Warehouse Model with Diagnostics & Remedies with Case Study to Change the Existing Model with Adding Effective Agile Processes

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ABSTRACT

Nowadays warehousing plays the key role among with every stuffs of the supply chain. This is because the warehouse is the hub of issuing raw materials for the production and receiving the finished goods from the production, for being sent to the market. Thus the diagnosing the barriers & identifying the remedies to increase the efficiency of the warehouse can be interpret as treating the supply chain for the betterment of the output synchronically. GSK (GlaxoSmithKline) being, one of the world recognized drugs & consumer health care provider is seeking to make the uplifting of their warehouses' efficiency while having the diagnose analysis & remedies for the existing one. Carrying out that purpose is not that much easy because the existing process of the warehouse is also a standard one.

As the fulfillment of the raised requirement, a research was carried out to have a diagnose analysis & exploring remedies for a new warehouse model. This research has been dealt with all the stake-holding departments of the organization with the purpose of enhancing and the maximum utilization resources with more capabilities. The findings of this research will help the organization to achieve the higher efficiency of the hub of supply chain and then eliminate the waste and increase the productivity - higher transfer rate and safety. This report presents the root causes for the shortcomings and the proposed solutions for the overcoming of issues with ultimate goal of the new warehouse model with improved layout & operation models.

KEY WORDS: Efficiency, Productivity, Supply chain, Warehousing

INTRODUCTION

The developing of the new warehouse model was conducted in the GMS-Dehiwala at GlaxoSmithKline (GSK), and GSK came into being on 01/01/2001, because of the merger between global pharmaceutical giants, SmithKline Beecham and Glaxo Welcome. On 15/02/1996 SmithKline Beecham took over the total administration functions with a total head count of 50 employees. Apart from bottle line, laminate packing too began in 1997. At present plant, have a bottle, Laminate and a sachet line in operation. The production volumes have increased from 1.7 metric tons 1997 from the inception to 16 metric tons at present (2010) Viva bottle and sachet operations taken over from Darley Butler & Co. and commenced blending and packaging operations in 2001 at the present site.

Research Objectives

The objective of the research is mainly to eliminate the time waste & increase the efficiency of operations with maximizing the resources utilization such as space & human resources etc. After being developed the Warehouse model, the attention is mainly paid on eliminating unnecessary movements of the warehouse with eliminating the time waste in the operations while increasing the efficiency and on

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effective utilization of the space of the warehouse with higher environmental safety for the effective storage of both materials and finished goods.

LITERATURE REVIEW

Companies are constantly trying to find ways to improve performance in warehouse operations such that focusing to gain maximum efficiency at a minimum cost. To get the most, out of the operation, a number of best practices can be adopted to improve productivity and overall customer satisfaction. Although best practices vary from industry to industry and for the products dealing with, there are a number of best practices that can be applied to most companies.

When considering the warehouse operations, it mainly deals with the picking process. With regard to that, many efforts have been explored for making the efficiency of the picking time. In case of here, that can be done in various ways. When considering the companies that have most efficient warehouse models, they have been established in more closer to shipping area to reduce the picking time. These kinds of companies experiencing the competitive advantage by constantly reviewing their sales data to ensure that the items are stored close to the shipping area.

The rapid evolution of organized retail in India, a thrust for manufacturing through proposed development of Special Economic Zones, the emerging large food-processing sector, and development of modern third party logistics (3PLs) has made modern and well developed warehousing and cold chain infrastructure indispensable.

Potential benefits to the Organization by Solving the Question

The outcome of the research will help to increase the total productivity not only the warehouse but also the overall supply chain management system with synchronize demand with supply and enhance the efficiency of the plant with the productivity techniques, methodologies that are highly suitable for the warehouse such as 5S, Kizan etc. that have capabilities to enhance the efficiency of in warding & out warding of goods to the warehouse with issuing & receiving process from the production process.

Then the Employee Health & Safety [EHS] of the warehouse will definitely be improved with regard to the international EHS standards and the elimination of accident & safety environment will ensure the effectiveness of the operations of the warehouse.

DATA COLLECTION AND ANALYSIS

Details of Data collection

For this research, it mainly focused on observation of the existing model of the warehouse with referring related documents & processes and interviewing the stakeholders of the warehouse.

The main processes conducted in the warehouse are loading, unloading, receiving reject materials from the production. The below mentioned are the Flow Chart and Spagathy Charts are more segregated than flowcharts as the Spagathy charts consist of the each and every movements of the flow of the process. The Spagaty Analysis is done, for the identification of unnecessary movements related to the process.

