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Supply chain management in the management process distribution and transportation

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Abstract
Supply Chain Management includes all activities starting from the material originating from the supplier, then the material is processed into semi-finished or finished products until the product is distributed to customers or consumers. To find out the performance of the company's Supply Chain, measurements are needed. From these measurements, results will be obtained, so that it can be seen whether the company's Supply Chain performance is good or not and can find weaknesses in the existing system to be fixed. With a good supply chain performance, the company's performance will be more focused and provide benefits, both for companies, suppliers and consumers.
Good transportation and distribution performance is determined by the performance of production procurement to CRM (Customer Relationship Management). In addition, the management must determine the route and delivery schedule. One of the most important decisions in distribution management is to determine the schedule and route from one location to another. The delivery schedule and route to be taken by each type of vehicle will greatly affect the shipping costs. The solution in distributing goods is to use the method of transportation, with a minimum cost allocation of goods distribution that can run as effectively as possible. Distribution management must schedule and route properly, so as to minimize the cost of sending goods or products to consumers.

Keywords: Supply Chain Management, Transportation and Distribution

Introduction
Competition is very tight in the present era, very demanding a quality product, on time delivery, fast service, satisfactory after sales and affordable prices. In this case, company management excellence is needed to manage an organization or business with the sharpness of competitiveness that must be built in a structured and systematic manner.
Supply Chain Management (SCM) is one of the best solutions to increase competitive advantage (Zabidi, 2001). The competitive advantage of SCM is how the company is able to manage the flow of goods or products in a supply chain (Watanabe, 2001). The main objectives of SCM are delivery or delivery of products in a timely manner, reducing time and costs in fulfilling needs, centralizing planning and distribution activities, and managing good inventory management between suppliers (vendors) and consumers (buyers) (Pujawan, 2005). Mulyadi and Setyawan (2001) state that SCM provides a structure that allows the process and implementation of plans to run and provides various systems to carry out the process and implementation of planning. SCM can make company activities more structured, coordinated, scheduled.
In a study conducted by Jumaili and Gudono (2006), empirical evidence is provided regarding the relationship between SCM as management control system factors on quality performance, the relationship between quality performance and financial performance and company performance. Jumaili and Gudono (2006) found that SCM can reduce existing costs and increase the quality and performance of the company. From the previous research, it can be seen that SCM affects the company's performance over all its industrial processes, thereby increasing efficiency both in time and cost.
Transportation and distribution are the main components in Supply Chain Management. Supply Chain Management itself includes all activities from the supplier, then the material will be processed into semi-finished or finished products until the product is distributed to consumers. To understand the performance of a company's Supply Chain, an evaluation is needed. Through this evaluation, results can be obtained, so that it can be seen the company's Supply Chain performance. With good Supply Chain performance, company performance will be more concentrated and bring benefits to companies, suppliers and consumers. SCM (Supply Chain Management) itself is management and supervision, starting from information on raw materials, payments, suppliers to producers. Every company as an organization must be able to implement a unique Supply Chain model to connect processes from suppliers and customers. And can distribute goods or products using transportation methods.

The rapid development of the Internet industry in the 4.0 era has provided online purchase services and sent them directly to customers' doorsteps, especially in the era of the Covid-19 pandemic which has plagued the past year which has made distribution and transportation activities increasingly important, and the cost of components of this activity to be higher up in the supply chain. Delivery or distribution of a product to customers must be on time is one of several customer satisfaction in receiving our services. The problem that often arises in making deliveries is that usually the number of goods distributed from each location of the request varies greatly. With the difference in the delivery of these goods, it will indirectly result in different shipping costs. In this case, the role of management is needed in regulating the product distribution process so that the demand for each goal is fulfilled but at a minimum cost. The trend of increasing transportation costs needs planning in the distribution of goods so that the distribution costs incurred can be optimal.

Things that need to be considered when sending goods or products to consumers is arranging schedules and routes. Distribution management must pay more attention to making schedules and routes for delivery of goods. Why is that, because this will affect the shipping cost. Not only has an effect on costs, it can also determine whether or not the goods delivered will arrive in the hands of customers on time or on time.

Transportation and distribution management is the arrangement of the delivery system of goods using transportation means so that the distribution process of goods becomes more orderly and on time so that there are no delays in delivery and the quality of goods is maintained in the hands of consumers. To achieve this goal, the shipping and transportation processes work synergistically. Good transportation and distribution performance is determined by the performance of production procurement to CRM (Customer Relationship Management).

Distribution is one of the most important aspects in a company, namely delivering products to consumers. Thus distribution management must be good to be efficient because it will have an impact on distribution costs (Karo, 2015). Distribution is closely related to adequate transportation activities. Both allow the product to move from the factory to the destination (consumer) in a timely manner in an amount according to good conditions.

