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Impact of Effective Management of Resources on Construction site

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Abstract - This study is dedicated to the analysis of factors influencing the effective management of resources in construction projects. Having the right and accurate resources in the right place at the right time is of paramount importance to the efficient execution of construction projects. This study is being conducted to fill the void caused by improper distribution of resource management in construction sites. Resource management saves more than 70% of the cost of a project, and if not managed in a timely manner, it can affect the overall cost of a project. This study presents a study of various SMEs or projects in Pune Maharashtra. Factors affecting resource management were established by studying the accumulated data. Organizations are encouraged to incorporate resource management into firm policies to address some bottlenecks encountered during implementation.

Keywords - Construction Materials, Effective Management, Construction site, Project cost, Resources Management, Material Management.

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1. INTRODUCTION

Construction projects depend on time and budgets depending on the time and budget, we depend on the needs and equipment that can be completed with a better technology and equipment that can be completed in an agreed. It is important to be important in the appropriate place with the correct exact material, and capital is most important to purchase Mazma consumption, labour and materials. Resource management is a system that organizes and controls that the quality and number of materials and equipment are displayed in a timely manner.

Resource Management is a management system that combines suppliers' shopping, delivery and material control. Depending on the definitions, resource management can be defined as an orchestral process, and you can perform and control the correct source of the correct quality material. Training and placement & Selection of Technical staff for marketing, purchasing, Material management, warehousing, and resource handling must be recognized by the resource management.

2. OBJECTIVES OF THE STUDY

- Collect information on resource management processes of various companies.
- Learn various resource management procedures (from accumulated data).
- Learn the factors that influence resource management in small and medium-sized construction companies.
- It proposes measures to remove factors affecting resource management at construction sites.
- To increase the output flexibility
- To increase Transparency

3. RESEARCH NEEDS

This In this review, essentially different approaches were considered to address two issues.

(a) Cost Period Analysis and

(b) Critical Resource Analysis

Methods available for solving these problems range from heuristics to programming (linear, integer, dynamic and quadratic) and combinatorial methods. Of these methods,only the programmatic method can provide optimality through severe bounding constraints and compromised assumptions.

4. THEOROTICAL BACKGROUND

Basic Components of Material Management

There are four basic components of material management:

1. Cost Analysis
2. Purchasing
3. Material Handling
4. Goods Storage
5. Recycling/Disposals

General Procedure for Material Management of

A. Large Scale Project:

1. Project Manager or Supervisor Plan

2. Prepare Procurement Request Form or Offset

3. Various Offset Studies (PRs)

4. Centralized Purchasing from Headquarters

5. Send Inquiries to Various Vendors

6. Review Received Quotes

7. Create Comparative Statements for Completion of Work

8. Negotiate Quotes Provided by Contractors

9. Approval by Respected Institution or PM

10. Prepare Purchase Order (PO)

11. Send Purchase Order to Appropriately Selected Vendor

12. Track Material Delivery or Distribution

13. Confirmation of (Quality) of Material Received

14. Issuance and On-Demand Delivery to Storage Department

B. Medium Scale Project:

1. Project Quote Plan for Required Quantity Per Requirement

2. Market Research to Reduce Costs

3. Delivery Date and Price Agreed with Selected Vendor

4. Order lowest price

5. Track shipment by vendor or distributor

6. Check (quality) of incoming material

7. Store in store if good

8. If not rejected, wait for a new shipment of the same product

9. Material Warehouse Special Shading

10. Materials supplied according to local regulations

C. Small Scale Project :

1. Small Construction Plans

2. Quantity Estimates

3. Order

4. Order to various vendors

5. Post order

6. Check material received

Factors affecting material management for:

Large firms:

- ✓ Delay due to material rejection by QC department
- ✓ Conveyance/Transportationor traffic problems if any
- ✓ Seasonal/Weather problems for Materials

Medium firms:

- ✓ Delay due to material rejection by QC department
- ✓ Conveyance/Transportation or traffic problems if any
- ✓ Seasonal problems for materials
- ✓ Labour strikes if any
- ✓ Improper handling of materials by Labours

Small firms:

- ✓ Delay due to material rejection by QC department
- ✓ Conveyance/Transportation or traffic problems if any
- ✓ Seasonal problems for material
- ✓ Labour strikes if any
- ✓ Communication gap

- ✓ Hike in materials prices
- ✓ Lack of resource management
- ✓ Improper material handling by labours

Client's Goals:

- Consummate and achieve all the indented scope of projects
- Achieve the project completion within the proposed time line
- Mobilize the required cash flow for the entire project as budgeted
- Achieve all the scope of works as designated and designed
- Control and maintain the progress as orchestrated afore
- Control and minimize the variations in the projects except due to the supplemental scope of works All are critical and only accommodation oriented activities which are not involved with any requisites of resources.

Contractor's Objectives:

- Complete full scope of work as specified in contract and details.
- Monitor and maintain progress as proposed and approved, and safely
- Mobilize all necessary resources to complete projects on time.
- Control and minimize required resources. A successful construction and adaptation methodology completes the entire scope of work. The general contractor is solely responsible for the implementation of the entire scope of work. They are the only truly productive party.

Project Management Structure

It is important that the design and construction of any civil engineering project, regardless of size, be completed on time and on budget, taking into account all the constraints (time, amount, and cost) during project implementation. challenge. In project management, project coordination is the first key to construction prosperity as it determines the time and sequence of activities of the project and summarizes it so that it can be completed in full and timely.

Line of Balance

The total quantity of balance line components is taken from drawings and cost estimates. If the number of components is deep and extremely massive or negligible, alternative construction methodologies may be considered as alternative methodologies may provide a better solution than commonly used conventional methods. The work is divided into several sections depending on site restrictions. It is used to organize actions to be performed in sequence elsewhere, rather than waiting for all priority actions

Group Performance

Activity The resource group by task is configured to increase resource efficiency when the same task is continuously performed. Team performance can be obtained from methodological databases, optical identification studies, case studies, experiments, and more. Team performance depends on a combination of machines and labor. As a result, the productivity of machines and labor is tenacious. Team productivity comes from combining plausible and logical people and skills

Resource and minimum Productivity

Resource capacity allocated to the task. When configuring management, the performance of resources is always more important than the minimum performance required to complete each task. Minimum productivity is the minimum productivity required to complete a task on time. Based on detailed discussion with the project team, the duration of each activity is determined by the project manager or planner.

5. METHODOLOGY

The methodology adopted for data collection in this study was a questionnaire. For this study, a total of 9 companies (3 small, 3 medium, 3 large) in Maharashtra, India were selected. The questionnaire used for data collection is included in the appendix to termination. The data collected in the survey was organized and studied in a timely manner.

6. LIMITATIONS

- Research results depend on a valid sample of the research methodology and the reliability of the data collected.
- On the other hand, material management is not far behind because SMEs do not use software at all or are not familiar with material management techniques.

7. CONCLUSION & RECOMMENDATIONS

Resource management is essential to the success of a construction project in meeting its project

objectives. Allocating resources for activities is essential in the construction industry to complete projects on schedule. Resource leveling is required in construction projects to avoid difficulties associated with large-scale changes in resource use..

- Full utilization of resources can result in efficient results in terms of quality, time and profit.
- Avoiding and minimizing waste through lean building principles is an excellent choice in the construction process.
- Just-in-time and other industrial methods have become important to resource exploitation and must be moved to construction to increase efficiency.
- Applying technology with a real-time tracking system to monitor performance is an effective method.

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