

Optimization of Warehouse Management in Company A

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ABSTRACT

China's modernization of warehouse management started late, advanced technology management level, management experience is more lacking, and the advanced warehouse management level of developed countries there is still a certain gap. This paper takes Company A as an example to conduct in-depth research and analysis and summarization. It is found that the main problems in the process of warehouse management are concentrated in the complexity of the warehouse operation process, unreasonable warehouse planning, lack of inventory control, low warehouse picking efficiency, warehouse picking efficiency is low and other five aspects, according to the problems that exist in the warehouse space management, warehouse picking workflow optimization, reduce warehouse management costs, improve warehouse picking efficiency and other improvements to countermeasures in order to enhance the company's warehousing management capabilities and level.

KEYWORDS

Warehouse optimization; Optimization measures; Warehouse management

1. INTRODUCTION

With the rapid development of the market economy, competition is becoming increasingly fierce, enterprises can only continue to improve the level of warehouse management, in order to effectively minimize the loss of raw materials and time in and out of the warehouse, improve economic efficiency and competitiveness [1]. However, from the perspective of the overall development environment of the logistics, logistics enterprises are gradually improving their own warehouse management capabilities, but due to the weak base, lack of experience and other issues, in improving the level of warehousing management still exists a lot of shortcomings [2]. Logistics as a vital part of production activities, always play an important role. Warehousing link is one of the important links in the operation of logistics enterprises, today with the continuous improvement of the management capacity of logistics enterprises, and relying on the operation of the new model, logistics enterprises began to gradually tilt to the low storage mode, as far as possible to reduce the warehousing link in the logistics delivery process. This can effectively reduce the cost of warehousing, so that logistics companies can save costs and obtain higher competitiveness. For the specific status quo of the enterprise, explore the problems and reasons for the existence of warehousing management, put forward improvement strategies, can greatly enhance the comprehensive strength of the enterprise and business development. This paper analyzes the actual situation of Company A, the status quo of its warehouse management to a certain extent has constrained the further development of the company. Through the company in this aspect of the problems in detail, put forward targeted optimization measures.

2. WAREHOUSE MANAGEMENT OVERVIEW

Logistics warehousing is an important part of logistics activities, it involves cost, efficiency, service and other aspects, is an indispensable part of logistics development. With the development and changes in the market, warehouse management is facing many challenges. So the warehouse management companies should continue to innovate and optimize the management tools.

"Warehouse" is usually called warehouse, warehouse is to provide storage services and protection of goods in the building premises, "storage" is the storage and custodial services, that is, to protect the quality of goods in the warehouse. Warehousing refers to the use of warehouses and related facilities and equipment for the entry, storage and exit activities (according to the national standard of the People's Republic of China "GB/T18354-2006 Logistics Terminology") [3]. The basic functions of warehousing are mainly storage function, regulating function, custody inspection function, maintenance function. In addition, warehousing has value-added service functions: circulation processing, distribution function, distribution function, trading intermediary function.

3. PROBLEMS WITH WAREHOUSE MANAGEMENT IN COMPANY A

Company A is a professional manufacturer specializing in the production of medium and high-grade cosmetic brushes, integrating research, development, production and sales as one of the cosmetic brush production and manufacturing enterprises. The warehouse has a total use area of nearly 2,000 square meters, which is divided into warehousing area, storage area, order processing area and inspection and checking area.

3.1. Warehouse Operation Process is Complex

3.1.1. Inventory process

Due to the same shape of some commodities, the smallest stock keeping unit (SKU) categories, the consignee due to unfamiliarity with the goods caused by the receipt of the goods error; when the number of goods in the warehouse goods, the number of types of goods, the workload is large, easy to make mistakes; secondly, due to the reasons of the special nature of some of the commodities, resulting in an increase in the rate of error; shelves the existence of personnel with poorly regulated training or inertia resulting in the goods littered and forget to register the warehouse.

3.1.2. Inventory management process

Warehouse management in the development of a strict acceptance and review system, the operating staff did not follow the process of goods acceptance, inbound and outbound goods review and inventory count, resulting in failure to detect the quantity of goods in a timely manner, the quality of the problem, resulting in the duplication of many work processes, a waste of manpower and time, to the customer's experience is also greatly reduced, should be through the training and performance appraisal system to constrain the constraints on the operating staff, the strict implementation of the operating process.

