, cost control though namely easy, but it gives different meaning to different people. Some people engage it with engineering costs; some states that it is a cost report, value engineering, cost management etc. Cost control involves all the activities above in different time. All the parties involved in a project have their own responsibilities and roles in reducing and controlling the costs.

**Austen and Neale (1984)** states the main purpose in cost controlling for a construction project should be active controlling of final costs for owner, and not just to record and registering the payment.

**IV.METHODOLOGY**

*Interviews*

The findings were further strengthened by interviews with experienced personnel from the construction company to collect the information and perspectives regarding the aspects in the objectives of the research. The procedure from the interviews is listed in subtopic below.

Group	Number of Respondents	Percentage (%)
Developer	2	10.00

Contractor	16	80.00
Consultant	2	10.00
Project manager	0	0
<b>Total</b>	<b>20</b>	<b>100</b>

*Questionnaire*

A questionnaire survey was carried out to gather information from technical professionals who are involved in the construction industry. It is to get the opinion and understanding from the experienced respondents regarding the cost control. The questionnaires are all categorized as below:

- a) Respondents information
- b) General information about the cost control
- c) Purpose, principle, philosophy and objectives of the cost control
- d) Weakness/Mistakes

The questionnaire handed out needs the level of agreement from the respondents and its importance according the ordinal scale numbering from 1 to 5. The respondents need to choose from one of the ordinance scale according to the understanding and acceptance of the respondents. the questionnaire are based on

Likert’s scale of ordinal measures of agreement towards each statement

**V.RESULT AND DATA ANALYSIS**

*Introduction*

This chapter reports the analysis of the research. The major topics in this chapter include the cost control method carried out by contractor class B during construction stage and identify the problem faced by the contractor in controlling the costs on site. This analysis will focus on contractor class B alone and not the rests of the professionals.

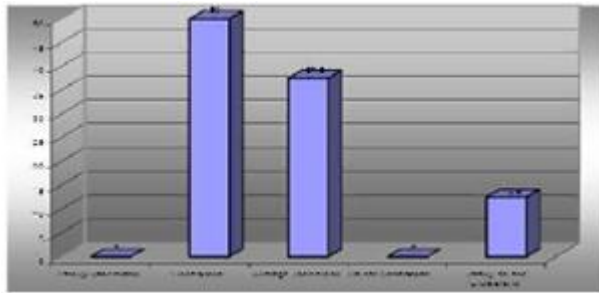
*Table: Breakdown of various groups responding*

From the Table, there are 2 developers (10.00 percent of total respondents), 16 contractors (80.00 percent of total respondents), 2 consultants (10.00 percent of total respondents) and none project managers in it

*The understanding of contractors in cost control system in construction*

The understanding of contractors can divide into five types for data analysis, they are totally understand, understand, average understand, do not understand and totally do not understand. There are no contractors totally

understand the cost control system, 8 contractors understand the cost control system (50.0 percent of total contractors, 6 contractors average understand the cost control system (37.5 percent of total contractors, no contractors do not understand the cost control system and 2 contractors totally do not understand the cost control system (12.5 percent of total contractors). Figure shows the percentages of the understanding of contractors in cost control system in construction

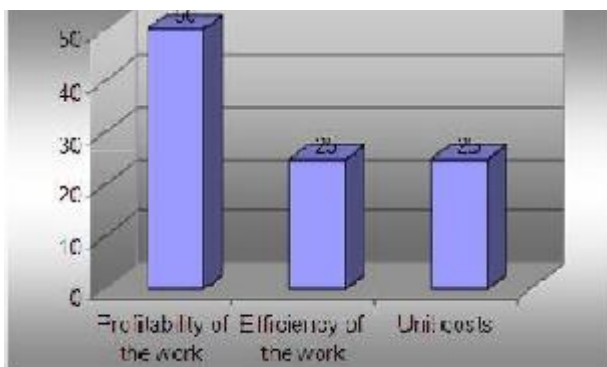


**The percentages of the understanding of contractors in cost control. Sources:**

*Questionnaire*

*Cost control reporting system used by the contractors*

There are three types of cost control reporting system use by the contractors for data analysis; they are profitability of the work (compare total expenditure with values of the work done), efficiency of the work (compare the standard with the output rates) and unit costs (direct costs for one unit or operation of measurement). There are 8 contractors use the profitability of the work (50.0 percent of total contractors), 4 contractors use the efficiency of the work (25.0 percent of total contractors) and 4 contractors use the units cost system (25.0 percent of total contractors). Figure shows the percentages of the types of cost control reporting system use by the contractors.



