

# **A Study on Effectiveness of Material Handling, Transportation and Packaging Challenges**

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## **ABSTRACT**

This study examines the effectiveness and challenges of material handling, transportation, and packaging in dress manufacturing company, analyzing their impact on cost and efficiency. Using research design, sampling method, sampling size, it identifies bottlenecks and evaluates current solutions. The findings will offer recommendations for optimizing material flow and improving supply chain performance.

**KEYWORDS:** Material handling, Transportation, Machine Learning, Packaging, Effectiveness, Logistics, Challenges, Cost, Optimization, Material Flow, Supply Chain Performance.

## **INTRODUCTION**

Material handling can be defined as: “art and science of conveying, elevating, positioning, transporting, packaging and storing of materials Starting from the time, the raw material enters the mill gate and goes out of the mill gate in the form of finished products; it is handled at all stages within mill boundaries such as within and between raw material stores, various section of production department, machine to machine and finished product.

Material handling system provides transportation and storage of materials, components and assemblies. Material handling activities start with unloading of goods from delivery transportation, the goods then passed into storage, onto machining, assembly, testing, storage, packaging, storage and finally loading onto transport. Each of these stages of the process requires a slightly different design of handling equipment and some processes integration of multiple items of handling equipment.

## **SCOPE OF THE STUDY**

The purpose is to achieve a higher efficiency regarding the material handling process through removing non-value adding activities. Since material handling in itself is considered a non- value adding activity, the purpose is to decrease the amount of material handling and simplify the actual handling of the material. To achieve this it is important to locate the most serious issues affecting the material handling together with the smaller issues that prevent the efficiency from increasing.

## **OBJECTIVE OF THE STUDY**

The study is designed with the following specific objectives:

### **PRIMARY OBJECTIVES**

- To analyze the Effectiveness of Material Handling, Transportation of the company.

### **SECONDARY OBJECTIVES**

- To study the socio economic profile of the respondents.
- To measure the levels of satisfaction and to cull out the various problems encountered by logistics service providers on the Organization.
- To suggest suitable recommendations for overcoming the issues on logistics service providers.

## **RESEARCH METHODOLOGY**

This methodology explains about the overall objective of research design, data collection method, sampling procedure, construction of questionnaire, tools of analysis.

### **RESEARCH DESIGN**

A research design is the arrangement of condition for collection and analysis of data in manner that aims to combine relevance to the research purpose with economy in procedure. The study is descriptive in nature. As it describes, the effectiveness of material handling and transportation.

### **SAMPLING METHOD**

The study depends on primary data. A pilot study is conducted with 30 respondents to validate the questionnaire and to confirm the feasibility of the study. Based on the pilot study, the questionnaire is modified suitably to elicit response from the sample group. To study the Convenient Sampling Method is adopted. To study effectiveness of material handling and transportation in Wiintrack Exports, Tirupur.

### **SAMPLING SIZE**

The employees of Wiintrack Exports were taken as the sampling area to conduct the survey for the purpose of study. The sample size of the study is 116.

## **STATEMENT OF THE PROBLEM**

Material handling is an indispensable element in most production and distribution systems and has adverse effects on performance of organisations (Biles, 2006). Due to the amounts of movements, problems can arise in a wide range of contexts, for example longer lead times, high amount of time spent on material handling and unnecessary movements can occur. This directly impacts on financial performance and competitiveness of the Logistics Companies.

Material handling in manufacturing organization is an important aspect of production process. Many companies engage diverse strategies to achieve organizational goal through material handling. The control of material handling as it affects Wiintrack Exports, Coimbatore is the unavailability of material in store and proper reconciliation of possible loss to business through interruption of production or failure to met orders with the handling cost of stock. Though, the organization (Wiintrack Exports) under the study has advanced stores and way of obtaining their materials, but lack proper personnel to handle the material is a problem.

## SUGGESTION

- Material supply should be optimum to avoid "stock outs" while work in process.
- Organizations should always take into cognizance the cost of production or price of raw materials before arriving at selling price
- There should be good record system of materials for the operations of the organization particularly as it affects production.
- Rate of spoilage and wastages should be minimized as much as possible and ensure that products pass quality control.
- There is the need to train staff in the area of material management to further enhance the knowledge of the job.
- Organizations should computerize their material management system in line with the global changes in order to be able to track the movement of materials in the store.

## CONCLUSION

The study enables the responsible staff to discover the issues concerning the material flow efficiency, to analyze them and in a later stage a development and implementation of an improvement can be conducted. The decision maker can make a cost effective decision to enhance the company performance. In this case it was discovered that a problem areas are the lack of space in different areas of the company and also lack of appropriate equipment for material handling.

This study has shown how profitability can be achieved through effective management of materials with particular attention to sourcing, receiving, storing and issuing materials. Prudent management of materials reduces depreciation, pilferage and wastages and ensures availability of materials.

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