

Warehouse Management at CABRICK (Thailand) Co., Ltd.

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Abstract—This research aims to (1) study the warehouse management of Capric (Thailand) Co., Ltd.; 2) study the efficiency level of the warehouse management of Capric (Thailand) Co., Ltd.; 3) compare the efficiency level of the warehouse management of Capric (Thailand) Co., Ltd., classified by personal data; and 4) study the warehouse management that affects the efficiency level of the warehouse management of Capric (Thailand) Co., Ltd., by selecting a sample group of 90 people using a questionnaire as a research tool. Statistics were used in data analysis, namely percentage, mean, t-test, F-test (One-way ANOVA) hypothesis testing, and Multiple Regression Analysis.

The results of the study found that most of them were female, aged 21-30 years, single, had an education level lower than a bachelor's degree, had an income lower than 15,001, were in the production department, and had worked for to 1-5 years. The overall warehouse management of Capric (Thailand) Co. Ltd., was found to be of moderate importance. The overall warehouse management efficiency of Capric (Thailand) Co. Ltd. was found to have a moderate efficiency. Personal data showed that differences were statistically significant at the 0.05 level in terms of receiving goods and delivering goods. In terms of storage and maintenance, there were statistically significant effects on the warehouse management efficiency of Cabric (Thailand) Co., Ltd. at a level of 0.05. Recommendations from the study results: Executives should consider all four aspects as follows: 1) In terms of receiving goods, warehouse executives should focus on recording goods into the system, checking the barcode stickers for accuracy and clarity, checking the condition of the goods for accuracy and completeness, boxes that are not dented or torn, counting the number of goods for accuracy according to the documents, and creating a schedule for receiving goods in advance to increase disbursement efficiency, deliver goods quickly, save time, reduce errors, and reduce costs. 2) In terms of storing goods, warehouse executives should manage the storage of goods by separating them according to the type of goods, arranging, and disbursing goods, considering the rotation cycle of goods according to the FIFO characteristics. Slow-moving goods should be stored in the innermost zone, medium-moving goods in the middle zone, and fast-moving goods near the door for easy distribution. Provide storage facilities that are ready and sufficient. In addition, there should be a notification of the expired goods. 3) In terms of maintenance, warehouse executives should check goods periodically, dispose expired or deteriorated goods appropriately, control the temperature of the storage place to suit the type of goods, separate the types of goods, and store them appropriately at the temperature of the goods to reduce the cost of goods deteriorating from weather conditions. There are safety measures for the storage of goods. 4) In terms of delivering goods, warehouse managers should have documents identifying the goods to be distributed to each customer, prepare equipment for packing

the goods to be delivered that are appropriate for the type of goods, specify a definite time and place for distributing goods, divide zones for distributing goods separately according to customer groups, and use materials to prevent goods from falling off pallets during movement.

Keywords— Warehouse, Management Cabrick.

I. BACKGROUND AND SIGNIFICANCE OF THE STUDY

Currently, logistics systems and management play a very important role in the business cycle. Therefore, the logistics system covers many departments, starting from the procurement of raw materials, delivery of raw materials, receipt of raw materials, storage of raw materials, production, storage of finished products, and transportation and delivery of finished products to end customers. Because competition is high today, if any department can manage the logistics system to achieve the highest efficiency, it will also have a high competitive advantage. (Pumchitamorn, Et al 2020)

Warehouse management planning is a part of the work strategy that is important to help a business succeed and be able to compete with competitors in business competition. A warehouse is the most important part of the logistics system in warehouse management, and must have many important components. In addition, the complexity requires quality management, which requires efficient system and professional personnel to work systematically and efficiently. Therefore, warehouse management is crucial in the business sector. Management duties include moving, storing, arranging the layout of the warehouse, and selecting equipment for use in the warehouse. (Smith,1998)

