Stock management strategy

Iveta Velichkova
Dimitar A. Tsenov Academy of Economics, Svishov, Bulgaria
iveta_ivanova1991@abv.bg

Abstract: *The set of methods and rules in the process of providing raw materials can be considered a strategy for stock management. Each strategy is associated with specific and expected costs. Still, optimally, we can call that strategy that, under the given conditions, leads to minimal expenses related to the material provision of the studied system. Part of the stock management process is establishing the timing of the deliveries, the necessary volumes and the distribution of the incoming lots to the various warehouses and units. The search for optimal strategies is subject to the theory of optimal stock management. This makes it possible to release significant funds frozen in the form of stocks, which leads to increased efficiency of the material resources used. The optimal inventory management strategy and flexibility also lead to improved production processes and reduced and excluded possible interruptions caused by lack or shortage of materials. The stock management process influences the planning, forecasting, and fulfilment of production needs and orders.*

The elements of the business system described so far, in which raw materials, materials and their stocks have a significant impact, show the importance of the stock management strategy of each economic unit. That the chosen and functioning system is optimal is a substantial part of the overall success in any enterprise or other form of business process implementation.

Keywords*: MATERIALS, STOCK, OPTIMIZATION, EFFICIENCY, STRATEGY, COSTS, BENEFITS*

1. Introduction

Stock management is one of the most critical logistics activities, influencing the rest of the logistics and management activities of the company. By their very nature, inventories are manufactured products that are fit for use. Still, they are temporarily not involved in consumption but are stored to ensure a continuous production and delivery process. Material stocks in companies are formed for various reasons, such as:

- Producing a larger quantity of products that are expected to be sold over a longer period to reduce production costs.
- Purchase of larger quantities of raw materials and materials due to a discount on the price.
- Use of price discounts for transporting larger quantities of raw materials.
- Created warranty stocks due to uncertainty in future supplies of raw materials and materials needed to produce products.
- Expected a delay in the supply of raw materials and ordered a more significant quantity so as not to interrupt the production process.
- Seasonality of raw materials and materials that are used in production and stocking in larger quantities.
- Speculative pricing.
- Creation of the so-called promotional stock due to the company's planned promotional campaigns to sell products and the need for ready-made products to meet increased demand.

Stock management in companies is carried out by analyzing various indicators, among which the size of material stocks at a particular moment and the average size of stocks are of primary importance [1]. Point-in-time inventory analysis measures the amount of inventory in a company on a specific day, week, month, or year to assess a company's ability to produce products and fulfil customer orders. The average stock is calculated as the arithmetic mean of the stock at a certain point in time. Relative metrics related to inventory analysis, measuring the amount of inventory using absolute metrics for inventory, sales volume, and product consumption [7]. Such an indicator is inventory turnover. The company's stock management approaches are determined depending on the demand for products produced by the company, which determines the demand for material stocks necessary for the implementation of production and performance of the activity to achieve the defined short-term and long-term development goals.

2. Specificity of stock management strategy

2.1. Nature of stock

Stock is part of the assets of enterprises from which they can participate both once and repeatedly in the production of goods or the provision of services, transferring their value to the cost price of the manufactured product/provided service. As assets, inventories are held for sale in the ordinary course of business, being in the process of production for such sale, in the form of materials or stocks consumed in the production process or the provision of services [4]. Stock can take different forms, such as materials acquired primarily through purchase and intended primarily for input into the production process to produce output or services. When the enterprise considers this, it can also be subject to direct sales. Material stocks can also be in the form of production, created because of a production process in the enterprise and intended for sale; goods acquired mainly by purchase and intended for sale; work-in-progress, representing a set of costs from which output is expected to be produced; investment in inventory – tangible assets acquired for investment purposes and not for use [8].

