



International Journal of Multidisciplinary Research and Growth Evaluation



International Journal of Multidisciplinary Research and Growth Evaluation

ISSN: 2582-7138

Received: 22-12-2021; Accepted: 25-01-2021

www.allmultidisciplinaryjournal.com

Volume 2; Issue 1; January-February 2021; Page No. 322-324

Management material as a core of supply chain management

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Abstract

Supply chain management is a mechanism that coordinates or connects the parties concerned in the process of changing a raw material into a product. Supply chain management is a particularly important field in the business world because it is directly connected to company competitiveness. The most basic objective of supply chain management is to align demand with existing supply. The function of supply chain management is to convert raw materials into finished products that can be supplied to end consumers. Materials

management is a core supply chain function and includes supply chain planning and supply chain execution capabilities. Specifically, materials management is the capability firms use to plan total material requirements. The material requirements are communicated to procurement and other function for sourcing. This study aims what is supply chain management and how to develop material management.

Keywords: supply chain and management, material management

1. Introduction

Supply chain management (SCM) is the active management of supply chain activities to maximize customer value and achieve a sustainable competitive advantage. It represents a conscious effort by the supply chain firms to develop and run supply chains in the most effective and efficient ways possible. Supply chain activities cover everything from product development, sourcing, production, and logistics, as well the information systems needed to coordinate these activities. According to Levi, *et al* (2000) ^[1] defines Supply Chain Management as an approach used to achieve efficient integration of suppliers, manufacturers, distributors, retailers, and customers. This means that goods are produced in the right quantity, 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. Indrajit and Djokopranoto (2002) ^[5], supply chain management is expansion and development of the concept and meaning of logistics management, which plays a role in regulate the flow of goods between companies and are increasingly concerned with matters required by the customer. Lestari (2009) ^[6] revealed that the company's relationship with suppliers is the most collaborative strong in the context of the value chain or supply chain. Suppliers have a role to provide materials or input materials used by the company. The material provided by the vendor will greatly affect the quality of the goods to be produced. Therefore, it is hoped that applying this material management can create long-term relationships between the company and the vendor.

2. Literature review

Now, there are many companies who want large profits but are still constrained by the delivery of their goods. In supply chain management, companies are given directions on how to build a good pathway between producers and consumers to improve time and goods efficiency. On the other hand, it can also make company activities much faster and reach more consumers. According to Pujawan and Mahendrawathi (2010) ^[2] supply chain is a network companies that work together to create and deliver a product into the hands of the end user. Companies these typically include suppliers, manufacturers, distributors, shops or retailers, as well supporting companies such as logistics service companies. While according to Masudin (2017) ^[3] defines supply chain management of a flow of materials and information as supporting facilities between supply chains, such as with suppliers (suppliers), vendors (sellers), manufacturing plants (product planning), assembly plants (product integration planning), warehouse facilities (warehousing facilities), distribution center (distribution center), and retailers (retailers).

Apart from that supply chain also means the integration and coordination of "key business processes", starting from the supplier to the final user through a distribution network provide added value to the availability of goods or services to customer.

Within the framework of the SCM (supply chain management) provide general description of the importance of the management component to its running all business processes that can be integrated and managed, thus this component will reflect a proper management.

There is the eight key business processes that will form the core of the supply chain management, namely Customer Relationship management, Customer Service Management, Demand management (management needs), Order Fulfillment, Manufacturing Flow Management, Supplier Relationship Management, Product Development and commercialization, Returns management (management improvement). In addition there are eight key business processes that run the chain supply from the supplier to the last user and will cross functional networks that exist in each company. Functional network contained in the company includes logistics, marketing, finance, research and production, and purchasing. Supply Chain Management has evolved a lot which can be described in 4 (four) stages as follows (Indrajit and Djokopranoto, 2002) ^[5]:

1. Stage 1, In stage 1 there is a kind of solitude and the interdependence of the production function and logistic functions. They run their own independent programs each other (incomplete isolation). Example is a production department that only thinks about how to make things fit with quality and that has been determined, and do not want to think about the accumulation of inventory and use of space at all warehouse that incurs inventory costs namely the cost of saving.
2. Stage 2, In stage 2 companies have started to realize the importance of integrated planning although in a still limited field, namely among internal functions closest proximity, for example the production of inventory control and other functional integration.
3. Stage 3, In stage 3 integration of planning and supervision of all related functions in one company (internal integration).
4. Stage 4, Stage 4 describes the actual stage of supply chain integration, namely total integration in planning concepts, implementation, and supervision (management) which has been achieved in stage 3 and forwarded to upstreams namely suppliers and downstreams get to the customer.

Materials management is a core supply chain function and includes supply chain planning and supply chain execution capabilities. Specifically, materials management is the capability firms use to plan total material requirements. The material requirements are communicated to procurement and other functions for sourcing. Materials management is also responsible for determining the amount of material to be deployed at each stocking location across the supply chain, establishing material replenishment plans, determining inventory levels to hold for each type of inventory (raw material, WIP, finished goods), and communicating information regarding material needs throughout the extended supply chain. Typical roles in Materials Management include: Materials Manager, Inventory Control Manager, Inventory Analyst, Material Planner, Expediter and emerging hybrid roles like "buyer planner". The primary business objective of Materials Management is assured

supply of material, optimum inventory levels and minimum deviation between planned and actual results. Supplier evaluation is carried out if it is for the same material can be obtained over one alternative supplier. There are at least three criteria in evaluating suppliers, namely: general condition of suppliers, service conditions, and material conditions. Several examples of indicators for each supplier evaluation criteria are as follows (Gaspersz, 2002):

1. The general state of the supplier

- Size or production capacity
- Financial conditions
- Operational conditions
- Research and design facilities
- Geographical location
- Trade relations between industries

2. The state of service

- Time of delivery of materials
- Conditions of arrival of materials
- Quantity of rejected orders
- Handling of complaints from buyers
- Technical assistance provided
- Price information provided

3. Condition of material

- Quality of material
- Uniformity of material
- Guarantee from supplier
- The state of packing (wrapping)

Based on the three categories above, it can be concluded that supplier selection is carried out in detail that want the results is the best product. Material management is a coordinating system activities to plan and control volume and time towards material procurement through receipt / acquisition, change of form and displacement of raw materials, work in progress and materials so Saputra (2004). In every construction project, material procurement is a part most importantly, because material resources can absorb 50% -70% of the cost projects Ervianto (2004) ^[4]. Hence, the use of management techniques good and appropriate for buying, storing, distributing and calculating construction material is very important so that the flow of material on the project can be running smoothly.

3. Result and Discussion

Supply chain management is an activity that makes company activities more focused and organized. Material management is part of supply chain management. This aims to create a flow for companies that want to buy supplies from their vendors by taking several steps. The first to make multiple vendor selections. if a vendor has been selected, the company will provide the number of requests for goods, then the vendor will organize a request for goods in accordance with the company's request then make delivery, after arriving the company will recheck the goods that have been received by the vendor and when it is received well the vendor will send an invoice to the company and the company will make payments according to the agreed agreement. This indicates that there is a flow from the beginning when the company wants to buy goods for its production activities by carrying out supply chain management which is expected to make company activities more organized.

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