The inventory management that every company should consider is the storage of raw materials in the least amount. The products must be sufficient for production or export needs, and ready for use in production or export at all times. Inventory management consists of the processes of procuring inventory, planning, control, production, inventory control, inventory storage, and inventory movement. (Wild, 2017) Currently, the business sector has realized the importance of logistics cost management, which is embedded in all business and industrial activities. Consequently, logistics operations have become increasingly developed and complex. This strategy drives businesses to be competitive. Therefore, the above issues have resulted in the popularity of third-party logistics providers, who

are experts in integrated logistics, and have led to the trend of using premium warehouse services, which are warehouses for rent that are designed and constructed to support integrated logistics systems. (Stainer, 1997) Additionally, some large retailers with the potential to operate integrated logistics have expanded their operations to construct premium warehouses for their own businesses. This has resulted in the structure of the Thai warehouse business gradually changing towards premium warehouse operations, which is highly competitive in terms of management, both in terms of work processes that need to be developed and improved to be modern by cutting out work steps that are of no value to customers in order to meet the needs of service users. The management of goods in the warehouse and the delivery of goods to customers have problems with delays. (Krittanaithip, Et al 2013) The main problems are mostly problems with the unorganized arrangement of goods and the lack of tools to help search for goods in the warehouse. Uncontrolled delivery results in errors in the delivery of goods. From the various issues mentioned, the consequences are delays in work due to taking too long to search for goods, possibility of losing sales, and reduced customer satisfaction. It also affects the ability to compete, which reflects the efficiency of work that needs to be improved.

Kabrik (Thailand) Co., Ltd., founded by Ms. Thiraprapa Chumsuwan, started its business on November 25, 1998. It is engaged in the production and distribution of adhesive tapes and various stationery products with the aim of producing products of the highest quality by selecting a variety of quality raw materials and using new and modern machinery that meets the standards. At present, a warehouse is considered an important tool that helps businesses achieve their goals.

Therefore, measuring the efficiency of the warehouse accurately will help benefit warehouse management because entrepreneurs will be able to know which variables affect the efficiency of the warehouse. Planning warehouse management is an important part of the work strategy that will help a business succeed and compete with competitors.

However, the company still faces warehouse management problems. Inventory counting does not correspond to the actual amount of goods withdrawn and paid, causing problems in the inventory withdrawal and payment processes, which affects the production process and delivery of goods to customers. From the above information, the researcher is interested in studying the warehouse management of Kabrik (Thailand) Co., Ltd. in order to use the results from the study as a guideline for improving and developing warehouse management to be ready to provide services to related individuals or agencies with increased efficiency.

II. OBJECTIVE OF THE STUDY

Warehouse management at Capric (Thailand) Co., Ltd. Efficiency of warehouse management at Capric (Thailand) Co. Ltd.

A. Hypothesis of the study

Different personal data have different levels of warehouse management efficiency for Capric Co. Ltd. (Thailand).

Warehouse management influences the warehouse management efficiency of Capric Co., Ltd. (Thailand).

B. Scope of the Study

Content Scope: The study of the warehouse management of Capric (Thailand) Co., Ltd. relies on a warehouse management approach consisting of receiving, storing, maintaining, and delivering goods, and the efficiency theory of Peterson and Plowman (Peterson & Plowman, 1953), which consists of work quality, quantity, time, and cost.

The population and sample scope used in this study were employees who used Capric Co. 's warehouse services. Ltd. (Thailand). In this case, the exact population is known, numbering 113, by selecting a sample of 90.

III. CONCEPTS, THEORIES AND RELATED RESEARCH

Warehouse management was conducted by Capric (Thailand) Co., Ltd. Documents, concepts, theories, and related research were studied to determine the conceptual framework and guidelines for this study. Concepts of warehouse management: A warehouse is a place for placing, storing, resting, and distributing inventories. It may be called by other names, such as distribution centers, distribution centers, warehouses, storage rooms, storage rooms, parcel warehouses, liquid storage tanks, or bonded warehouses. Regardless of what is called, a warehouse has the same function: it is a place to store goods, raw materials, or various items to support various activities in the shipping process. A warehouse receives goods for sorting and distribution.

