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"A STUDY ON CURRENT MATERIAL MANAGEMENT PRACTICES AND DEVELOPMENT WITH REFERENCE TO PARACOAT PRODUCTS LIMITED, HOSUR"

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ABSTRACT

Material management plays a crucial role in ensuring the efficient functioning of manufacturing organizations. This study focuses on analyzing the current material management practices at Paracoat Products Limited, Hosur, and identifying areas for improvement. The research examines procurement, storage, inventory control, and material handling systems within the organization. Data were collected through primary and secondary sources, and appropriate statistical tools were used for analysis. The findings reveal gaps in inventory control and coordination, while also highlighting opportunities for adopting modern techniques. The study concludes with suggestions to enhance operational efficiency and cost-effectiveness.

KEYWORDS: Material Management, Inventory Control, Procurement, Supply Chain, Efficiency, Cost Reduction.

INTRODUCTION

Material management is a critical function in manufacturing industries, ensuring the availability of the right materials at the right time, in the right quantity, and at an optimal cost. It encompasses a wide range of activities, including procurement, storage, inventory control, and material handling. Efficient material management plays a significant role in minimizing wastage, reducing operational costs, and enhancing overall productivity.

In the current competitive business environment, organizations are required to adopt modern

techniques and technologies such as inventory optimization, automation, and integrated supply chain systems to improve material flow and maintain optimal stock levels. Inefficient material management can lead to production delays, increased costs, and reduced organizational performance.

This study focuses on evaluating the existing material management practices at Paracoat Products Limited, a manufacturing company located in Hosur. The purpose of the study is to analyze the effectiveness of current systems, identify gaps and challenges, and suggest suitable measures for improvement. By understanding the present practices, the study aims to contribute to enhancing efficiency, reducing costs, and supporting better decision-making in material management.

1. LITERATURE REVIEW

Material management has been widely studied as a key factor influencing organizational efficiency, cost control, and productivity in manufacturing industries. Various researchers have contributed to understanding different dimensions of material management practices.

C. R. Kothari (2004) emphasized the importance of systematic inventory control techniques, stating that proper planning and scientific methods can significantly reduce operational costs and improve efficiency.

Shah and Chen (2021) highlighted the role of improvement strategies in minimizing excessive inventory levels, thereby reducing holding costs and improving resource utilization.

Hemapriya and Uthayakumar (2017) discussed inventory models under conditions of uncertain demand, emphasizing the need for flexible and adaptive approaches in material planning.

Dobler and Burt (1996) explained that effective purchasing and supply management practices are crucial for achieving organizational success and maintaining smooth production processes.

Gopalakrishnan and Sundaresan (2006) focused on materials planning and control systems, highlighting their role in ensuring efficient utilization of resources and avoiding shortages or overstocking.

I. M. Pandey (2015) identified inventory management as a key determinant of financial performance, linking efficient material handling with profitability.

Sunil Chopra and Peter Meindl (2019) analyzed supply chain strategies and emphasized the importance of coordination and integration in improving material flow across organizations.

Reddy (2010) studied warehouse management efficiency and highlighted the role of proper

storage systems in reducing material losses and improving accessibility**.**

Robert Monczka et al. (2015) emphasized strategic sourcing and strong supplier relationships as critical components of effective material management.

Ronald H. Ballou (2007) focused on logistics management and its impact on material handling, transportation, and overall supply chain efficiency.

2. Objectives of the Study

- To study the existing material management practices in the company
- To analyze inventory control techniques used
- To evaluate procurement and storage systems
- To identify problems in material handling and management
- To suggest improvements for better efficiency

3. Research Methodology

The research methodology outlines the systematic approach adopted to conduct the study on material management practices at Paracoat Products Limited, Hosur. This study is based on both primary and secondary sources of data to ensure a comprehensive analysis of the subject.

Primary Data:

Primary data were collected directly from employees of the organization through structured questionnaires and personal interviews. This helped in obtaining first- hand information regarding existing material management practices, challenges, and employee perceptions.

