

# PDF - MATERIAL RESOURCE HANDLING AND UTILIZATION IN GOVERNMENT ORGANISATION. -

## researchcub.infoCHAPTER 1: Introduction

Materials management is a coordinating function responsible for planning and controlling materials flow. Its objectives are as follows: Maximize the use of the firm's resources. Provide the required level of customer service. Materials management can do much to improve a company's profit.

Material handling involves short-distance movement within the confines of a building or between a building and a transportation vehicle.<sup>[1]</sup> It utilizes a wide range of manual, semi-automated, and automated equipment and includes consideration of the protection, storage, and control of materials throughout their manufacturing, warehousing, distribution, consumption, and disposal. Material handling can be used to create time and place utility through the handling, storage, and control of material, as distinct from manufacturing, which creates form utility by changing the shape, form, and makeup of material. Material handling plays an important role in manufacturing and logistics, which together represent over 20% of the U.S. economy. Almost every item of physical commerce was transported on a conveyor or lift truck or other type of material handling equipment in manufacturing plants, warehouses, and retail stores.<sup>[5]</sup> While material handling is usually required as part of every production worker's job, over 650,000 people in the U.S. work as dedicated "material moving machine operators" and have a median annual wage of \$31,530 (May 2012). These operators use material handling equipment to transport various goods in a variety of industrial settings including moving construction materials around building sites or moving goods onto ships

### 1.1 Background of the Study

Manual material handling ranges from movement of raw material, work in progress, finished goods, rejected, scraps, packing material, etc. These materials are of different shape and sizes as well as weight. Material handling is a systematic and scientific method of moving, packing and storing of material in appropriate and suitable location. The main objectives of material handling are as follows:

It should be able determine appropriate distance to be covered.

Facilitate the reduction in material damage as to improve quality.

Reducing overall manufacturing time by designing efficient material movement

Improve material flow control

Creation and encouragement of safe and hazard-free work condition

Improve productivity and efficiency

Better utilization of time and equipment

It is critical for manufacturing organization to identify importance of material handling principle as the critical step in promoting the job improvement process. Manual material handling significantly increases health hazard for the workers in from lower back injuries.

In the current competitive and globalized environment, it is important to control cost and reduce time in material handling. An efficient material handling process promotes:

Design of proper facility layout

Promotes development of method which improves and simplifies the work process

It improves overall production activity.

Efficient material handling reduces total cost of production. "MSG Experts" Material Handling - Principles, Operations and Equipment. ManagementStudyGuide.com. The research therefore seek to investigate material handling and utilisation in government organisation

## 1.2 Statement of the Problem

Raw materials form a critical part of manufacturing as well as service organization. In any organization, a considerable amount of material handling is done in one form or the other. This movement is either done manually or through an automated process. Throughout material, handling processes significant safety and health; challenges are presented to workers as well as management. Therefore, manual material handling is of prime concern for health and safety professional, and they must determine practical ways of reducing health risk to the workers. Oniwon (2000) submits that, a high proportion of operational expenditure is expended on materials. However, such reasonable investment that determines profitability is often overlooked by organizations; hence organizations require considerable planning and control of materials so as to minimize waste which invariably affects the profitability and survival of organizations. Lee and Dobler (1977) support this view by postulating that materials are the lifeblood and heart of any manufacturing system. Consequently there is the need to ascertain the impact of materials management in government organisations, adopt better methods of managing materials, reduce material cost, and eliminate any wastage in the utilisation process to enhance profitable use and efficiency. The problem confronting this research is to investigate material handling and utilization in government organisations.

## 1.3 Objective of the Study

- 1 To determine the nature of material handling and utilization
- 2 To determine the nature of material handling and utilization in government organization.

## 1.4 Research Questions

- 1 What is the nature of material handling and utilization?
- 2 What is the nature of material handling and utilization in government organization?

## 1.5 Significance of the Study

The study seek to provide the framework for the effective handling and utilization of materials in government organisations following reported cases of materials mishandling and ineffective utilization in the public sector organization.