Warehouse management: A warehouse is a commercial building used to store goods that are waiting for transportation. Manufacturers, importers, exporters, wholesalers, transportation businesses, and customs use warehouses. Warehouses are typically large and wide ordinary buildings located in industrial areas. Inside the building, there is a slope for loading or unloading goods onto or off a truck. Sometimes, a warehouse is used to receive goods from

A. Goods Receiving

1. Goods Receiving Control are mostly the responsibility of the warehouse supervisor, who can control the flow of orders to avoid the concentration of goods received, and not affect other work areas. The form of goods received in the warehouse can be obtained from:

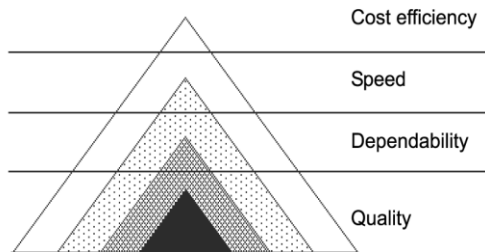
2. Suppliers of production factors. Goods are in the form of raw materials, components, and finished goods. The production unit receives goods from other factories far from the warehouse. The goods are in the form of finished goods for shipping and work in processes that must be stored until they are finished goods.

3. Preservation After storing the goods in the warehouse storage area, various maintenance measures must be implemented to prevent damage, loss or deterioration of the goods stored in the warehouse. 4. Goods Issuing The delivery or payment of goods to the recipient or the return of goods to the depositor. The delivery steps are as follows: (Hompehl, & Schmidt, (2008)

B. Efficiency Theory

Meaning of Efficiency)John D.Millet,1954) stated that efficiency means the results of work that create satisfaction and profit from work. Satisfaction refers to satisfaction in providing services to the public, such as providing equal services, fast and timely services, sufficient services, continuous services, and progressive services. (Millet, 1954)

)The Sand Cone Model)



Source: Ferdows and De Meyer (1990)

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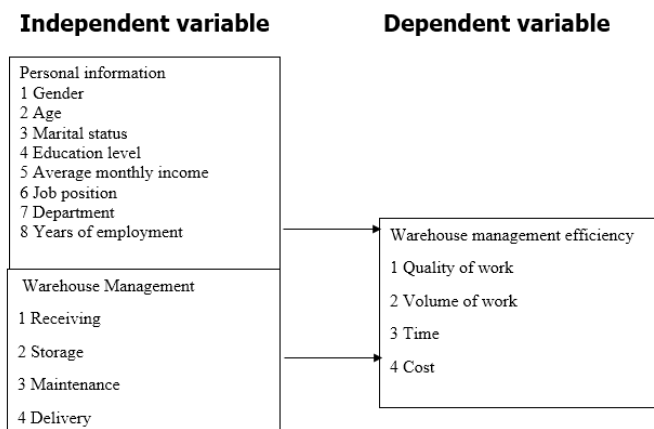
C. Peterson & Plowman's Efficiency Theory (1953)

Peterson and Plowman (Peterson & Plowman1953 cited in Orasa Phothong, 1994) provided an idea similar to the Sand Cone Model: Ferdows and De Meyer (1990) by summarizing efficiency in four points:

1. Quality of work (Quality) must be high, meaning that producers and users receive worthwhile benefits and are satisfied.
2. Quantity of work (quantity): The work that occurs must be in accordance with the expectations of the organization.
3. Time (Time) means the time used to perform the work must be in a manner that is correct according to the principles, appropriate for work and up-to-date.
4. The costs in all operations must be appropriate for the work and methods, meaning that the investment must be minimal and the profit must be maximum

D. Conceptual Framework

In the study of warehouse management of Capric (Thailand) Co., Ltd., the researcher used the concept of warehouse management and efficiency theory, summarized and integrated it into the conceptual framework of the study as follows:



IV. METHODOLOGY

The study of the warehouse management of Capric (Thailand) Co., Ltd. aims to study the warehouse management of Capric (Thailand) Co., Ltd., the efficiency level of the warehouse management of Capric (Thailand) Co., Ltd., compare the efficiency level of the warehouse management of Capric (Thailand) Co., Ltd. classified by personal information, and the warehouse management that affects the efficiency level of the warehouse. Capric (Thailand) Co., Ltd. determined the methodology for the study as follows:

A. Population and sample used in the study

The population used in the study is employees of Capric (Thailand) Co., Ltd., who use warehouse services, with a population of 113 people (data as of January 6, 2024). This study uses Taro Yamane's (Yamane, Taro, 1967:56) sample size calculation at the 95% confidence level as follows:

$$Formula n = N / (1 + Ne2)$$

n = sample size

N = number of population used in the study

e = acceptable error (Here it is set to 0.05)

$$Substitute n = 113 / (1 + 113(0.052)) n = 88.10$$

In the calculation, there was a sample group of 89 people. However, to prevent errors that could occur when answering the questionnaire, the data were incomplete. Therefore, the researcher used a sample group of 90 people, separated the details of the departments, and selected a sample for even distribution. The details are as follows.

