COST CONTROL TECHNIQUES AND DEVELOPMENT OF SAFETY HAZARDS USED ON BUILDING CONSTRUCTION SITES

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ABSTRACT

Cost control and schedule control are two of the most important management functions in the construction industry. Major research efforts are focused on developing procedures for improving the effectiveness of cost and schedule control. As a result, researchers are concerned with the quality, integrity, and timeliness of data that flow through such control systems. A number of data models have been proposed to integrate cost- and schedule-control functions, because such integration is viewed as the solution to the many problems facing construction projects today. This paper provides an overview of cost- and schedule-control functions, defines the desired control cycle, and discusses the problems and needs of cost- and schedule-control functions. A number of integrated cost- and schedule-control data models, which represent the state of construction research in this area, are discussed. The work-packaging model is briefly described and is suggested as the most likely existing model to achieve the desired cost and schedule integration. Finally, the conceptual design of a foundational data model for control, based on relational concepts, is provided. The recommended design adopts the conceptual structures of the work-packaging model. Despite the availability of various control techniques and project control software many construction projects still do not achieve their cost and time objectives. Research in this area so far has mainly been devoted to identifying causes of cost and time overruns. There is limited research geared at studying factors inhibiting the ability of practitioners to effectively control their projects. To fill this gap, a survey was conducted on 250 construction project organizations in the UK, which was followed by face-to-face interviews with experienced practitioners from 15 of these organizations. The common factors that inhibit both time and cost control during construction projects were firstly identified. Subsequently 90 mitigating measures have been developed for the top five leading inhibiting factors - design changes, risks/uncertainties, inaccurate evaluation of project time/duration, complexities and non-performance of subcontractors were recommended. These mitigating measures were classified as: preventive, predictive, corrective and organizational measures. They can be used as a checklist of good practice and help project managers to improve the effectiveness of control of their projects.

Keyword: Cost control, interview, practice, project control, project management

INTRODUCTION

The Construction Management staff keeps up solid binds to industry and to Illinois graduated class chipping away at prominent undertakings around the globe. Understudies advantage from this certifiable point of view through open doors for development site visits, entry level positions and investment in exploration with prompt application. It is a huge subject for the broad designing supervisors to have compelling building expense administration in development venture administration and to
sensibly focus and control development cost on the state of guaranteeing development quality and time limit.

Amid the execution of a task, methodology for undertaking control and record keeping get to be key devices to directors and different members in the development process. These instruments fill the double need of recording the budgetary exchanges that happen and also giving administrators a sign of the advancement and issues connected with an undertaking. The issues of venture control are apropos summed up in an old meaning of an undertaking as "any gathering of enigmatically related exercises that are ninety percent complete, over spending plan and late." The assignment of task control frameworks is to give a reasonable sign of the presence and the degree of such issues.

In construction almost all clients are interested in obtaining fully functional facilities completed in time, cost, quality and scope. A builder who is able to construct within the estimated time and budget, to the right standards and scope is an excellent builder. Cost control is a process where the construction cost of the project is managed through the best methods and techniques so that the contractor does not suffer losses when carrying out the activities of the project. One of the aims of cost control is to construct at the cheapest possible costs consistent with the project objectives. Ultimately the decision of the manager that something should be done differently and the translation of that decision into practice are the actions to achieve control (Harris and McCaffer 2002). Raina (1999) observes that it is of little use after a process has been completed to discover that its cost was actually too much.

Research Method

A building component is characterized as a feature of a building performing a capacity paying little heed to its particular. Essential examination permits the correlation of the expenses of the same component to be thought about between two or more structures. As the expense component under thought is performing the same capacity, a target appraisal can be made in respect to why there may be contrasts in expenses between the same components in distinctive structures. There are four principle reasons why contrasts in expenses happen:

1. Differences in time (inflation)
2. Quantitative differences
3. Qualitative differences
4. Differences in location.

Pre-control

That is, remembering the final objective to perform cost control, pre-control game plan is the first step, which is considering the quick and dirty improvement drawing. Pre-control estimation cost of sensitive

Process Control

Procedure control is portrayed that the task of benefits, materials and work livelihood organization are in light of the course of action expense target and distinctive cost which are happening or will happen should be under the control. Control work cost. The
control of work cost and material cost are according to the same tenets that are the "segment of volume and expense".

**After Control**

That is, the cost control of the advancement endeavor is a system for cost operational control, and the goal is to find the slant through the certifiable cost and organized cost. Regularly the individual works is gone about as evaluation objectives, especially including the prompt and underhanded cost. The crucial work of advancement undertaking cost accounting.

**The primary control measures**

1. The aggregate administration charge is resolved by extent of the site development administration expense in the venture cost.

2. Under the initiative of the venture administrator, both the development administration charge of chief service and the development administration expense of every division, which are looked as the site development administration charge.

3. The use and the scope of development venture administration are drawed up, and the obligation of different offices is completed.

4. The support methodology of development administration charge are drawed up and completed entirely

**Proposed Cost Control Flow Chart**

What will be the premise received for creating evaluated undertaking consumptions, and in what capacity will this premise be identified with the company's general records and bookkeeping capacities? What will be the level of subtle element embraced in characterizing the undertaking expense records, and in what manner will they interface with other budgetary records?
Budget-estimating techniques

On projects where non-traditional procurement routes are used, the responsibility for developing the cost plan may change but the stages suggested here remain appropriate. There are four main ways to estimate the cost of a building during the design stage, which are dependent on the quantity and quality of the information available at the time the estimate is required:

1. Function or performance related

2. Size related

3. Elemental cost analyses

4. Unit rates.

1. Functional or performance-related estimating

A capacity or execution related gauge regularly obliges one amount and one rate and is identified with the customer's fundamental necessity. An assessment in view of this procedure is extremely short sighted, rough obviously speedy.

2. Size-related estimating

These strategies are perpetually in view of gross flo or range (GFA) approaches when the aggregate floor zone of the obliged building is ascertained and after that reproduced by a proper unit rate for every square meter of floor.

3. Elemental cost-analysis estimating

This method depends on the determination of one or more suitable expense examinations and altering them in time, amount, quality and area with a specific end goal to give an evaluation of the building.

4. Cost checking

Keeping in mind the end goal to affirm the exactness of the expense arrangement, which in itself will have affirmed the financial backing set at the possibility stage, expense checking is sent. Expense checking is the execution of the expense control segment in the configuration process.

Conclusion & Result

The aim of this study was to study the cost control techniques used by contractors on on-going projects and propose measures that will enable projects to be completed as budgeted. The seven cost control techniques used by contractors on their sites in Uganda were found to include use of: schedules, the project budget, inspection of works, cost reports, site meetings, monitoring of cost
and work performance and quantity evaluation using the bills of quantities, and others did not have well defined techniques or did not even know there were traditional cost control procedures. The research was unable to establish concrete evidences that actually the stated techniques were effectively used as documents to prove the applications were found lacking or not there at all. The survey was able to firmly state that, “the problem of cost control is actually the lack of knowledge and inadequate planning for the implementation coupled with the poor management of construction resources”. Problems reported by the contractors that led to delays and subsequent failure to construct within budget included: bad weather, low resources productivity, sickness of site labors, lack of materials, instructions from clients to delay work as they waited to clear some issues or mobilize money. Other problems were due to delayed payments by clients, overlapping of activities, alterations by clients, making good defective work, unclear details on the drawings, and delay by local authority to inspect work and give a go-ahead. From the study, the greatest cause of delay in on-going projects was reported to be due to late release of money by clients.

REFERENCES