2.2. Need for stock management strategy

In each enterprise, material flows pass through all the chain links, which in turn are subdivided into three additional ones. The first chain covers the movement of raw materials from suppliers to the manufacturing plant. The second chain includes the logistics units in the enterprise itself, and the third - is the finished product from the manufacturing enterprise to its customers. The information flow between the units in the logistics process is two-way. Various types of information are exchanged between them. Information is obtained from customers about the expected quantity demanded and the sales that the enterprise can realize within a certain period. For its part, the company sends its existing and potential customers offers and information about the production it can produce for this period. Based on the results, the suppliers are provided with information about the need for a specific type of raw materials and materials that must be delivered [1]. The commercial-practical relationship characteristics of the participants within the macro-logistics process determine the financial flow. The financial flow is in the opposite direction to the material flow. The specified types of flows are carried out from the place of loading of material flows to the end users, and in various cases, there is also a reverse movement, which is back along the supply path. This reverse movement defines reverse logistics. Information flows, because of which movement of material flows is achieved, are extremely important for the implementation of logistics. The information flows in logistics are provided by monitoring, counting, and measuring facts transferred on different media. In its essence, stock management strategy is a system of approaches methodology principles for the planning, control and management of production, transport, storage and other tangible and intangible operations related to the process of supplying raw materials, materials, components for embedding and others to the enterprise; their storage and movement to workplaces; the movement of intermediate products between them; delivery to warehouses for finished products; the delivery of finished products to end customers and users by their needs and requirements; the transmission, storage and processing of the relevant information. The need for a stock management strategy is determined by the need to have a process of managing the movement and storage of items of work, finished products, information and related cash payments to suppliers, transport companies, etc., on the one hand, and cash receipts from customers of the enterprise, on the other. The use of stock management strategy allows for predicting the needs and requests of customers; acquiring the capital, materials, people, technology, and information necessary to meet those needs and demands; optimizing the network producing goods and services to meet customer demands; and using the network to fulfil customer requests promptly [4] Stock management strategy is the implementation and integrated management of material and related flows from their loading point through all phases and stages of movement to end users to ensure the necessary level of customer service with minimum costs. In the implementation of logistics, many activities are included through which the movement of material flows is achieved. In the processes of stock management strategy, suppliers, transport companies, production companies, customers of the company and all its personnel are involved - material flows, information flows and financial flows flow between all participants in the stock management strategy [6]

2.3. Effectiveness of stock management strategy

The organization of the stock management strategy is influenced by various factors, depending on the tasks that need to be solved, namely financial optimization, in terms of the provision of materials and coordination with other logistics activities, as well as researching the market for the supply of goods, purchase and storage of the goods, as well as their storage and transportation [2] A reduction in total costs should be achieved by reducing the time of routine operations such as:

- Shipment coordination is done through warehouse management systems (such as SAP) through a set of transactions, not through phone, fax and e-mail.
- Calculation of the various types of reports for the needs of the current implementation control within the enterprise, as well as for the authorized state institutions.
- Extraction of information necessary for making managerial decisions about the commercial strategy of the enterprise. This, in turn, increases employee capacity and reduces the need to commit labour within the ever-expanding business.
- Strict control over customer receivables.

Thanks to the shared database, the stock management strategy allows one to report the amounts due to a customer in real-time, not only to a specific supplier from the group but also to the general obligation [3]. The system automatically blocks any subsequent shipment to a given customer if his liability exceeds the limit set by the credit manager. In this way, the control is technically realized, but it also avoids the accumulation of costs on provisional or uncollectible receivables, which in many cases can amount to significant amounts. The cost of storing raw materials, materials and finished products is reduced. Through good planning of production and shipments, which the system allows, an analysis can be made for the production needs of raw materials. This will lead to the provision of time and moral determination of contingent suppliers, the selection of the most favorable offers for the delivery, and the reduction of warehouse costs for storing raw materials and materials [8]. The planning of the expeditions allows for arranging the logistics in the warehouses for finished products and reducing the costs of transport to the warehouse and rent of warehouse premises. Other benefits are reducing the risk of claims and payment of compensation in case of delay or cancellation of delivery and increasing income from logistics activities. This direction is associated with developing a central sales system common to the entire group, which provides the possibility of remote access. The main advantages of the stock management strategy system are easy real-time access to statistical information, necessary for the timely making of adequate and suitable management decisions in the field of commercial communications and negotiations and achieving the most favorable conditions for the group at the time of sale; allows access to information, enabling the realization of market opportunities that would be missed in case of delay or lack of data.; helps to achieve the so-called "total quality", defined as the totality of product and service qualities associated with delivery [7].