Secondary Data:

Secondary data were gathered from company records, academic journals, books, reports, and relevant websites. These sources provided theoretical support and background information for the study.

Sampling Method:

The study employed a random sampling technique to ensure unbiased selection of respondents from different departments within the organization.

Sample Size:

A total of 100 respondents were selected for the study to obtain reliable and representative

data.

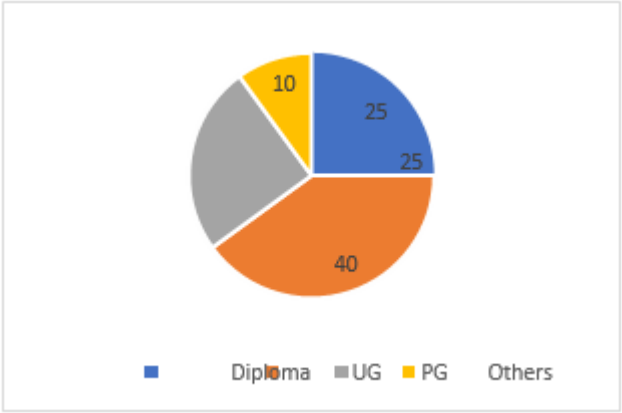
Tools Used for Analysis:

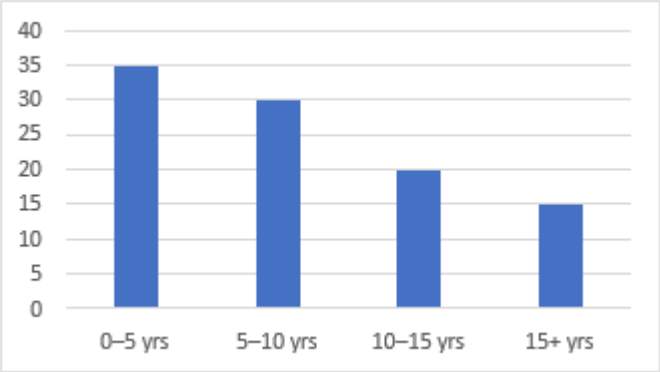
The collected data were analyzed using simple statistical tools such as percentage analysis. The results were presented using tables and charts to facilitate clear understanding and interpretation of the findings.

This methodological approach ensures the reliability and validity of the study while enabling meaningful conclusions and recommendations.

4. DATA ANALYSIS AND INTERPRETATION

4.1 Highest educational qualification





INTERPRETATION:

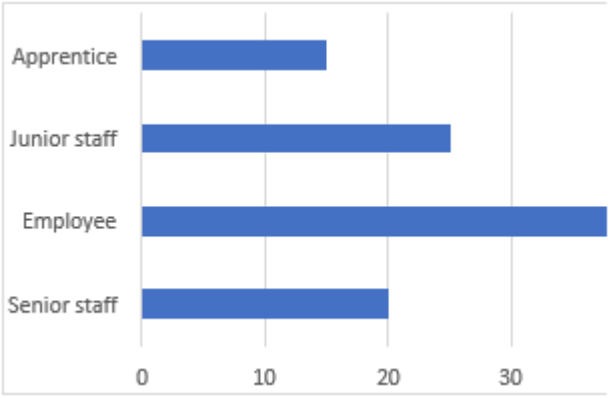
Majority of respondents (40%) have completed undergraduate (UG) education. Diploma and postgraduate (PG) holders each represent 25%, showing equal participation. Only 10% fall under the "Others" category, indicating most respondents have at least basic higher education.

5.2. Years of work experience do you have

INTERPRETATION:

Most respondents **(35%) have 0–5 years of work experience**, making it the largest group. **30% have 5–10 years** and **20% have 10–15 years** of experience. Only **15% have more than 15 years**, indicating fewer highly experienced respondents.

