

Improvement of Layout of Product Placement, Placement Using Dedicated Storage Method in PT. Cipta Krida Bahari

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Abstract. The process of the layout of goods has an important role in operational activities in the warehouse. Keeping up with the times for technology can affect the increasing demand from customers, the operating system in the warehouse must be effective and efficient. Dedicated Storage Method for layout In this method each product is placed in a fixed storage location. If a product will be stored or taken, it can easily be known. The purpose of this study is to identify the effect of the layout and methods used in the layout of goods in the warehouse that makes the items stored affordable and the minimum displacement distance. The research method used is qualitative, because it explains the process of controlling goods with the layout of the placement, as long as the application of methods in the layout of goods in optimizing it in the warehouse, because of descriptive data analysis techniques. The results of this study indicate that the minimum displacement distance will reduce the cost of moving goods, energy and time used, to reduce the total operational costs of the warehouse. so that warehousing activities can run effectively and efficiently.

Keywords: layout storage, method dedicated storage, warehouse

1. Introduction

In general, the warehouse has a very important function in maintaining the smooth operation of operations in a company. Activities that dominate in the warehouse are more in the activities of receiving and storing, searching for and taking, preparing for and delivering goods requested by the customer. Warehousing activities that are managed as effectively and efficiently will provide optimal results to increase customer satisfaction. Factors to increase customer satisfaction include the condition of products that are well maintained and fast and accurate delivery times. Then the layout of an item in a warehouse needs to be made to increase customer satisfaction. the characteristics of an effective and efficient warehousing layout that minimizes damage to goods have a minimum displacement distance because the minimum displacement distance will accelerate the completion time of its transfer activities and reduce the cost of material transfer.

The thing that is desired from the control carried out by the company is reducing costs in the warehouse, storing goods effectively and efficiently into the warehouse, as well as the ease and accuracy of information about warehouse stock, this information system regarding warehousing management is called the WMS (Warehouse Management System) (Miles, Stuart Emmet, 2005).

The layout is a design of the physical composition of an activity related to manufacturing and non-manufacturing industries (Apple, J.M, 1990). Layout method planning consists of design or

configuration of the division of work centers and equipment that forms a process of change from Raw material to product. therefore, it is an arrangement of the location of physical resources carried out to make the product. This design is naturally described as a floor, namely the arrangement of physical facilities (equipment, equipment, land, and other facilities) to optimize the relationship between implementing employees, the flow of information, the flow of

goods and the ways needed to efficiently achieve company goals (Apple, J.M, 1990).

Purpose of item layout Useful in describing an efficient arrangement of related work locations, where the location of the goods can be known and easily retrieved.

1. Minimize transfer of goods.
2. Maintain flexibility in operational arrangements.
3. Makes it easy to maintain goods.
4. Reduce investment costs on equipment handling.
5. Optimizing the use of building space.
6. Increase the coefficient of labor.
7. Provide convenience in safety and comfort for workers in doing work.

Dedicated storage method in the placement of goods or often referred to as a fixed slot storage location, using placements at a specific storage location for each item stored, this is due to the storage given to specific items somewhere.

PT Cipta Krida Bahari is a distributor of equipment, vehicles and construction parts, namely Products from Caterpillar for the regions of Java Province, Sumatra, Kalimantan, Sulawesi, Papua. PT Cipta Krida Bahari has a large storage warehouse, but in the storage warehouse, the company has not been able to overcome the problems that occur, namely irregularities and buildup of products in the warehouse. Where the current placement of a product that comes from the factory is based on an empty warehouse position, such conditions can cause a variety of new problems such as products ordered by consumers mixed, search for products to be longer due to irregularities and buildup of products and untapped warehouse capacity optimally so that the actual warehouse capacity decreases.

Layout methods have an important role in the placement of goods, which is useful in accelerating the movement of goods to customers. Without methods in the layout of goods in warehouses, goods from producers will take a long time to reach consumers and that will affect decisions made by officials in the company. To provide good service to customers, companies must pay extra attention to customers. Companies must pay attention to channel selection in the layout of goods. Also, each company must try to make the layout structure of goods placement by the resources owned by the company to optimize the company's performance in achieving its goals.

2. Method

In this journal, this study uses a qualitative method because it clearly describes how the application of a system of goods layout methods in PT Cipta Krida Bahari's warehouse can control the flow of the application of the layout method to its items. Techniques in interviews use interviews in a structured and semi-structured manner and focus on group discussions. Data sources in this journal are interviews with Supervisors, staff, and Warehouse Man in the warehouse. who has the ability, expertise, and experience possessed, because this study aims to find out how the strategy of improving the layout method for goods carried out by PT Cipta Krida Bahari to optimize the Warehouse located at Cakung Bonded Logistic Center. the results that can be obtained The data analysis technique used in this study is the approach developed and used is descriptive. Descriptive research involves collecting data that describes events that occur directly from observational activities and then arranges, tabulates, describes, and explains the collection of data that is. (Glass & Hopkins, 1984).

