

Designing the utilization plan within the distribution center

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Abstract: From the research on the design of the utilization layout within the distribution center with the objective of the research. To study the general information of the distribution center. Reducing the distance to transport packages. By designing a layout for use within the distribution center, and analyzing the problem to find the cause. and solutions by making a warehouse layout using a distance workload model. and placement of packaging with Facility Layout, material warehouse. Using the theory of Why Why Analysis to develop the design of the utilization plan within the distribution center to be standardized, this time is a quantitative study and qualitative research. By collecting information related to the inventory of materials and packaging of Hanon Systems (Thailand) Co., Ltd.

The results showed that the general condition of the current material warehouse used to store packaging in all 3 material warehouses consists of Warehouse 1, warehouse 2, and Warehouse 3 with total areas of 506, 178.5, and 451.14 square meters respectively. A total of 665 pallets can be stored. Action. Analyze and find out the root cause of the problem. Gather information related to material and packaging inventory. Root cause analysis Why Why Analysis is effective for analyzing the root cause of the problem, implementing the design, and adjusting the size of the storage space in pallet storage and forklift aisles (Folk Lift) appropriately. according to the size criteria Pallets and forklifts were used by designing the size of storage space for all 3 material warehouses, making it possible to know the capacity of the packaging warehouse to support the maximum storage of 714 pallets and transporting packages during production with transported from the whole material depot 3 warehouses to production line 3 main production lines.

Keywords: Designing the utilization, distribution center

1. Background

At present, it is common to take the proportion of the logistics costs accounting for GDP as a key indicator to measure the efficiency and effectiveness of logistics. In most developed countries and regions, it has been controlled at around 10 % and even lower. But as for Thailand, a developing country, the modern logistics industry scale is still relatively small, and the added value in GDP is less than one-third of that in the developed countries, while the logistics cost is twice that of them. Presently, the mode of operation in most logistics enterprises remains in the extensive and primary stage, the concept of modern logistics has yet to take shape, and their service capacity, quality, and effectiveness are far behind the advanced ones. Therefore, it is necessary to strengthen the logistics cost management and analyze and implement an effective strategy to reduce the logistics cost of the enterprises, reduce the overall logistics cost and improve the quality of logistics. Thailand is one of those six countries in the Greater Mekong Sub-region which is trying to strengthen its transportation linkages among other member countries, which is expected to

improve cross-border transportation connectivity. The total Logistics Cost is 2,238.8 billion increases in Bath by 18% as pictured.

Fig.1. Logistics Cost to GDP at Current Price in Thailand Year 2022

2. Methods

The research tools Collected information related to the materials and packaging inventory of Hanon Systems (Thailand) Co., Ltd. by studying the storage area and layout of packaging, consisting of 4 parts as follows.

1. Study the general condition of the current material warehouse used to store packaging. The 3 material warehouses consist of Warehouse 1, Warehouse 2, and Warehouse 3 with total areas of 506, 178.5, and 451.14 square meters, respectively, capable of storing all pallets. 665 pallets
- 2 Analyze and find the root cause of the problem, and gather information related to the material and packaging inventory. Analysis of the cause of the problem, Why Why Analysis
3. Carry out the design and modification of the size of the storage area in the pallet storage and the forklift aisle (Folk Lift) to suit the criteria of the size. Pallets and forklifts were used by designing the size of the storage space for all 3 warehouses, making it possible to know the capacity of the packaging warehouse to support the maximum storage of 714 pallets.
4. Transportation of packaging during production that is transported from the entire material depot. 3 warehouses to production line 3 main production lines.

