A REVIEW ON OVERALL PRODUCTIVITY ENHANCEMENT

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ABSTRACT: The goal of this project is to study productivity enhancement techniques of shop floor in VijayaManohar Industries Pvt. Ltd by finding the problems and to solve them by providing suggestions and tips. The main aim of this project is to recognize necessity to solve problems of inventory, labor and scrap management to acquire desired efficiency. Project and process planning is the most important phase of enhancing productivity of shop floor, in our project which involves task such as inventory management, scrap management, labor management.

INTRODUCTION

Total review of manufacturing fundamentals and the processes is requiredto be followed in this category in order to obtain the required final product. The process contains the description of various techniques to be followed and analysis for their better understanding. The various processes included are Shearing, Punching (CNC & LASER), Bending, Welding, Grinding and Powder Coating Processes.

The operation study, machine study, and material information are clearly mentioned out there. At the end, there is also a portion of future scope, in which some drawbacks and improvements needed, can be acknowledged.The task of inventory management is to find the quantity of inventories that will fulfill the demand, avoiding overstocks and to maintain a clear image of the stock available and that has been used. Another task is of labor management consisting of questionnaires from workers including facilities provided, salary, compensation, what motivates them etc. Questioning is important because it affects the flow of material and processes, labor efficiency, supervision and control. Scrap management is important becauserecycling of scrap plays an important role in the conservation of energy because the re-melting of scrap requires much less energy than the production of iron or steel products from iron ore.

DESCRIPTION

1. Inventory Management

Inventory management is regarded as a tool for proper use of resources and for achieving overall operational efficiency in industries. Inventory management brings challenges such as delays, stock-outs, and loss of production time which is widely recognized and researchers continue to get optimal solutions across the world.Highly efficient delivery systems and supply chain management have become important factors, particularly for large organizations, for making smooth, efficient and quality delivery of products and services.

In the developed environment when customer satisfaction and service have become a primary factor for an organization to think different from competition, the need for effective inventory management is largely seen more as a requirement. All organizations have some level of inventory which must be properly administered because they represent money. High operational costs provide strong motivation for discerning organizations to have greater stock management control.

2. Scrap Management

In the sheet metal industry there is no chance of reducing the material cost as they use the standard material for their product. So cost reduction could be achieved by using the sheets available in the scrap. To use this scrapped material we need to keep the record of necessary information of scraps and this information should be readily available whenever necessary. Effective utilization of sheet is possible only by implementing suitable management systems.We can classify this in three types of scrap i.e. Home, New and Old scrap.

Home Scrap

This is generated in the steel production process when steel mills and foundries manufacture new steel products. This form of scrap rarely leaves the steel-making production area. Instead, it is returned to the furnace on site and melted again. Technological advancements have significantly reduced the generation of home scrap which accounts for approximately 29% of total scrap.

New Scrap

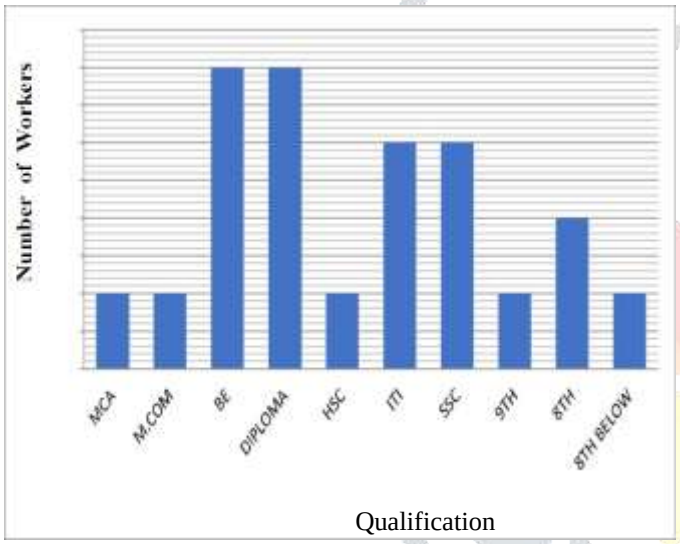
New scrap is generated in steel-product manufacturing plants and includes items as turnings, clippings and stampings leftover when a part is made during manufacturing processes. This material is sold to the scrap metal industry that processes it for sale to steel mills. It accounts for approximately 23% of total steel scrap.

