

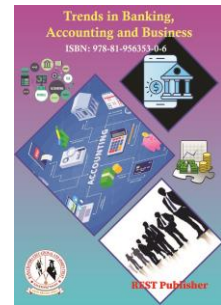


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A Study on Impact of Material Management Practice and Development in Tenneco Automotive Private Limited at Hosur

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Abstract: *Materials management is a critical component of the industry. As such, organizations need to understand the effects of proper materials management techniques on the effectiveness of project execution. A properly implemented materials management program can achieve the timely flow of materials and equipment to the jobsite, and thus facilitate improved work face planning, increased labor productivity, better schedules, and lower project costs. Materials management is an important function in order to improve productivity in construction projects. It is defined materials management functions which include planning and material take off, vendor evaluation and selection, purchasing, expenditure, shipping, material receiving, warehousing and inventory, and material distribution. In this project we have prepare scheme of material management in the industry. Also conducting survey of industry and determine the various format for material management also discussing the tracking system of material management in the industry and also discuss the software technology developed for proper management are discuss.*

Keywords: *Inventory, Management, Purchasing*

1. INTRODUCTION

Materials management practice and developing is a procedure that coordinates planning, assessing the requirement, sourcing, purchasing, transporting, storing and controlling of materials, minimizing the wastage and optimising the profitability by reducing cost of material. Management of automation material is a new practice in the automation industry. In the present situation, the management and the designers are mainly concerned on how to control cost without any emphasis on material management measures. On the whole, it is accepted that cost of materials accounts for a great percentage of the 2 total cost of automation projects. Therefore, a critical management of materials on site should be adopted. According to automation material management is of central importance to the economic development of the automation industry. define automation material management as a reduction in the amount and environmental effect of material waste generated, by reducing the amount of materials consumed in a project also identify material management as an integrated process of designing, constructing new structures or re-modelling existing structures, using materials more efficiently with a great importance of contributing to automation industry's performance improvement as well as solving material waste management problems. Several authors from different parts of the world have shown that material waste from the automation firm represents a relatively large percentage of the production costs

2. REVIEW OF LITERATURE

Kasim et al., 2014 Material management is a coordinating function responsible for planning and controlling materials flow, to maximize the use of the firm's resources and provide the required level of customer service. It can do much

to improve a company's profit. describe materials management as a set of integrated function whose focus is the effective's co- ordination of activities related planning, requisitioning, storage of input material and work in progress, their conversion unit that are delivered to the client. He further articulates the responsibility of materials management to four major functional areas thus purchasing storage, inventory control and distribution (transportation in and out). Materials management is an important element in project planning and execution as it has to do with cost, time & quality of delivery. It the responsibilities of the automobile team to ensure that well defined materials management system and material management plan are developed for the project. Hodgetts, 2015"Developing materials management" this paper is forecast that in the near future there may be a move towards the conscious development of materials management within manufacturing industry. This development will be based upon management recognition of the significance of materials management, combined with extensive pressure upon the costs and efficiency in the functions which make up the materials management systems. There will be a number of urgent motivating factors, ensuring that solutions are found to overcome any difficulties, and that change takes place to introduce the materials management concept. The final outcome is forecast to be an integration of the materials management function into one group; with the explicit task of, maintaining a constant flow of product, reducing costs where feasible, and improving relationships with both suppliers and other functions within the company.

Dobler and Burt 2016This paper is Automobile industry has been developing rapidly around the world. The development has led to serious problem in generation of automobile wastes in many developing countries and expectation of the natural resources to large extend. The automobile wastes clustered into physical and non-physical waste and it has greater impact to environment, economy and social of each country. Before it can be managed well, it is important to understand the root cause of the generation. This paper identifies and detects factors contributed to the generation of automobile waste. These factors were grouped into seven categories: Design, Handling, Worker, Management, Site condition, Procurement and External factor. The significant factors of each category of waste were determined. The findings will help automobile players to avoid, reduce and recycling the physical and non-physical wastes. Furthermore, the paper has put forward some recommendations for better improvements in automobile

Sun and Howard, 2017According to current implementation of automobile products and Service in materials management processes are under development and not many has been commercialised. The automobile industry are now commonplace for facilitating procurement, collaboration and knowledge management. For example, product procurement has such features as direct and indirect purchasing, electronic payment, and material aggregation. This can eliminate paper work, lower product and operational costs, and reduce cycle times. However, more sophisticated solutions to effective materials management in the future are expected to use wireless communications and tagging technologies such as RFID). Consequently, this can give the automobile industry opportunities in order to choose the appropriate technology to improve their materials management practices. Therefore this research will explore practical applications for these emerging technologies, particularly for facilitating materials management on automobile industry.