## 1.6 Statement of Hypothesis

- 1 Ho Material handling and utilization in government organization is low  
Hi Material handling and utilization in government organization is high
- 2 Ho Material handling in government organization is not effective  
Hi Material handling in government organization is effective
- 3 Ho Material utilization in government organization is not effective  
Hi Material utilization in government organization is effective.

## 1.7 Scope of the Study

The study focuses on the appraisal of material handling and utilization in government organization.

## 1.8 Definition of Terms

### PROCUREMENT DEFINED

Procurement takes into cognizance buying wisely and competitively which entails keeping abreast the forces of supply and elements that regulate prices and availability of materials. Efficient and effective materials procurement entails constant search for better values that yield the best combination of competitive and wise buying that contributes to maximizing organization's profit.

### INVENTORY CONTROL DEFINED

Egberi & Egberi (2011) maintain that inventory control is the systematic way of locating, storing, and recording of goods in such a way that desired degree of service can be made to the operation shops at minimum ultimate cost. Inventory control has to do with standard control on the ordering size, ordering time, and the quantities of raw materials left in the store at a given time.

#### STORAGE DEFINED

Storage of materials entails careful handling of material and maintains accurate control over them. It shows how much materials are in the store and when to place order. Effective handling of material is essential tool for cost saving and increase profitability.

#### MATERIAL MANAGEMENT DEFINED

Gopalakrishma et al(2006) & Ramakrishna (2005) visualize material management from integrated perspective as they postulate materials management as the function responsible for the coordination of planning, sourcing, purchasing, storing and controlling materials in an optimum manner so as to provide a predetermined service to the customer at a minimum cost.

## CHAPTER 2: LITERATURE REVIEW

### 2.1 Introduction

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#### Material Handling

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- Creation and encouragement of safe and hazard-free work condition
- Improve productivity and efficiency
- Better utilization of time and equipment

It is critical for manufacturing organization to identify importance of material handling principle as the critical step in promoting the job improvement process. Manual material handling significantly increases health hazard for the workers in from lower back injuries.

In the current competitive and globalized environment, it is important to control cost and reduce time in material handling. An efficient material handling process promotes:

- Design of proper facility layout
- Promotes development of method which improves and simplifies the work process

It improves overall production activity.

Efficient material handling reduces total cost of production.

### Principles of Material Handling

Material handling principles are as follows:

**Orientation Principle:** It encourages study of all available system relationships before moving towards preliminary planning. The study includes looking at existing methods, problems, etc.

**Planning Principle:** It establishes a plan which includes basic requirements, desirable alternates and planning for contingency.

**Systems Principle:** It integrates handling and storage activities, which is cost effective into integrated system design.

**Unit Load Principle:** Handle product in a unit load as large as possible

**Space Utilization Principle:** Encourage effective utilization of all the space available

**Standardization Principle:** It encourages standardization of handling methods and equipment.

**Ergonomic Principle:** It recognizes human capabilities and limitation by design effective handling equipment.

**Energy Principle:** It considers consumption of energy during material handling.

**Ecology Principle:** It encourages minimum impact upon the environment during material handling.

**Mechanization Principle:** It encourages mechanization of handling process wherever possible as to encourage efficiency.

**Flexibility Principle:** Encourages of methods and equipment which are possible to utilize in all types of condition.

**Simplification Principle:** Encourage simplification of methods and process by removing unnecessary movements

**Gravity Principle:** Encourages usage of gravity principle in movement of goods.

**Safety Principle:** Encourages provision for safe handling equipment according to safety rules and regulation

**Computerization Principle:** Encourages of computerization of material handling and storage systems

**System Flow Principle:** Encourages integration of data flow with physical material flow

**Layout Principle:** Encourages preparation of operational sequence of all systems available

**Cost Principle:** Encourages cost benefit analysis of all solutions available

**Maintenance Principle:** Encourages preparation of plan for preventive maintenance and scheduled repairs

**Obsolescence Principle:** Encourage preparation of equipment policy as to enjoy appropriate economic advantage.

Material handling operations are designed based upon principles as discussed above. Material handling equipment consists of cranes, conveyors and industrial trucks.

## **MATERIAL RESOURCE HANDLING AND UTILIZATION IN GOVERNMENT ORGANISATION.**

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