3. Discussion and Result

PT Cipta Krida Bahari is one of the companies that cooperate with PT. Trakindo Utama. PT Trakindo Utama Is An Authorized Dealer In Indonesia For Caterpillar Products, The World's Largest Manufacturer Of Mining, Forestry, Agriculture And Construction Equipment, Diesel Engines, Industrial Machinery, And Generator Sets. Selling New Units Cash, Credit

Provides Daily, Monthly Unit Rentals. PT. Trakindo Utama as a company that owns spare parts has a cooperation contract with

PT. Cipta Krida Bahari as a provider of warehousing services and manages all activities in it starting from the process of Receiving (receiving spare parts), Storage (spare part storage), Maintenance (maintenance of spare parts), Picking (taking spare parts), Shipping (shipping spare parts), etc.

4 layout methods used by the BLC (Bonded Logistics Center) warehouse located in cakung and a Cipta Krida Bahari warehouse to optimize the control of the flow of goods at the time of receipt from the supplier to the expenditure from the warehouse. PT. Cipta Krida Bahari to continue to provide warehouse management services to the maximum for the satisfaction of its customers (PT. Trakindo Utama). This is very influential in measuring the performance of a company.

In general, the activities in warehouse Cipta Krida Bahari consist of three things:

The implementation of the Warehouse Layout storage method will be explained as follows: Of the 5 activities, there are important things that must be considered, including:

1. Part Number (code of spare part) is a code of parts received or sent must be following physical conditions with data receipt or delivery.
2. Description (name of the spare part) is the name of the parts received or sent must be following the physical conditions with the data of receipt or delivery.
3. Per packaging quantity of parts received or sent must be following physical conditions with data received or sent.
4. The condition of parts received or sent must be in good and perfect condition for sale.
5. Expiry date from Must is written on the type of spare parts, hazard type goods, liquids and the like.

All Products in the data warehouse are stored properly in the company's database system, every activity of receiving and sending spare parts is always registered or registered in the company's database system.

PT Cipta Krida Bahari uses 4 methods in the layout of goods placement:

1. Dedicated Storage Method Consisting of merchandise products that will be given to customers and employees of companies that buy products in CKB (Cipta Krida Bahari) such as Marcom products (marketing communication) merchandise products that will be given to customers who buy products, this is done to the company's regular customers useful to build customer loyalty and welcome kit products that are useful for building employee loyalty to the company, this product is given to employees for their achievements to the company. Example: Men & Women Caterpillar watches, miniature construction vehicles (Marketing Communication Products). Clothes, Bags, Shirts, Polo Shirts, (Welcome Kit Product). Placement based on the specific character of the item, such as the requirements for storing such items such as room temperature and clean room, etc.
2. Class-based storage method (cluster method) Class-based storage method (cluster method) Placement of goods based on the similarity of a type of material or material into a group. This group will be placed in a storage area specifically in the warehouse, the equation referred to in this method in the form and type, or is in a list of consumer orders. Example: bolt and nut are various types and sizes of Caterpillar.
3. Random storage method
Placement of goods based on the place closest to the location of goods input, this policy implication requires large space Products that require special handling such as temperature levels, the room is clean. Example: Diesel engine oil, oil filter.
4. Shared storage method
Placement of goods in an area that is specific to the item following its characteristics, this

method can reduce the number of requirements for extensive conditions in the warehouse and be able to increase the use of the entire area of placement of goods. Example: garment Caterpillar (clothes, jackets, polo, shirts). Combined method storage:

- Dedicated storage and random storage. Examples of these items are Castrol oil and samurai paint.
- Dedicated storage and shared storage. Examples of items are caterpillar watches, desk clock, garment (jackets, clothes, polo, shirts).

The reason the company uses the layout method strategy is the consumer demand for a particular product, which makes a rearrangement of the warehouse layout and the method used for storing the item, and is useful in optimizing the use of space and layouts in the warehouse. In applying the company's goods layout method strategy, it must determine the movement of the goods first through historical data that is owned and classified. From the Cipta Krida Bahari warehouse, there are categories of Fast-moving goods, Medium moving, Slow moving, and Death stock. Fast-moving goods category items that almost every day buy, near the exit of the layout like a samurai paint, Castrol oil. Medium moving category items purchased 3 to 10 in number by the customer, the measured movement is within 1 month. Slow-moving category items purchased 1 to 2 in number by the customer, the measured movement is within 1 year. Death stock items belonging to the movement supplier that is measured will be returned in 2-3 years. returns at the Singapore caterpillar branch which is one of its branches in Southeast Asia.

