WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

A STUDY ON CHALLENGES FACED IN MATERIAL HANDLING MANAGEMENT

ASWIN P[1], Dr. D. VELUMONI[2]

[1]B.COM, MBA SCHOOL OF MANAGEMENT STUDIES, SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY, CHENNAI

aswin18302@gmail.com

[2]ASSOCIATE PROFESSOR, SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY, CHENNAI

velumoni.soms@sathyabama.ac.in

ABSTRACT :

In today's fierce competitive global markets, customers are demanding adjustable lot sizes, shorter lead times, higher quality and flexibility; in short, they want it all. In order to stay competitive in the market, companies need to attain both customer satisfaction and cost reduction in production operations. Material Handling Systems is the place to accomplish this goal, since they have a direct impact on production.

KEYWORDS: Challenges in material handling, material stores.

INTRODUCTON:

The wealth of a country is measured by its gross national product the output of goods and services produced by the nation in a given time. Goods are physical objects, something we can touch, feel, or see. Services are the performance of some useful function such as banking, medical care, restaurants, clothing stores, or social services. But what is the source of wealth is measured by the amount of goods and services produced, but where does it come from Although we may have rich natural resources in our economy such as mineral deposits, farmland, and forests, these are only potential sources of wealth.

This conversion process, called manufacturing or production, makes a society wealthier and creates a better standard of living managing the operation means planning for and controlling the resources used in the process: labor, capital, and material. All are important, but the major way in which management plans and controls is through the flow of materials.

OBJECTIVES OF THE STUDY:

PRIMARY OBJECTIVES:

- The primary objectives of this study is challenges faced in material handling management.

SECONDARY OBJECTIVES:

- To identify the problems faced in Material handling.
- To find out the critical factors influencing in various stages of material handling.
- To reveal the measures to improve the flow of material handling for effective work condition.

NEED FOR THE STUDY:

- The study provides information to those interested in the Logistics activity.
- It provide insight into the challenges and potential benefits of Material handling management.
- It mainly focuses on safety of materials.

SCOPE OF THE STUDY:

- The study restricted to the Employees in the company
- The study measures data only through questionnaire

- This study was started on 4 January 2024.

REVIEW OF LITERATURE

The researcher, while choosing the relevant literature screened to formulate the subject matter of the proposed study challenges faced in material handling management at manufacturing industries

Sharma & Mishra(2010)-In this study authors have examined the relationship between export and productivity performance to find out whether the export and productivity linkage exist. Sample of Indian manufacturing firms were analyzed and concluded that entering into export market does not improve the productivity and it is also observed that exit from the export market does have an adverse effect on the productivity.

C.N.Agulanna et al. (2011)-This study highlights the improving productivity in Soyabean processing through the design and fabrication of double action decoating and separation machine. This will solve productivity. It has been concluded that the dry decoating is better option to wet decoating.

Ivica Veza et al. (2011)-This study is about the results of lean manufacturing implementation problems in beverage production systems. The implementation of lean concept was made through line output improvement. The results of the case studies were there is drastic increase in production, reduction in waste, reduction in unnecessary action.

Liu & Li (2012)-In this study analyzed China's productivity growth in manufacturing industries. It was concluded that chain's Industrial strength is based on input growth and improvement in technical progress.

T.K. Jack(2012)- This paper is about case study on material handling and supply management in Fertilizer production. Here author pointed that in the Fertilizer company in the bagging line operation for bagging and conveying to final delivery to the truck is major problem due to frequent breakdown of the conveyors.

Lin & Wang (2022) The proposed a collaborative material handling system for intelligent logistics in smart factories. The system utilized Internet of Things (IOT) technology and cloud computing to optimize material handling processes and improve supply chain management. The proposed system, uses sensors to monitor the movement of materials and optimize the route of material handling equipment in real-time.

Cho & et al (2022) The study examined the impact of packaging material selection on the sustainability of logistics operations. The authors conducted a life cycle assessment (LCA) of different packaging materials and found that the use of recyclable and bio-based materials can reduce the environmental impact of logistics operations.

Zhao Y., Wu J., & Zhang X. (2021) An intelligent material handling system for e-commerce order fulfillment. This study proposes an intelligent material handling system that integrates warehouse management and order fulfillment processes for e-commerce. They system uses RFID technology and an optimization algorithm to improve order accuracy and efficiency.

Kim D., Kim J., & Kim T. (2021) A study on the effect of material handling 35 automation on logistics performance. This study investigated the effect of material handling automation on logistics performance in different industries. The authors use regression analysis to find that material handling automation positively affects logistics performance.

Li H., Li Q., & Li W. (2021) This study proposes an improved ant colony algorithm to optimize the material handling system in the warehouse. The authors compare their approach with other optimization algorithms.