**The percentages of the types of cost control reporting system use by the contractors.**

Sources: *Questionnaire*

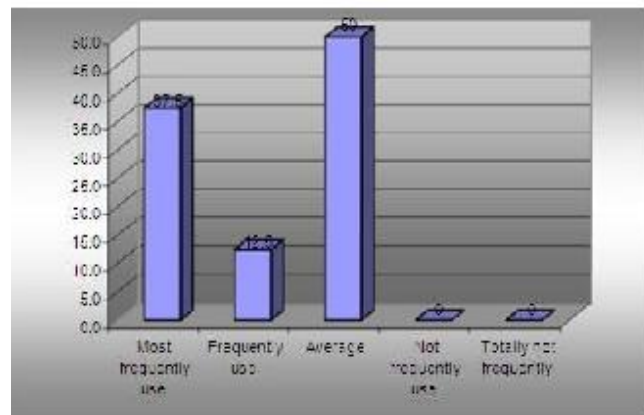
The interval time of contractors to prepare the cost

reports system The in contractors construction prepare their cost reports in three types of interval time; they are weekly, monthly and quarterly for data analysis. There are no contractor prepare their cost reports weekly, 8 contractors prepare their cost reports monthly (50.0 percent of total contractors) and 8 contractors prepare their cost reports quarterly (50.0 percent of total contractors). Figure shows the percentages of the interval time contractors prepare their cost reports.

*The percentages of the interval time contractors prepare their cost reports Sources:*

*Cost control methods frequently use by contractors*

There are three types of cost control methods frequently use by contractors Class B for data analysis; they are overall profit or loss (overall costs of project compared to the money received), unit rates (compare the actual unit rate to the estimate unit rate) and profit or loss base on progress payment. There frequently use of each method can divide into five types; they are most frequently use, frequently use, average use, not frequently use and totally not frequent use. In overall profit or loss method, there are 6 contractors most frequently use (37.5 percent of total contractors), 2 contractors frequently use it (12.5 percent of total contractors), 8 contractors average use it (50.0 percent of total contractors), no contractor not frequently use it and no contractor totally not frequent use it. Figure shows the percentages of frequently use by contractors in overall profit or loss method.

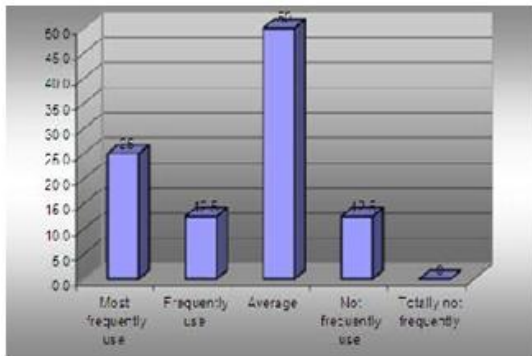


**The percentages of frequently use by contractors in overall profit or Loss method**

Sources: *Questionnaire*

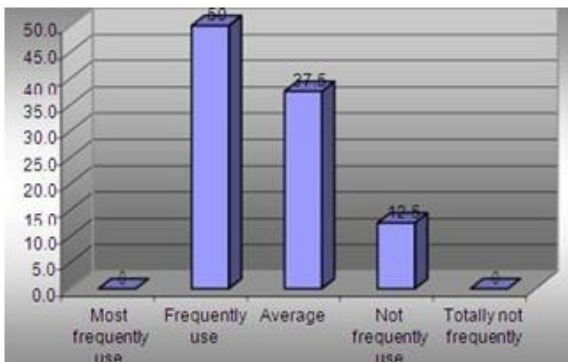
In unit rates method, there are 4 contractors most frequently use (25.0 percent of total contractors), 2 contractors frequently use it (12.5 percent of total contractors), 8 contractors average use it (50.0 percent of total contractors), 2 contractors not frequently use it (12.5 percent of total contractors) and no contractor totally not frequent use it. Figure shows the percentages of frequently

use by contractors in unit rates method



The percentages of frequently use by contractors in unit rates method. Sources: Questionnaire

In profit or loss based on progress method, there are no contractor most frequently use, 8 contractors frequently use it (50.0 percent of total contractors), 6 contractors average use it (37.5 percent of total contractors), 2 contractors not frequently use it (12.5 percent of total contractors) and no contractor totally not frequent use it. Figure shows the percentages of frequently use by contractors in profit or loss base on progress payment method.