The location of a factory, warehouse or distribution center is a strategic location with considerable cost implications, almost all companies that have more than one factory / warehouse or distribution center will consider and evaluate existing locations to meet demand at several different locations or points, so that to make rational decisions a number of techniques are needed to help make decisions (Heizer & Render, 2009). One of the decision making techniques in this case is transportation modeling. According to Heizer & Render (2009), transportation modeling looks for the cheapest way to deliver goods from various sources to various destinations. The source referred to here can be a factory, warehouse, or other place where goods are delivered. Several distribution center locations that have to meet multiple demand locations will generate different costs for each distribution in different locations (Heizer & Render, 2009). So that distribution costs tend to increase every year. To optimize (minimize) distribution costs, the transportation method is one method that can be used (Irwan & Yuniral, 2016). Taha (2008: 203) states that the purpose of the transportation method is to determine the amount that must be sent from each source or to each destination in such a way that the total cost of transportation can be minimized.

Review of literatur

Supply Chain

Pujawan (2010: 5) states that a supply chain is a network of companies that work together to create and deliver a product to end users. These companies usually include suppliers, factories, distributors, shops or retailers, as well as supporting companies such as logistics service companies. Supply chain involves an ongoing relationship regarding goods, money and information. The sequence of business processes and information that products provide services from suppliers through manufacturing and distribution to end customers. If translated, supply chain is a series of business processes and information in creating products, namely from suppliers to factories and distributed to the last consumer.

Supply Chain Management

Levi (2003) defines supply chain management as an approach used to achieve efficient integration of suppliers, manufacturers, distributors, retailers and customers. This means that goods can be produced in the right amount, at the right time, and in the right place with the aim of achieving a minimum overall system cost and also achieving the desired service level.

Managing Supply Chains

For an entrepreneur, according to Pujawan (2005) supply chain management consists of five areas, namely;

1. Product development, conducts market research and product development by involving suppliers, distributors and retailers.
2. Procurement, the activities of procuring materials and raw materials by selecting suppliers, evaluating supplier performance, monitoring supply chain risks, and building and maintaining relationships with suppliers.
3. Planning and control, demand forecasting activities, capacity planning, production planning and supply.
4. Production and quality control, activities to carry out production and quality control.
5. Distribution, distribution network planning activities, delivery scheduling, maintaining relationships with delivery service companies, monitoring customer service levels.

Supply Chain Management (SCM) components

There are five main components in Supply Chain Management that must be considered, namely.

1. Production

The goal is to produce what the market wants, at the right time with sufficient production volume. In order to achieve the goal, it is necessary to consider appropriate limitations such as the desired capacity and quality level and to take into account other important functions such as workload capacity, equipment maintenance, and so on.

2. Inventory

What inventory levels of various SKUs must be stocked at various stages throughout the supply chain? The inventory level acts as a buffer and saves the business from fluctuations in demand.

3. Location

It is along the supply chain that will be a variety of facilities. Regarding other important decision making will be the optimal location for various facilities, warehouses and

storage. Other decisions relate to establishing new facilities.

4. Transportation

The need to move inventory from one point to another throughout the supply chain is an important function in supply chain management that requires another important issue in decision making. The question is how should goods be moved and what type of transportation should be chosen? The answer can vary for different types of products, as well as for market types (which are geographically selected and differ according to infrastructure equipment).

5. Information

This section focuses more on making decisions about the level of need for data collection and data sharing. There are good things to do in making information sharing but also come with many associated risks. This is also true of data collection, large databases which lead to more informed decisions but can also be expensive.