3.2. Irrational Planning of Storage Space

Unreasonable planning of the warehouse is reflected in the long reciprocal moving path during the handling process, which seriously affects the handling efficiency, due to the unreasonable placement of goods, the application rate of warehouse capacity is not high, and the inventory process is prone to bias, and the convenience of goods in and out of warehouses, inventory, and acceptance is poor. The operation process to be optimized is reflected in the fact that the waiting process at the platform is time-consuming when warehousing, there is no reasonable planning of the picking logic leading to

too many invalid paths when picking, and the operation of the warehousing process is relatively not time-consuming.

3.3. Lack of Inventory Control

Lack of Inventory Control, Inventory Analysis Inventory control, inventory analysis is a must. company A's warehouse inventory has always been lack of management, sluggish products, inventory turnover, inventory turnover days and merchandise sales rate are not as good as expected. By comparing the company's internal data, the supply chain must be healthy when the turnover days of goods can be 30 days and the sales rate is between 85% and 90%. On the contrary, the cost of commodity storage will become higher and higher, and the demand for warehouse space will become bigger and bigger.

3.4. Warehouse Picking Efficiency is Low

First, the dependence on skilled employees is too high; second, the parcel storage location in the warehouse does not make reasonable planning and shelf management; parcels of the same customer are stored in different shelves, making it difficult to find goods; the picking path is not reasonably planned, resulting in longer paths and longer time needed for picking.

3.5. Warehouse Sorting Efficiency is Low

In warehouse sorting operations, low sorting efficiency is a common problem, the main reasons are as follows:

Sorting process is not smooth: some sorting process design is unreasonable, resulting in employees need to spend too much time and energy to find goods, handling and sorting; high labor costs: with the rise in labor costs, many companies can hardly afford the high cost of labor, which makes the sorting efficiency is affected; aging equipment: some companies have aging warehousing equipment, resulting in the inability to quickly and accurately complete the goods sorting work.

4. WAYS TO OPTIMIZE WAREHOUSE MANAGEMENT IN COMPANY A

4.1. Warehouse Cargo Space Management

For the warehouse goods layout, handling equipment, access frequency and other factors to analyze, rational planning of the layout of the cargo space, and according to the properties of the goods, size, weight and frequency of access to the warehouse, the goods will be categorized and assigned to the appropriate cargo space, improve the efficiency of goods in and out of the warehouse operation; rational use of the code of the goods: the code of the goods refers to the cargo space for the number, so that it is easy to quickly locate and identify the goods in the warehouse, coding mode should be According to the characteristics of the warehouse and the attributes of the goods to determine, in order to quickly find the required goods; Regularly adjust the cargo space: cargo space adjustment is an important means of optimizing the warehouse management, according to the goods in and out of the warehouse on a regular basis to adjust the cargo space to improve the utilization rate of the warehouse and flexibility. Adjustment of warehouse cargo should take into account the attributes of the goods, size, weight and other factors to ensure that the adjustment of cargo can meet the needs of warehouse management.

4.2. Warehouse Picking Workflow Optimization

Optimize the sorting process to reduce unnecessary operational steps and improve sorting efficiency. For example, using path planning algorithms to optimize the order of storing and removing goods in

order to speed up sorting; introducing automated equipment (such as smart shelves, automatic forklifts, robots, etc.), which not only reduces manpower costs, but also improves the speed and accuracy of sorting; and strengthening staff training to help them master the operational skills and processes and improve their business level, thus enhancing the sorting efficiency.

4.3. Reduce Warehouse Management Costs

4.3.1. Optimization of warehouse location

This is from the source to solve the warehousing costs, enterprises in the establishment of the warehouse at the beginning of the site selection needs to be combined with the nature of their own business development and comprehensive measurement of the overall cost of the supply chain, well-considered.

Warehouse location selection is a process from surface to point, first of all, the city selected, again the city location, and finally the specific warehouse area. Warehouse location selection determines the warehouse area. Warehouse location selection determines the operating cost, circulation efficiency, and future scalability of the warehouse. When selecting the location, there are three general principles to follow: the principle of cost, the principle of long-term development, and the principle of proximity to users. Through the cost of transportation, warehouse rental costs, personnel costs, service (time) costs are measured to clearly optimize the location of the warehouse.