Old Scrap

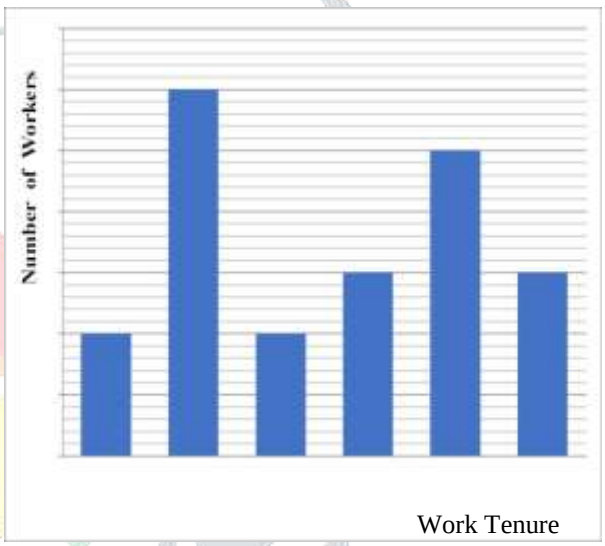
We get old scrap when industrial and consumer steel products (such as, automobiles, appliances, buildings, bridges, ships, cans, railroad cars, etc.) have served their useful life. Old scrap accounts for approximately 48% of total scrap.

3. Labor Management

Labor experience is the factor which is of utmost important for labor productivity and proves that, to achieve good productivity, labor plays a significant role.If skilled labor is unavailable and the supervisor is required to complete specific task with less-skilled labor, it is possible that productivity will be affected.Lack of compensation and increased laborer age negatively affect labor productivity because labor speed, their ability, and strength decline over time and thisreduce productivity.



Qualification

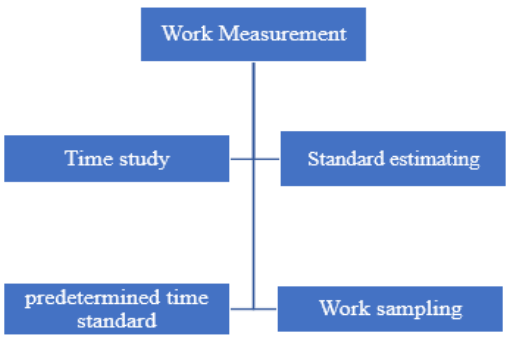


Work Tenure

Motivation is one of the important factors which affect construction labor productivity in the same way as other factors does. Motivation can best be accomplished when labors personal ambitions are similar to those of the company. Factors such as payment delays, a lack of a financial motivation system, non-provision of proper transportation, and a lack of training sessions are considered as productivity weakener.

LITERATURE REVIEW

Prathamesh P. Kulkarni, Sagar S. Kshire and Kailas V. Chandratre studied a new combined methodology for the efficient improvement in productivity with the help of various Work Study Methods associated with Lean Manufacturing Principles & Tools. This study proposes genuine solutions & concepts for implementing Work Study Methods and deploying associated lean manufacturing tools in any enterprise or industry, covering the technical, engineering, and manufacturing aspects as well as the business etiquette affairs.



Gaurav Kumar, Rajendra Kumar, and S.K. Gupta have studied the application of lean manufacturing in sheet metal industry to investigate how to improve the productivity and in time delivery as expected by customers. A detailed study of production process and the total lead time for manufacturing the rim has been calculated and the result reveals that the present facilities for manufacturing rim is not being used as per their capabilities i.e. nearly half of the production capacity of the plant. This shows the impact of using Lean manufacturing as a tool to identify the weak areas and improves the lead time for manufacturing process which is being used in rim manufacturing of a sheet metal industry.

B. Naveen and Dr. T. Ramesh Babu studied the current capacity, analyzed it to find areas of improvement and made an improvement proposal to meet the forecasted increase in demand. This presented the current performance of outputs and capacity of the plant calculated using continuous data collected in shop floor.

SCOPE

Inventory management can be done by locating the stores, proper supply availability & associated facilities. It needs to be seen what users need according to the requirement, amount of usage & frequency level. Ones the inventory management is applied, planning should be done accordingly which helps in improving efficiency of the plant as well as of labor. Cost is important point after applying all the above factors which includes budget, stock holding/warehousing and handling cost dynamics.

CONCLUSION

Hence we can see that the hectic burden of reworking, changing the sequence of operation, manufacturing methods are eliminated and all operations are according to sequence of operation which result in increase in productivity, minimizing the lead time. Due to the recycling of scrap producing, it helps to enhance productivity.

The distance travelled by work pieceis reduced due to the changing of shop floor layout and it helps to reducing the time required for operation on work piece. It results in enhancing the shop floor productivity

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