3. Results

A study on the design of utilization layout within a distribution center Method of collecting data by collecting data from the study found that

1. Study the general condition of the current material warehouse used to store packaging. The 3 material warehouses consist of Warehouse 1, Warehouse 2, and Warehouse 3 with total areas of 506, 178.5, and 451.14 square meters, respectively, capable of storing all pallets. 665 pallets as in Figure 1



Figure 1 Store all 665 pallets

2 Analyze and find the root cause of the problem, and gather information related to the material and packaging inventory. Analyze the cause of the problem, Why Why Analysis, as shown in Figure

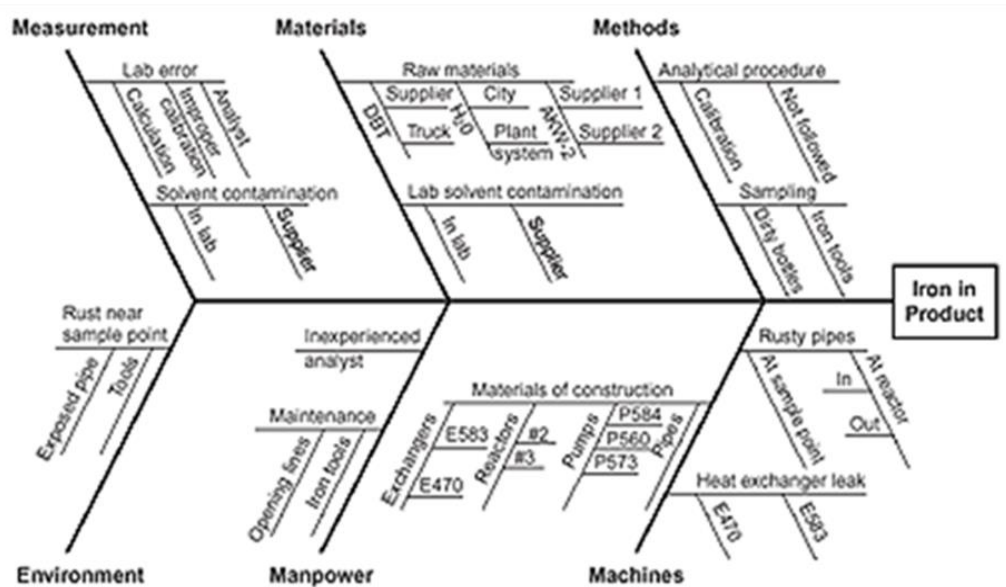


Figure 2 Analyzes the cause of the problem, Why Why Analysis.

3. Carry out the design and modification of the size of the storage area in the pallet storage and the forklift aisle (Folk Lift) to suit the criteria of the size. Pallets and forklifts were used by designing the size of the storage space for all 3 warehouses, showing the capacity of the packaging



Figure 3 Folk Lift

4. Transportation of packaging during production that is transported from the entire material depot. Three warehouses go to the production line, three main production lines using a mixed production processing system, as shown in Figure 4.

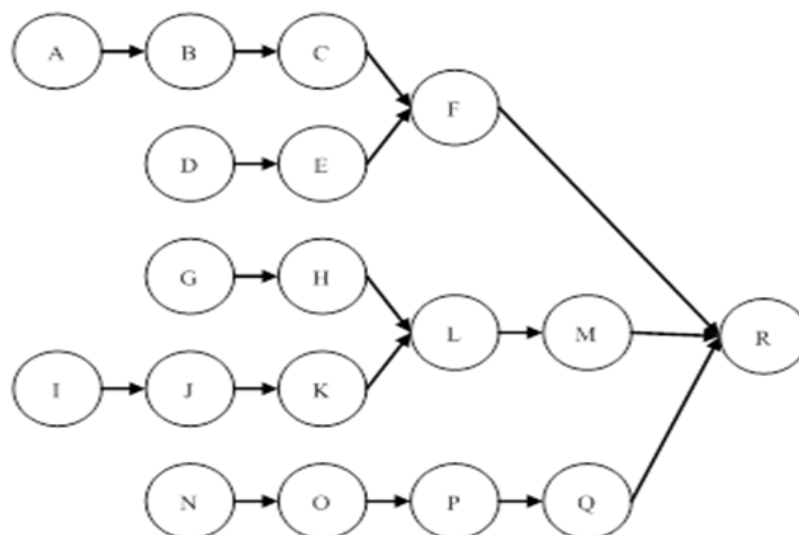


Figure 4. Mixed production processing system

4. Discussion

The results were discovered in this study.

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