4.3.2. Optimizing the workforce

Artificial labor costs can be taken to reduce warehouse costs by one rise and one fall. A rise is to enhance the ability of employees, the staff to carry out systematic and regular training to improve the comprehensive business skills of employees, improve staff efficiency, improve labor output. A drop is to reduce the error rate of employees, warehouse errors will not only lead to reduced efficiency, serious cases will cause damage to goods or casualties. Management personnel to strengthen the daily supervision, improve the staff's awareness of prevention.

4.3.3 Operational standardization

Operational standards include the use of warehouse tools and daily management of the management of the operation process specification. The use of warehouse tools and the daily use of operational behavior, generally through the "systematic training + old staff with" mode, you can get started faster. Managers need to develop different aspects of the process system to ensure that the normative nature of the operation, and to ensure that employees in the day-to-day operations strictly follow the established procedures, and to strengthen the daily inspection and supervision.

4.4. Improve Warehouse Picking Efficiency

4.4.1. Improvement of order and warehouse management and control

Information technology is used to enhance management and provide the information necessary to support accurate business decisions. Most companies, regardless of size, use some type of software for inventory management, material flow control and equipment control. With well-designed software for information organization, companies will be able to realize significant supply chain benefits, such as WMS, RFID warehouse management systems and WCS warehouse control systems.

4.4.2. Compressing the picking surface and accelerating travel speeds

The results of several studies have proven that the most time wasted to achieve a goal is walking. To solve the time-wasting problem, the first step is to increase productivity by speeding up the picker's travel speed using equipment such as palletizers, forklifts, and laser-guided vehicles, and using them in conjunction with intelligent storage systems to lengthen the picking time of the picker and shorten the walking time. The next step is to compress the picking surface, which can be accomplished using

pallet or carton fluent racking. With fluent racking, goods-to-person can be realized, reducing personnel walking distances by as much as 80%.

4.4.3. Realize simultaneous picking of multiple orders and improve picking efficiency.

By combining order items from multiple customers into one batch. If pickers can batch pick goods at each picking location, efficiency and system throughput can be greatly improved. Centralized picking technology enables multi-order picking from a single workstation. Pickers typically use wireless or voice picking carts and electronic label picking systems to select the picker's picking and removal order.

Warehouse optimization is the key to improving the efficiency of business operations. By optimizing warehouse management, companies can increase inventory capacity, accelerate product movement, improve customer satisfaction and reduce costs. Effective methods include identifying inefficiencies, automating tedious manual tasks, improving processes, keeping inventory levels balanced, and moving inventory efficiently. These improvements help companies fulfill orders accurately and on time, and control supply chain costs. At the same time, warehouse optimization is more than just a means to improve efficiency; it is the cornerstone of sustainable business growth. Only through continuous optimization can an enterprise be invincible in the fierce market competition. Taking Company A as an example, the survey and analysis of the current situation of warehouse management shows that enterprises should attach great importance to warehouse management, and correctly recognize the shortcomings of the current stage of warehouse management, and further take targeted optimization measures to improve the effectiveness of warehouse management and inventory control, which will help the long-term strategic development of the enterprise and provide a solid guarantee for this.

5. SUMMARY

Warehouse optimization is the key to improving the efficiency of business operations. By optimizing warehouse management, companies can increase inventory capacity, accelerate product movement, improve customer satisfaction and reduce costs. Effective methods include identifying inefficiencies, automating tedious manual tasks, improving processes, keeping inventory levels balanced, and moving inventory efficiently. These improvements help companies fulfill orders accurately and on time, and control supply chain costs. At the same time, warehouse optimization is more than just a means to improve efficiency; it is the cornerstone of sustainable business growth. Only through continuous optimization can an enterprise be invincible in the fierce market competition. Taking Company A as an example, the survey and analysis of the current situation of warehouse management shows that enterprises should attach great importance to warehouse management, and correctly recognize the shortcomings of the current stage of warehouse management, and further take targeted optimization measures to improve the effectiveness of warehouse management and inventory control, which will help the long-term strategic development of the enterprise and provide a solid guarantee for this.

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