Gong X., Li Y., & Wang X., (2021) A multi-objective optimization model for storage location allocation in a cross-docking center. This study proposes a multi-objective optimization model for storage location allocation in a crossdocking center. The model considers both cost and environmental factors and uses a genetic algorithm to find the optimal solution.

RESEARCH METHODOLOGY

RESEARCH DESIGN

Descriptive research is a study designed to depict the participants in an accurate way. More simply put, descriptive research is all about describing people who take part in the study.

SAMPLE DESIGN

The sampling technique undergone for this study is Simple random sample. Simple random sampling is a type of probability sampling in which the researcher randomly selects a subset of participants from a population. Each member of the population has an equal chance of being selected. Data is then collected from as large a percentage as possible of this random subset.

SAMPLE SIZE

A questionnaire was circulated to through Google forms for which 80 responded for the survey.

DATA COLLECTION

PRIMARY DATA was collected by giving questionnaire to the employees. The completed questionnaires in all respects were taken for the study. Questionnaire used which consist of 20 questions.

SECONDARY DATA used was the literature given which were reviewed for the purpose of attaining knowledge on the topic.

TOOLS

In this study, it has various statistical tools like percentage analysis and statistical test chi-square

CHI-SQUARE

AIM:

To Test the relationship between age and implementation in alternative method:

Between Age and Alternative method:

AGE	21 - 30	31 - 40	41 - 50	51 - 60	
	48	16	8	8	
ALTERNATIVE METHOD	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
	24	16	27	8	5

Null hypothesis (H0):
There is no significance difference between Age and implementation in alternative method.
Alternate Hypothesis (H1):
There is significance difference between Age and implementation in alternative method.

OBSERVED FREQUENCY(O)	EXPECTED FREQUENCY(E)	(O-E)	$(O-E)^2$	$(O-E)^2/E$
48	17.78	30.22	913.25	51.36
16	17.78	-1.78	3.17	0.18
8	17.78	-9.78	95.65	5.38
8	17.78	-9.78	95.65	5.38
24	17.78	6.22	38.69	2.18
16	17.78	-1.78	3.17	0.18
27	17.78	9.22	85.01	4.78

8	17.78	-9.78	95.65	5.38
5	17.78	-12.78	163.33	9.19
TOTAL				84.01

Calculated χ^2 value = 84.01

Degrees of freedom = (r-1)* (c- 1) Level of significant = 5%
= (2-1) * (5-1)
= 4

Conclusion:

$\chi^2 = \chi^2\ 0.05$
84.01 = 9.488
84.01 > 9.488

Result:

Null Hypothesis (H0) Rejected

Inference:

Since, the table value is less than the calculated value, we reject the null hypothesis. So I conclude that there is significant relationship between age and alternative method.

CONCLUSION

Regarding various theories and empirical review from this term paper I conclude that material handling today are lifeblood of any industry and no government industry or organization or private organizations operates without them. So material handling increases the efficiency and effectiveness of the manufacturing organizations since it have many significant contributions which is finally result the reduction of production costs. By using material handling the organization can save the time, reduce the number of labors, save the space, improving working conditions etc., It is obviously that in order to achieve those objectives and to increase the organization performance the organization should set up the proper principles and guidelines to be followed that will make the organization to increase the production as well as to reduce the cost of production. Not only material handling increase the efficiency and effectiveness that result the reduction of costs in the production process but also have the great impact towards the improvement of industries in the country with leads the government to increase its income from those industries that influence the economic development.

REFERENCE :

1. Arnold J.R.T., Chapman S.N., & Clive L.M. (2008). Introduction to Materials.
2. Ballou, R.H. & Srrivastava, S.K. (2007). Business Logistics Management.
3. Ballou, R.H. (1992). Business Logistics Management (3rd ed.). Englewood Cliffs, NJ, USA: Prentice Hall.
4. Bhardawj, M.K. (2002). Glossary of Purchasing and Materials Management. New Delhi, India: Excel Books.
5. Bowersox, D. J., Closs, D.J. & Helferich, O.K. (1986). Logistical Management (3rd ed.). New York, USA: Macmillan.
6. Glossary of Procurement Terms, Chartered Institute of Procurement & Supply.
7. Institute of Management and Administration (2002) IOMA Handbook of Logistics and Inventory Management. New York, USA: John Wiley & Sons.
8. Jones, J.V. (1998). Integrated Logistics Support Handbook (Special
    a. Reprinted.) New York, USA: McGraw Hill.
9. Management (6th ed.). Englewood Cliffs, NJ, USA: Prentice Hall.
10. Planning, Organizing, and Controlling the Supply Chain (5th ed.). New Delhi, India: Prentice Hall
11. Refered websites www.scribd.com, www.academia.edu, www.the businessartical.com, www.slideshare.net, www.wikkipedia.com, www.bigthink.com, www.brightstrom.com.