Nair, 2017, materials management is the integrated functioning of purchasing and allied activities to achieve the maximum co-ordination and optimum expenditure in the area. From these definitions we can define materials management as the planning, organization, sourcing, and purchasing, moving storing and controlling of materials, form their initial purchase through internal operation to distribution of finished goods or services in optimum manner i.e. minimum cost. Although materials management organization can vary between companies, it can include a number of separated groups, such as material planning and control, material and purchasing research, receiving stores, scrap and surplus disposal.

NarimahBintiKasim2018 This research focuses on the creation of a tool to help automobile industry improve their materials management concepts and practices. Integrating materials management and resource modelling allows for investigation. This development will be based upon management recognition of the significance of materials management, combined with extensive pressure upon the costs and efficiency in the functions which make up the materials management systems .The incorrect control of materials during project execution is a critical element negatively affecting project performance. The case studies under discussion involve procedures used in automobile industry that have major issues with materials management.

Wild, 2019 improving materials management on Automobile industry” this report is An essential factor adversely affecting the performance of automobile industry is the improper handling of materials during site activities. Materials management is made problematic by materials shortages, delays in supply, price fluctuations, damage and wastage, and lack of storage space. The results were used to develop a real-time framework for integrating RFID-based materials tracking and resource modelling. It is concluded that the prototype system developed can improve materials management on automobile industry. And to improve the real-time management of materials on sites, and hence improve project performance.

Nigeria,Olatunjaiyetan John 2020improving materials management effectiveness” This research provides a literature review in the field of uncertainty dampening methods for manufacturing systems, and 5 proposes a new model to improve materials management effectiveness in materials requirements planning environments. The literature review gives rise to a classification framework of the models along nine structural dimensions that refer to the safety buffer treatment, the environmental characteristics and the type of approach. On the basis of the classification framework, the proposed model provides guidelines for approaching the problem of dimensioning, positioning and managing safety stocks against demand uncertainty. The effectiveness of the proposed model has been tested by comparing it to the traditional approach, through a computer-based simulation.

Danigelreborj et al., 2021For every successful project, material management is required. Implementation of material management willbenefit the project in improving the efficiency of the material in order to minimize the impact on the project performance. waste is a product or material that is unwanted and required to transport out from site Strategies for waste minimization are stock control for minimization of over or duplicate ordering, good practices of material handling, systematic inventory process and proper material storage. Reasonable changes has effect on time performance & on time delivery has effect on time performance.

Abuja,2022Material management is responsible for purchasing the highest quality equipment and products at the lowest possible cost for the organization. Material management refers to the flow of materials from the environment to the organization and within the organization until it is ready to be dispatched back to the environment. It is concerned with what types of materials to get, how much to get, when and where to get, at what price. Materials management, therefore, is a process of planning, organizing, directing and controlling the flow of materials including the acquisition and utilization of materials in a organization. Materials management involves the task of coordination of the performance of the various materials function, the provision of communication networks, moving, storing and controlling materials in optimum manner so as to provide quality service at a minimum cost .

Gopal krishnan.K ,Sundersan. M, et.al., 2023 For the enhanced profitability of the automobile products, Material management plays a key role. Certain factors like change in design when the automobile is in progress, deformation of the supplies which are stored for longer period of time affects the project. To avoid these factors, proper implementation of material management is required. The nature of detailing in drawing which is to say the more complexity of detailing in drawing the more difficult the effectiveness of material management practical. Material management practice is always affected by the nature of detailing in drawing which is to say the more complexity of detailing in drawing the more difficult the effectiveness of material management practice

3. OBJECTIVES OF THE STUDY

- To study about procurement of materials inn BSP.
- To know about the inventory control methods.
- To study about the store-keeping procedure of BSP.
- To know about the codification process used in BSP.
- To study about the quality used in standardization of materials.
- To make comparison of data of stock and spares.

4. SCOPE OF THE STUDY

The automobile industry has good relations with its suppliers it could benefit from cost reductions, cooperative environment from the employees of the supplier, and willingness to help with materials ordered and orders pending.

