

# Review on Importance of Material Management in Construction Industry.

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**ABSTRACT-** The Development industry of India is a significant pointer of the improvement because it makes venture openings. The openings are lessening due to inappropriate administration. Taken a toll invade is considered as the most imperative issues that burden ventures advance, since it decreases the contractor's benefit driving to colossal misfortunes, and clearing out the venture in great troubles. Material administration could be a basic component of the development industry. The compelling materials administration arrange upgrades an regulation ace arrange by filling in the gaps and creating an naturally obligated and clever result. Materials administration can bargain with arranging and building plan for the development of materials, the securing of save parts and substitutions, quality control in acquiring and requesting parts, and the guidelines included in requesting, shipping, and warehousing the required materials. Way better development administration is required for optimizing assets and maximizing product efficiency and complete project on time. Materials administration could be a imperative system that plays a critical part in working of an organization. In development related businesses roughly around 60% or over fetched is related with the materials with regard to generally fetched. In development industry, materials have noteworthy part in generally quality of last development. For this a appropriate materials administration framework is exceptionally essential. In this paper, from writing think about, different viewpoints of materials administration are examined. From different inquire about papers, current situation in materials administration in development businesses is considered and elaborated. Need of a legitimate materials administration framework in development related businesses is studied.

**Keywords:** Materials management, Necessity, Construction industries, System, Tools, Techniques

## I. INTRODUCTION:

Development businesses play a crucial part within the advance of the financial development of a nation. The expanding difficulty of the development ventures appears a more prominent request on construction directors to provide ventures on time, within planned budget and with tall quality. The most confront faced by the development industry within the developing countries is the determined inconvenience of delay, taken a toll overruns due to disgraceful administration. Fabric administration plays a crucial part as a conclusion for the over crisis. Materials administration bargains with campus arranging and for the development of materials, or with those that bargain with the substantial instrument of a supply chain. Uncommonly, this covers the procurement of save parts and replacements, quality control obtaining parts, and the principals included in requesting, shipping, and warehousing the materials required for the development. By proper material administration, the delay might be reduced. Due to delay there will be increment within the fetched of the extend. Thus inventory administration is embraced to play down the cost. The subjective and quantitative examination viz., ABC analysis and EOQ examination has been done to cut off taken a toll overwhelm and delay of the project. As per International Federation of Purchasing & Materials Management, "The materials management is the total concept involving an organizational structure unifying into single responsibility, systematic flow and control of material from identification of need through customer delivery." Materials management is responsible for developing a co-ordination between activities like planning, sourcing, procurement, movement, storage, use and control of materials by stylish way possible so as to give

predefined service to client in an profitable way to the association.

## II. LITERATURE REVIEW :

Caldas Carlos H., et al. have described the results of their study which was aimed to identify materials management system that reflects current and emerging in capital projects industries. This research was done by surveys, interviews and case studies that involved 54 different organizations. Set of different practices, concepts and issues related to materials management was formed collectively and the responses given by organizations are given in form of percentage. With the help of the extensive data collected with this research, different aspects and stages of materials management system are addressed in detail. The research paper conclude by highlighting importance of proper materials management system and also one of the main points explained here is use and up gradation of modern IT systems for materials management in construction related industries.

Georgekutty C. K., Dr.Georgemathew have given the conclusion and report of the extensive literature review and data collected from various site visits and questionnaire surveys. The researches have tried to address various problems in construction industries that generally cause time and cost overruns in this aspect; they have focused on materials management in construction industry. The data collected was statistically analyzed by various tools and techniques like Statistical Package for Social Sciences (SPSS), Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) and various constants are used. After these, aspects where materials management in construction industry lacks is identified and addressed.

Greeshma C., K. Harish aimed to find out the various materials management tasks and their priority, problems that are faced in materials management process and their occurrence. The data was collected by the authors by survey and questionnaire. The index and priority number is given for individual point considered under materials management. After analyzing data, researchers have attempted to develop materials management software that will be helpful for materials management on the site and will give ease in for materials management processes on site.

Kevin Aku Okorocho had done a research to find out the factors affecting material management. For that he had selected a case study of selected building sites, in IMO state, Nigeria.

Usage of right materials in the right place at the right time is important for effective execution of a building project. Data collected were analysed by statistical analysis through multiple regressions. The research concluded that Material management leads to effective cost control, to improve the quality and time execution of their projects and reduces failure of a project.