Showing the number of sample groups of employees by department that use the warehouse

N	Affiliated agency	Population, sample group	sample group
1	Production Department	52	41
2	Warehouse and Logistics Department	48	38
3	Quality Assurance Department	9	8
4	Cost and Inventory Accounting Department	4	3
total		113	90

****Information from the Administration Division, Human Resources Division as of January 6, 2024.**

V. RESULTS OF THE STUDY

Warehouse management was conducted by Cabric (Thailand) Co., Ltd. The sample group was employees of Cabric (Thailand) Co., Ltd., who used warehouse services, with a population of 113 people. A total of 90 questionnaires were used for data collection, and 90 questionnaires were returned, accounting for 100 percent of the questionnaires. The efficiency level of warehouse management by Cabric Co. Ltd. (Thailand).

Warehouse Management	Std.					Test
	B	Error	Beta	t	Sig	
Constant	1.016	.234		4.335	*.001	
In terms of receiving goods	.084	.082	.110	31.017	.312	no
In terms of storage	.036	.118	.041	.302	.764	no
In terms of maintenance	.360	.130	.417	2.774	.007**	yes
In terms of maintenance	.191	.117	.239	1.629	.107	no

** Statistically significant at the .01 level (2-tailed).

Warehouse management, which influences the efficiency level of warehouse management of Capric (Thailand) Co., Ltd., found that the maintenance aspect has a statistically significant influence on the efficiency level of warehouse management of Capric (Thailand) Co., Ltd. at the .01 level.

VI. SUMMARY OF RESULTS, DISCUSSION OF RESULTS AND RECOMMENDATIONS

Summary The study on the warehouse management of Capric (Thailand) Co., Ltd. aimed to study the warehouse management of Capric (Thailand) Co., Ltd., the efficiency level of the warehouse management of Capric (Thailand) Co., Ltd., compare the efficiency level of the warehouse management of Capric (Thailand) Co., Ltd. classified by personal information, and the warehouse management that affects the efficiency level of the warehouse management of Capric (Thailand) Co., Ltd. by using 90 questionnaires as a tool for collecting data and using statistics for data analysis, namely percentage, mean, t-test (One-Way ANOVA and Multiple Regression Analysis). The data analysis results are summarized as follows:

A. Personal information

A study on the efficiency of warehouse management by Capric (Thailand) Co., Ltd. found that most of the respondents were female, aged 21-30, single, had an education level lower than a bachelor's degree, had an income lower than 15,001, were in the production department, and had worked for to 1-5 years.

Information on warehouse management by Cabric (Thailand) Co., Ltd.

From the study of information on the importance level of warehouse management of Cabric (Thailand) Co., Ltd., it was found that the overall picture is at a medium level of importance, ranked from most to least as follows: goods receipt, delivery, storage, and maintenance, with the following details: Goods receipt The results of the study found that it was at a high level of importance, with the following details: five items at a high level of importance, including recording goods into the system, checking the barcode sticker of the goods to be correct and clear, checking the condition of the goods to be correct and complete, boxes not dented or torn, counting the number of goods to be correct according to the documents, and having a

good receipt schedule in advance.

Goods storage The results of the study found that it was at a medium level of importance, with the following details: one item at a high level of importance: storing goods, separated by type and characteristics of goods, at a medium level of importance, five items: storing with consideration for frequent goods movement, arranging and disbursing goods on a first-in, first-out basis, having sufficient and ready storage equipment, preparing shelves/storage space, and having notifications of expired goods, respectively.