This will have an impact in the total cost of the product, possibly increasing the total costs, and delaying the completion of the final product. By buying products at the lowest possible costs, operating costs can be reduced and profits can be increased. Proper handling and storage of materials can reduce the total cost of materials; therefore the materials manager should ensure that materials are handled properly and stored in the most adequate places. Quality is a very important aspect that the materials manager has to keep in mind. The materials manager should assure that effective and economical transportation are used to transport materials to the site. Good relations with suppliers might be decisive for a company to be in business. Companies that have good relations with suppliers could be more successful in attracting customers than companies that have bad relations with suppliers.

5. RESEARCH METHODOLOGY RESEARCH DESIGN

“A Research Design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with the economy in procedure”. The research design adopted for the studies is descriptive design. The researcher has to describe the present situation in order to know the behavior of the consumers. Hence descriptive research study is used. Descriptive research can only report what has happened and what is happening.

SAMPLING METHOD

Sample Size:

The study based only on the employee engage Total number of sample taken for the study is 127 respondents.

Sample design:

Convenience sampling techniques were used for the study.

CORRELATION

Correlations

Change your material management process and develop			
		Educational Qualifications	
Educational Qualifications	Pearson Correlation	1	-0.094
	Sig. (2-tailed)		0.295
	N	127	127
Change your material management process and develop	Pearson Correlation	-0.094	1
	Sig. (2-tailed)	0.295	
	N	127	127

6. FINDINGS

1. Maximum 40.2% of the respondents are Implement inventory management practices.
2. Majority 42.5% of the respondents are importance to Offer Opportunity for Profit Improvement
3. Majority 52.0% of the respondents are changed to Purchasing
4. Majority 50.4% of the respondents are Highly satisfied with cost effectively
5. Majority 48.0% of the respondents are Always Operating Costs Low And Increase Profits
6. Majority 40.9% of the respondents are Highly satisfied with time to maintain material supplies
7. Majority 48.0% of the respondents are Agree with availability of raw materials
8. Majority 39.4% of the respondents are Highly satisfied with maintaining quality

9. Majority 41.7% of the respondents are using Receiving and controlling material safely
10. Majority 46.5% of the respondents are purpose to Social awareness
11. Majority 48.0% of the respondents are Highly satisfied with maintenance for raw materials
12. Majority 45.7% of the respondents are affected with Design and Specification
13. Majority 44.1% of the respondents are Strongly agree with Material Planning
14. Majority 47.2% of the respondents are satisfied with Improvements in labor productivity

7. SUGGESTIONS

From the above concepts it has been shown how profitability can be achieved by constructive materials management with special attention to the procurement, acquisition, storage and distribution of materials. There is a positive and significant correlation between issues in materials management, plant disruptions, and the profitability of manufacturing firms. An organization can achieve significant cost savings; improve production efficiency, and increase profitability and competitiveness through effective management of materials. There is need to train the staff in the field of material management for the further enhancement. The cost of production or the price of raw materials should always be taken into consideration by organisations before arriving at selling price. In order to increase the quality and time execution of their projects, management should also include materials management in their strategic planning. In order to encourage quality awareness, materials management policies should be initiated.

8. CONCLUSION

The material management plays a vital role in success of firm. Whether it is a small firm or large firm the material management should be done. But it is also observed that most of the studies were conducted in the areas concerned with mass production system. The automotive project involves direct and indirect of people from many functional organisations and facilities. Automotive model's development cost has increased over the years, which leads automakers to do research on how to overcome this problem. The review revealed that automobile manufacturers have been introducing many new approaches, especially in the area of design, product/tooling design, manufacturing and suppliers. The concepts reviewed/covered in this chapter focused on manufacturing automotive components. The review revealed that automobile manufacturers have been introducing many new approaches, especially in the area of design, product/tooling design, manufacturing and suppliers.

REFERENCES

- [1]. Mescon et al (2018) A Review on Implication of Material Management to Project Performance”, MATEC Web of Conferences 87
- [2]. Torrington et al 2018 “An Empirical Study on the Impact of Standardization of Materials and Purchasing Procedures on Purchasing and Business Performance”, Supply Chain Management: an International Journal 11/1 (2006) 56–64
- [3]. Jacobs, Chase, & Aquilano (2019) Management of Automobile Materials on Project Site”, International Research Journal of Engineering and Technology (IRJET) Volume: 03 Issue: 12
- [4]. Abuja, 2022 Effective Material Logistics in Automobile Industries”, International Journal of Science and Research (IJSR) ISSN (Online): 2319-7064.