Details of Data Analysis

In accordance with analyzing the collected data, it focused on highly qualitative with quantitative analysis rather than having statistical analysis. Simply because except for part of data collected, others are mainly focused on functions. As a main analysis tool, the research is used for the gap analysis procedure with finding in use gaps (The gaps between Standard Operating procedures and how they engage with the task)

If research observed something that has gone aggravate and if there is any fault, it should check that there is any SOP (Standard Operating Procedure) or WI (Working Instruction) related to that task. This is highly related with the processes conducted in the warehouse. Then research can analyze the gap deviations related to the SOP and WIs However, almost all the observations are insisted that some faults are occurred not only due to the deviations with regard to SOP and WI but some circumstances existing at the particular environment tend to occur those things. Furthermore, these SOP and WI do not convince the every movement.

Here in this case there is no sufficient height or capacity in the warehouse. Thus, the employees' safety is reduced due to the high warmness as per CO_2 emission. Furthermore, with regard to the untidiness and Capacity of the warehouse storage and existing arrangements the fire extinguishers and the fire real locations are not adequate.

Root Causes of Problem

The diagnose analysis in above chapters shows that space of the warehouse is not sufficient for operational efficiency. Space requirement is mainly needed for both bulk and Packing Materials. Few other root causes were also identified affecting on this in efficiencies such as, unnecessary movements with time and resources, ventilation, Ergonomics and EHS issue

If there is any EHS (issue that may be the main reason that employees are reluctant to work furthermore if there are lack of facilities that may also tend to happen that

Added work, in other words unnecessary or unwanted movements due to poor space management waste money and energy as well. Therefore, it is important to eliminate these unnecessary movements with the proper rearrangements.

CONCLUSION

- Increase the area capacity of the warehouse

It is required to enhance the ergonomical capability of the warehouse with proper space allocations. This would lead to minimize batch mix up etc. for mass racking purposes additional space is important for segregated locations for stocks as well.

- Increase the Rack capacity of the warehouse

Additional rack space is proposed to increase the storage. Further, it will provide opportunity to locate other stocks such as incidental and redressing as well separately without any batch mixed up.

- Increase fire extinguishers and fire reels

The existing numbers of those items are not sufficient for the current set up and so, if a further impairment of the warehouse is done that are essential to provide the sufficient EHS equipments that are convenient to be handled efficiently as per the bellow layout plan uses software to handle batches in racks.

It is recommended to install software to manage a database of the batches, so as to get the data and find the location of batches and items easily.

- Change the racking procedure

After the re-racking, the racks the same flow routine of filling should be followed. The FIFO method as shown below [Figure -1] is most applicable procedure for food packing warehousing philosophy.

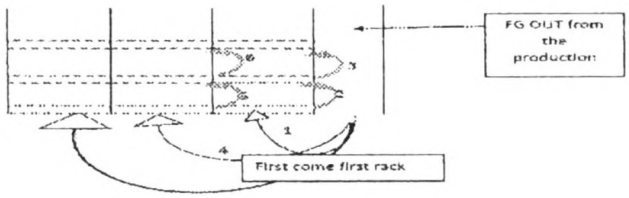

Figure 1: Racking Procedure

- Change the shape of the loading bay to enhance parking facilities

Figure 2 shows proposed extension of dock to increase efficiency of loading and unloading operations of the warehouse. Thus save the time of the lorries and forklift operation as well.

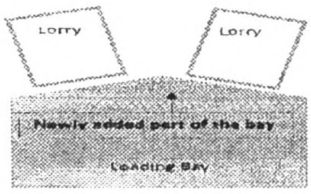

Figure 2 : Shape of the proposed loading Bay

- Increase the number of pallets

It is proposed to increase pallet by 10% to reduce the idle time occurred due to pallet damages & to reduce accidents as well.

- Increase the number of ventilators

To ensure appropriate ventilation to the warehouse to replace emitting polluted & carbon air of the warehouse. So that to enhance the ergonomically atmosphere & environment for workers.

- Change the layout of the warehouse

It is proposed to change the layout, changing the shrink sleeve room & the forklift lane (Path) and the rack arrangements as mentioned in the layout plan as mentioned bellow.

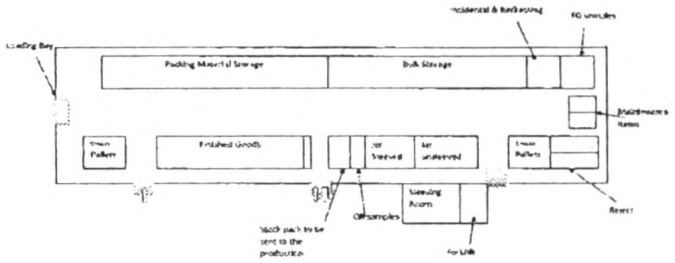

Figure 3: Proposed Layout Plan

The finding proposed a set of suggestions to implement with the view of enhancing the efficiency & safety standard of the warehouse. Further, re-racking the racks with goods with FIFO procedure eliminate avoidable losses. These suggestions will help to enrich application of the food packing warehousing philosophy in this organization.

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