Maintenance The results of the study found that it was at a moderate level of importance, with the following details: It was at a moderate level of importance, with five items consisting of steps and services in storing goods, places and equipment for transporting materials in storage, frequency of checking goods, measures and safety in storing goods, and modern tools to prevent ants and insects, respectively. 5.1.2.4 In terms of product delivery, the results of the study found that it was at a moderate level of importance, with the following details: five items consisting of documents indicating the goods to be distributed to each customer, equipment for packing the goods to be delivered that was appropriate for the type of goods, specifying a specific time and place for product distribution, dividing zones for distributing goods to be distributed separately by customer groups, and using materials to prevent goods from falling off the pallet during movement

Information on efficiency level of warehouse management by Capric (Thailand) Co., Ltd.

From the study of the efficiency level of warehouse management by Capric (Thailand) Co., Ltd., the overall efficiency is at a moderate level, ranked from highest to lowest as follows: quality of work, quantity of work, time, and cost. The details are as follows:

Quality of work The results of the study found that the average value of the efficiency level of warehouse management of Capric (Thailand) Co., Ltd., in terms of quality of work, is at a very efficient level. The details are as follows: four items are at a very efficient level, including checking the number of products to be correct according to the documents, recording products into the system, checking the condition of the products to be correct and complete, boxes not dented or torn, and having a schedule for receiving products in advance, and one item is at a moderate efficiency level, which checks the barcode stickers

of the products to be correct and clear in order.

Quantity of work The results of the study found that the average value of the efficiency level of warehouse management of Capric (Thailand) Co., Ltd., in terms of quantity of work, is at a moderate efficiency level. The details are as follows. Six items were at a moderate efficiency level, including storing products by type and type of products, and having storage facilities that were ready and sufficient. Storage with consideration for the frequent movement of goods, arrangement, and withdrawal of goods on a first-in, first-out basis, preparation of shelves/storage areas is ready and sufficient, and notification of expired goods is provided in order.

In terms of time, the results of the study found that the average value of the overall efficiency of the warehouse management of Cabric (Thailand) Co., Ltd. in terms of time is at a moderate efficiency level, with details as follows: it is at a moderate efficiency level in five items, including location and equipment for material handling in storage, measures and safety in storing goods, steps and services in storing goods, having modern tools to prevent ants and insects, and frequency of checking goods.

In terms of expenses, the results of the study found that the average value of the overall efficiency of the warehouse management of Cabric (Thailand) Co., Ltd. in terms of expenses is at a moderate efficiency level, with details as follows: It is at a moderate efficiency level in 5 items, including: Documents indicating the goods to be distributed to each customer, dividing zones for distributing goods to be distributed separately by customer groups, equipment for packing goods to be delivered is appropriate for the type of goods, having a specific time and place for distributing goods, and using materials to prevent goods from falling off the pallet during movement.

Suggestions from the study

From the study, the researcher offers the following suggestions for increasing the efficiency of warehouse management at Cabric (Thailand) Co., Ltd.: In terms of receiving goods, warehouse managers should focus on recording goods into the system, checking the barcode stickers of the goods to be accurate and clear, checking the condition of the goods to be correct and complete, checking boxes not dented or torn, checking the number of goods to be correct according to the documents, and creating a schedule for receiving goods in advance to increase efficiency in disbursement, deliver goods quickly, save time, reduce errors, and reduce costs.

In terms of storing goods, warehouse managers should manage the storage of goods by separating them according to the type of goods, arranging and disbursing goods, and considering the rotation cycle of goods according to the FIFO method. Slow-moving goods should be stored in the innermost zone, medium-moving goods in the middle zone, and fast-moving goods near the door for easy distribution. Provide storage facilities that are ready and sufficient. And have notifications of expired goods

In terms of maintenance, warehouse managers should check goods periodically, dispose of expired or deteriorated goods appropriately, control the temperature of the storage location to suit the type of goods, separate the types of goods, store them appropriately to reduce the cost of goods deteriorating from weather conditions, and have measures and safety in storing goods.

In terms of delivering goods, warehouse managers should have a document indicating the products to be distributed to each customer. Prepare packaging equipment to be delivered that is appropriate for the type of product. Set a specific time and place for the product distribution. The product is divided into zones for distribution according to customer groups. Use materials to prevent products from falling off the pallet during movement.

Recommendations for future studies

The use of technology should be studied by Capric (Thailand) Co., Ltd. to increase the efficiency of warehouse management.

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