In Bonded warehouses located in Cakung, PT Cipta Krida Bahari has 70000 types of goods, and if it is estimated to have 1 million units of supply in the warehouse 5 types of product placement and handling:

- a. Cabinet shelf: In a very small nut, bolt.
- b. Shelving: items larger than cabinet, lights.
- c. Racking: samurai paint, Castrol oil, pipe.
- d. Floor: items that have not been transferred to the placement are racking, and drums containing diesel, roller, track links.
- e. Yard: excavator, truck. heavy vehicles for construction.

Assessment of KPI (key performance indicator) based on the principle of assessing data per month up to the year of the company's operational activities. The strategy carried out by the company in optimizing activities is based on the analysis of historical data, which will determine the steps or policies made by the company. Like doing Re-order activities for products to be purchased by the company before determining how many items, the company classifies these products into several groups such as Fast-moving, Medium moving, Slow-moving, Death stock based on the assessment of the data in the last few years of the goods.

DATA in May, June, July 2018.

Table 1.KPI- Inventory Record Accuracy

NO	Warehouse & Distribution Operation KPI	May	June	July	Matrix
1	Warehouse Record Accuracy (Line Item)	100%	99.73%	99.79	MTD
2	Warehouse Record Accuracy (value)	99.24%	99.97%	100%	MTD
3	DSC Programs Indicator	17.47%	17.83%	42.27%	MTD

Explanation of Table 1. KPI- Inventory Record Accuracy It is a discussion of the operating record in the warehouse against the accuracy of the accuracy in the line item field and its value on the performance that has been done. Differential Scanning Calorimetry (DSC) is an analysis technique that measures the energy that has been absorbed and then emitted by activity

as a function of the energy used for the activity. When an energy transition occurs in an activity, the DSC provides a calorimetric measurement of the transferred energy.

Table 2.KPI- Inbound / Receiving Activity

4	Prestocking Fulfilment	100%	100%	100%	MTD
5	Prestocking On-Time	100%	100%	100%	MTD
6	Stock Order Receipt Lead Time	100%	100%	100%	MTD

Explanation of Table 2. KPI - Inbound / Receiving Activity It is a discussion of receiving or inbound activities in the warehouse for achieving the on-time performance of goods and no lead time that does not exceed the promised agreement.

Table 3. KPI-outbound /Shipping Activity		May	June	July	Matrix
Emergency Transfer Respon Item	Same day	100%	100%	100%	MTD
Stock Transfer Respon Item					
A.Satelite	2 days	100%	100%	100%	MTD
B. Non - East Indonesia	3 days	100%	100%	100%	MTD
C. East Indonesia	7 days	100%	100%	100%	MTD
Delivery Accuracy by items	99%	99.70%	99.95%	99.97%	MTD
Stock Fulfilment	99.50%	99.61%	99.64%	99.62%	MTD

Explanation of Table 3. KPI-outbound / Shipping Activity It is a discussion of shipping or outbound activities in the warehouse against the rapid response to facing an emergency in shipping in the Satelite area In Jakarta (Bogor, Bekasi, Tangerang), known east Indonesia (Sumatra, Java, Kalimantan), and East Indonesia (Irian Jaya) achieved time delivery of goods in accordance with the promised time accuracy.

Moth to Date means the initial period of the month until now (today's date) or starting from the beginning of the current month and ending at the current date. It allows company owners, managers, and investors, to compare the company's current performance with past periods. From this, it is the result of every activity that affects the performance of the company and the key to success in influencing the increase in company performance. Which is a benchmark that directly affects customer satisfaction with services provided by the company.

4. Conclusion

PT. Cipta Krida Bahari was successful in implementing a dedicated storage layout method strategy at the Bonded Logistic warehouse located in cakung. with the innovation of the combined layout method for goods, increasing the company's performance in operations into a warehouse that can optimally control the flow of goods to customers, very rarely experience obstacles in the receipt and expenditure of goods in warehouses, which makes their export and import activities very rarely hampered because if it happens it will increase the company's operational costs and make customers lose confidence. activities are very fast and organized, which can optimize what is needed. In the era of globalization and high competition, management systems and layout strategies for goods that are implemented in warehouses are a very appropriate solution in controlling everything that happens in the warehouse, this aims to optimize effectiveness, increase collaboration in storing goods, save operational costs, improve product safety, and can make the right planning for the future.

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