5.3 Position in the company



INTERPRETATION:

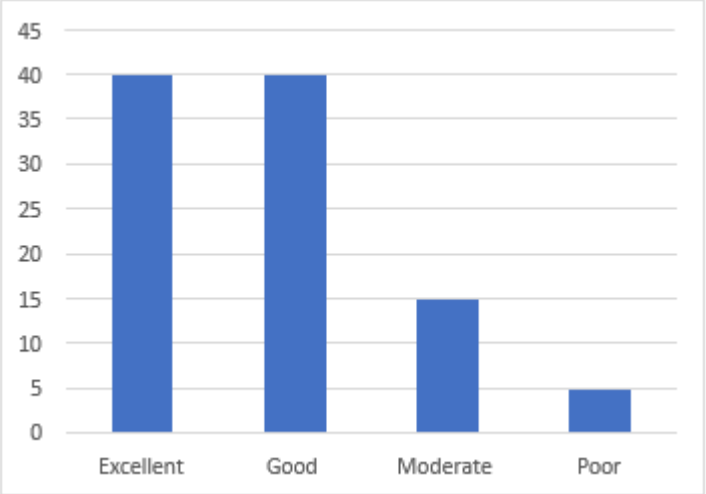
Most respondents **(40%) are employees**, making it the largest group, followed by **junior staff (25%) and senior staff (20%)**. **Apprentices account for 15%**, indicating the smallest representation among the respondents.

5.4 Satisfied with the present system of material storage

INTERPRETATION:

Most respondents (50%) are satisfied, while 30% are highly satisfied, showing a strong positive response. 15% remain neutral and only 5% are dissatisfied, indicating overall high satisfaction among respondents.

5.5 The safety measures in material handling



INTERPRETATION:

40% of respondents rate it as excellent and another 40% as good, showing a strong positive perception. 15% consider it moderate and only 5% rate it as poor, indicating overall favorable opinion among respondents.

5. FINDINGS

1. The study reveals that most employees rate the material handling system as good (42%), indicating efficient handling practices in the organization.
2. It is found that 80% of respondents are satisfied with the present material storage system, showing effective storage management in the firm.
3. The analysis indicates that safety measures in material handling are rated excellent or good by 80% of respondents, reflecting proper safety practices.
4. The study shows that 40% of employees rarely face problems during material handling, indicating smooth operational processes.
5. It is identified that lack of manpower (30%) is the most common problem during loading and unloading activities.
6. The majority of respondents (45%) reported that loading and unloading one ton of material takes 15–30 minutes, indicating moderate operational efficiency.
7. The study reveals that raw materials occupy the largest storage space (40%) in the organization.

It is observed that forklifts are the most frequently used material handling equipment (45%) in the company.

8. The analysis shows that 80% of employees are satisfied with the current material handling equipment, indicating effective machinery usage.
9. The study finds that 75% of respondents are interested in adopting new material management technologies, showing readiness for technological improvement.

10. SUGGESTIONS

1. The company should increase manpower during loading and unloading operations to reduce delays and improve efficiency.
2. It is suggested that the firm should introduce more advanced material handling equipment to speed up operations and reduce manual effort.
3. The organization should provide regular training programs for employees on modern material handling and safety practices.
4. The company can improve storage facilities and space utilization to avoid congestion and material damage.
5. It is recommended to implement advanced technologies such as ERP, SAP, and JIT systems to enhance material planning and control.
6. The firm should strengthen preventive maintenance of handling equipment to avoid operational breakdowns.
7. The organization should improve coordination between stores, production, and logistics departments for smoother material flow.
8. The company should adopt better waste material management practices to reduce losses and improve cost control.

1. CONCLUSION

The study on **material management practices in Paracoat Products Ltd** shows that the company has adopted effective systems for handling, storing, and controlling materials. The analysis indicates that most employees are satisfied with the current material handling methods, storage facilities, and safety measures followed in the organization. The use of equipment such as forklifts and proper racking systems has improved operational efficiency and reduced manual effort.

However, the study also identifies certain issues such as manpower shortages during loading and unloading, storage space limitations, and occasional material handling difficulties.

Addressing these challenges through better manpower planning, improved storage systems, and the adoption of advanced technologies like ERP, SAP, and JIT can further enhance material management efficiency.

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