The percentages of frequently use by contractors in profit or loss base Sources: Questionnaire  
Problems face by contractors Class B in controlling the costs on site

There are 6 problems face by the contractors Class B in controlling the costs on site for the purpose of data analysis; they are ever-changing environment of construction work (e.g. weather), duration of the project, qualified expertise, additional costs to carry out the system (not beneficial), difficulty in collection of standard data and shortages of material, labor or mechanical plant. They are all given the equal importance in analysis.

The analysis will use the relative index (RI) technique. The computation of RI using this formulae yield the value of RI ranging from 0.167 to 1.000, where 0.167 represent main problem and 1.000 the least problem. The

summary of relative index of all the problems is shown in Table.

The main problems from the RI are the shortages of material, labor or mechanical plant with the RI of 0.479. The next relative important problems are difficulty in collection of standard data, followed by ever-changing environment of construction work with RI of 0.604. The next less important problem are qualified expertise with the RI of 0.625. The least problem are the duration of the project and the additional costs to carry out the system with the same RI of 0.646.

### VI.CONCLUSION

#### Introduction

Interview and questionnaire is the first source in order to achieve the objectives. Besides, literature review also helps to achieve the objectives. Data analysis using relative index and frequency on progress payment method. analysis is explained.

Overall, the objectives of the study were achieved. The following are the objectives that has been achieved:

- 1)To study the cost control method in a construction project of the site.
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- 4)To identify the main problem faced by the class B contractor in controlling the costs on site.
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Problems faced by contractors Class B in controlling costs in site	No. of respondents in Ordinance Scale						Relative Index (RI)	Rank
	1	2	3	4	5	6		
Ever-changing environment of construction work	0	6	2	4	0	4	0.604	3
Duration of the project	4	0	2	2	4	4	0.646	5
Qualified expertise	2	4	2	0	4	4	0.625	4
Additional costs to carry out the system	0	2	6	2	4	2	0.646	5
Difficulty in collection of standard data	2	4	4	4	2	0	0.500	2
Shortages of material, labor or mechanical plants	8	0	0	4	2	2	0.479	1

The study of the cost control method in a

construction project was achieved by literature review. The control method frequently used by class B contractor during the construction stage and main problem faced by the class B contractor in controlling the costs on site was achieved using the questionnaires.

*Objective 1: The cost accounting method of a construction project of the site.*

- a) by Accrual method of cost accounting
- b) by Cash method

*Objective 2: The cost control method of a construction project*

From the study, three types of cost control methods use by contractor are:

- a) by comparison with a cost standard
- b) by subdivision by detail
- c) by integration with other functions

The main objective of cost control is to minimize and reduce the project costs. Cost control is necessary for all types of project disregarding its sizes. Most local contractors have their own cost control system.

Cost control is a process that should be carried out for all types of construction stages and activities. Comparison with a cost standard method is complicated and expensive but it is more accurate than other methods. Subdivision by detail is a method that is not expensive but risky operation, involves little or no control of cost. The integration with other functions method has to take account of other functions and not as a separate entity and control is kept on the functions combined.

*Objective 3: Cost control method frequently used by class B contractor*

From the study, three types of cost control methods frequently used by Class B contractors are:

- a) Overall profit or loss (overall costs of project compared to the money received)
- b) Unit rates (compare the actual unit rate to the estimate unit rate) and
- c) Profit or loss based on progress payment

*Objective 4: The main problems faced by class B contractor in controlling the costs on site.*

From the study, the 6 main problems faced by contractor Class B in controlling the costs on site by ranking are:

- i. Shortages of material, labor or mechanical plant
- ii. Difficulty in collection of cost data
- iii. Ever-changing environment of construction work (e.g. weather)
- iv. Qualified expertise
- v. Duration of the project
- vi. Additional costs to carry out the cost control system (not beneficial)

The shortage of materials, labor or mechanical plant is the main problem faced by contractor class B in controlling the costs on site. The duration of the project and additional

costs to carry out the system are the least problem faced by contractor class B in controlling the costs on site.

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