Elijah E. Ogbadu (2009) made a research to increase the profit through proper management of materials. For that, ninety four (94) copies of questionnaires were distributed out of which eighty six (86) were filled and used for the research. All eighty-six respondents approved that the delivery of poor quality raw materials is a hitch of materials management. He came to the conclusion that, the inefficiencies, breakdown and shut down of the plant decrease the profitability. Establishing good relationship with suppliers of spare parts for minimizing losses arising from frequent breakdown improves profitability.

Khyomesh V.Patel (2011) made a study to find voids created by the absence of proper materials management on construction sites. The research was carried out in Ahmedabad. He has done careful study right from first step till the end of the project i.e., from material indent to material usage. Since each step was managed, the voids could be identified. He concluded that, team co-ordination between the site and the organization, proper control

### Concluding Remark of Literature Review :

Materials administration is one of the foremost crucial systems in an organization. As distant as development related industries are concerned around 60% or more fetched is associated with materials, so to guarantee legitimate materials use for best comes about, a appropriate materials management system ought to be there. In current situation, materials management frameworks are being actualized in construction related organizations totally or partially. In this actually progressing period, materials management systems can too be progressed by utilizing different computer based and computer program based methods. By utilizing and improving materials administration methods that are available, development related businesses can improve economy and advancement in materials administration and in in general organization as a whole.

### Basics of Materials Management :

The overall focus of materials management is on achieving the increased productivity and reduction in large amount of capital locked up for long periods in the form of inventories. More caution is made on achieving economy of the project regarding materials without hampering the flow of materials at and whenever required. Once the material procurement is made and material is brought by the organization, its value continuously increases. Along with the actual cost of materials, the cost associated with storage, maintenance, movement, use gets added to the cost of materials. Since material is a very vital resource for construction in all aspects related, materials management system should be proper.

### 3.1 Activities in Materials Management System

Basically a materials management system can be broadly considered to have following main activities to perform to ensure proper effect. The basic activities associated with materials management system are: 1. Estimation and Planning 2. Ordering and Procurement 3. Receiving 4. Inspection 5. Storage 6. Movement and Use

### 3.2 Goals of Materials Management System

With the basic activities as stated above, materials management system works to fulfill the following basic goals:

- An uninterrupted flow of materials
- Best quality material
- Right quantity of materials at right time and at right place
- Economical best decision related to materials
- Smooth flow of materials within project
- Appropriate storage of materials as per standards
- Surplus materials handling and wastage control
- Proper use of materials on actual project site
- Proper and detailed record keeping related to materials and activities involved.

#### **Inventory :**

Inventory is the stock of physical assets of the organization having economic value, which can be in various forms like raw materials, in process materials or goods, finished products or goods, general supplies, equipments and various other resources. Inventories were earlier considered to be measure of wealth and power but in current scenario due to fast development and changes in product life, inventories are considered as a potential risk which should be properly looked upon. There are basically three costs associated with inventory as follows: holding cost, stock out cost, procurement cost. In current scenario, for inventory management, inventory control, the scientific approach is practiced with use of various computer based tools. In overall concept of inventory, the inventory control is actually a planned approach of determining what, when and

how much to order and also of how much to stock so that to ensure optimum costs associated with buying, storing and utilizing. Following are the necessities of inventory control:

- For proper service to the customers.
- For continuity of productive operations.
- To ensure effective use of Capital.
- To take care of economy in purchasing.
- For reduction of risk of loss.
- To Reduce administrative workload and for administrative simplicity.

For inventory control, there are different tools available to guide the basic focus among the basic activities related to inventory control and hence overall materials management. Some of the popular techniques are as follows:

- ABC Analysis (Always Better Control)
- HML Analysis (High price, Medium price, Low price materials)
- VED Analysis (Vital, Essential, Desirable items)
- SDE Analysis (Scarce, Difficult, Easily available items)
- Economic Order Quantity (EOQ) Analysis
- Just In Time (JIT) Technique
- Perpetual inventory.

### **III. CONCLUSION:**

From the writing survey it is exceptionally clear that material management plays a imperative part within the construction field. Whether it may be a little firm or expansive firm the material management ought to be done. Fabric administration holds a portion right from acquiring of materials till its utilization. Moreover the S bend investigation ought to be done to check the deviations in the planned process to avoid the delay of the project. In case of delay, EOQ analysis is recommended to complete the project efficiently within stipulated time and cost

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