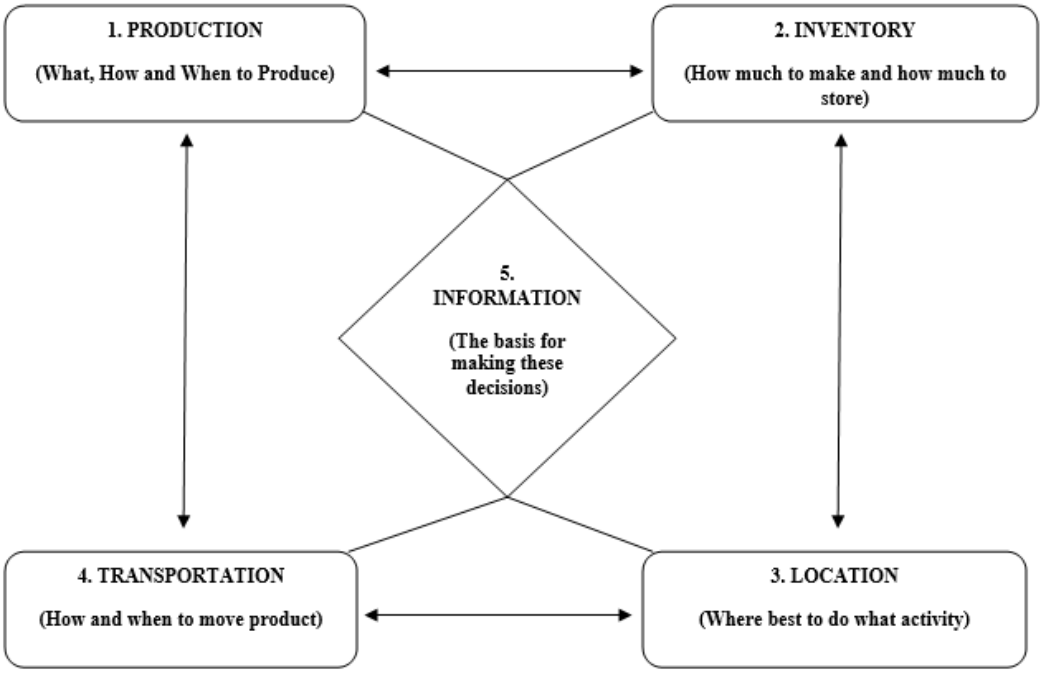

Fig 1: Main Components of Supply Chain Management

Distribution and transportation management

Traditionally, the distribution network is usually considered a series of tangible facilities, such as warehouses, transportation facilities, and the operation of each of these facilities tends to be separate from one another. Distribution and transportation activities are becoming increasingly important for supply chain development.

The distribution and transportation management that is part of the Supply Chain is known by various names. Some companies use the term as logistics management, some companies also use the term physical distribution (physical distribution). Whatever it is called, in general, the function of distribution and transportation management is basically to deliver goods or products from the location where the product is produced to where the product will be used by customers.

Transportation and distribution management includes physical activities that we can see in plain view, such as storing and sending products, as well as non-physical functions in the form of information processing and service activities to customers. Where this function aims to create good service to customers which can be seen from the level of service achieved, speed of delivery, perfection of goods to the hands of customers, as well as after-sales service that satisfies customers.

Distribution network optimization

Distribution includes all aspects of activities in product delivery to consumers. Basically, distribution is part of material handling, because it is the movement of material at any time and every location or every place.

There are several problems commonly faced in distribution related to the optimization of distribution networks, which are as follows.

1. **Warehouse location**
   The location of the warehouse greatly determines the activities in the distribution of the product, so that the product can be received by consumers on time. The main purpose of determining the warehouse location is to minimize the distance, because the warehouse location can be determined according to the company's needs.

2. **Determination of routes and delivery schedule**
   Determination of routes and delivery schedules is no less important than determining the location of the building. One of the most important decisions in distribution management is to determine the schedule and route from one location to another. Why is that, because the delivery schedule and route to be taken by each type of vehicle will greatly affect shipping costs. Therefore distribution management must schedule and route properly, so as to minimize the cost of sending goods or products into the hands of consumers.

Transportation management

Transportation Management is the process of moving goods and people from their place of origin to their destination. The transportation process is a movement from the place of origin (the place where the initial transportation activity starts), to the destination (the place where the transportation activity ends). There are several factors that influence the occurrence

of transportation, namely the availability of cargo being transported, the availability of vehicles as means of transportation, and the existence of roads that can be traversed (Nasution, 1996). Transportation is the main key in the supply chain, because products are rarely produced and consumed in the same place / location. Transportation is a significant cost component of most expenditures (Nasution, 1996).

One solution in distributing goods is to use the transportation method, so that the distribution of goods runs as effectively as possible with a minimum allocation of costs. Therefore distribution management must schedule and route properly, so as to minimize the cost of sending goods or products into the hands of consumers.

Method of research

This research was conducted by using descriptive qualitative research. Descriptive qualitative research is a research method used to examine the condition of natural objects, where the researcher is a key instrument, data collection techniques are carried out in combination, the data analysis is inductive and the results of qualitative research emphasize meaning rather than generalization (Sugiyono, 2014: 24).

Conclusion

Supply Chain a network of companies that work together to create and deliver a product to the end user. These companies usually include suppliers, factories, distributors, shops or retailers, as well as supporting companies such as logistics service companies. Supply chain involves an ongoing relationship regarding goods, money and information. There were five components in supply chain management, namely, production, inventory, location, transportation and information.

Traditionally, distribution networks were usually considered as a series of tangible facilities, such as warehouses, transportation facilities, and the operation of each of these facilities tends to be separate from one another. Distribution and transportation activities were becoming increasingly important for supply chain development. The development of the internet industry is advancing rapidly, even before the era of technology 4.0 already providing online purchase services and being able to send them directly to customers' doorsteps. During the Covid-19 pandemic, which was endemic in the past year, distribution and transportation activities have become increasingly important.

In this case the distribution management must be able to think broadly in arranging or determining schedules and routes from one location to another. Why is that, because the delivery schedule and route to be taken by each type of vehicle will greatly affect shipping costs. This method is done so that customers or consumers can receive the ordered product and receive it on time.

Transportation and distribution were the main components in Supply Chain Management. Supply Chain Management itself includes all activities from the supplier, then the material will be processed into semi-finished or finished products until the product is distributed to consumers. One solution in distributing goods is to use the transportation method, so that the distribution of goods runs as effectively as possible with a minimum allocation of costs. Therefore distribution management must schedule and route properly, so as to minimize the cost of sending goods or products into the hands of consumers.

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