The system allows a quick response to inquiries. It shortens the process and processing time of offers and orders, guaranteeing security and reliability when coordinating shipments and satisfying the client's requests. Depending on the place and direction of movement of material flows within the enterprise, incoming, internal and outgoing processes are distinguished, which must be included in the logistics and stock management strategies. Inbound (delivery) logistics is a logistics process consisting of moving material flows from suppliers to the enterprise. The main goal of delivery logistics is to deliver the necessary items of work at the right time to the right place in a way that minimizes transport and storage costs and ensures the rhythm of the production process. As participants in the delivery logistics process in each production or commercial enterprise, the individual logistics units of the logistics system are considered - the suppliers, the units for transport services, the "Enterprise Supply" department and the specific functions they perform supply, information, and warehouse. Internal stock movement includes the logistics processes and flows that take place within the enterprise itself. Its scope includes material and information flow from the warehouse for raw materials and materials to the relevant production units in the enterprise. The movement of flows between the production units themselves [1]. The movement of the flows from the production units to the storage units of the finished product and its shipment. The primary task of stock management strategy is optimizing the logistics processes and related operations within the enterprise's production system. As a result, saving time and labour, minimization of movement costs and optimization of the level of material stocks maintained in the enterprise warehouse is achieved [5].

Achieving efficiency from a stock management strategy requires the solution of various tasks, including operational-calendar planning of the finished product; operational management of technological production processes; comprehensive quality control; strategic and operational planning of the supply of material resources and material stocks; organization of the domestic production warehouse; forecasting, planning and rationing of material resources in production; organization of the work of internal production technological transport; control and direction of material resources, work-in-progress, semi-finished products and finished products at all levels of production; physical and internal production distribution of material resources, finished products, etc. Outbound (distribution) logistics, which covers the movement of finished products from the enterprise to the final points of sale, is of essential importance for the effectiveness of the stock management strategy [6]. Characteristic functions are like those of supply logistics, with the difference that material flows from the enterprise to its customers are covered. The main goal is to ensure the delivery and availability of the necessary products in the required quantity at the right place and time while minimizing the costs of transportation, loading, and unloading and warehouse activities. Within the framework of the stock management strategy, the tasks related to the outbound logistics refer to the planning of the process of implementation and production; organizing the receipt, processing and execution of requests; choosing suitable transport packaging by type and quality; organization and implementation of transport control; organization of after-sales service (service); selection and application of a distribution scheme for the material flow of finished products; determining the optimal number and distribution of warehouses in the serviced areas; the optimal level of warehouse stocks, the point and days of requests and their fulfilment are determined [7].

In recent years, inventory management has increasingly been digitized. Digital transformation is a process in which the organization begins to work with more and more digital technologies in its daily activities and the production of its products. Digital transformation replaces traditionally used business processes with innovative ones dictated by new customer requirements and their market behaviour. Digitalization involves changing the information technologies used to change the existing business processes. Therefore, information technology is critical in exploiting new business opportunities by changing existing business processes, such as communication, distribution, or business relationship management. Through digitization, companies apply digital technologies to optimize existing business processes by enabling more effective coordination between processes and creating additional value for customers by improving their service. Digital transformation has several benefits for companies, providing an opportunity for innovation, cost reduction due to changes in business processes and increased productivity, despite the currently limited scientific research proving the benefits indisputably. However, reaping these benefits requires the companies' overall commitment and identification of the company-specific factors that significantly impact digitization. The companies' internal capabilities, the availability of human and technological resources, the factors related to the changes, and the adopted leadership style are the three main internal factors influencing the time required and the effectiveness of digitalization. About factors external to the organization, all aspects included in the business environment in which the company operates, such as the availability of resources, government policy, economic development, etc., can have an impact [8].

In stock management strategy, digitization can be a prerequisite for improving stock management and significantly reducing operating costs. The appropriate application of digital technologies within various logistics operations will allow the organization to achieve competitive advantages. From optimizing activities in resource planning and warehouse management systems to implementing intelligent warehouse systems, digital technologies influence and support the logistics industry within multiple activities while ensuring the preservation and security of data. Digital technologies can also be integrated into the supply chain as they are used for data processing. Digitization will allow the company to change the logistics processes used and provide real-time data for supply management, as well as change the visibility of the integrity control implemented in the supply chains - the right products at the right time, place, and quantity, with optimized logistics costs. Real-time monitoring of the means of transport used for logistics will reduce logistics fuel costs and optimize the use of transport and warehouse space for stock storage. Another benefit for companies from using digitalization is improving customer service by increasing service quality and satisfying customers' demands for fast service.

3. Conclusion

The processes and activities in the stock management strategy are aimed at planning, implementing, and controlling the procedures for the transportation and storage of materials, aiming to create products and services to satisfy customers' needs. Within the production process, the stock management strategy includes integrated management of the movement of the material flow - incoming flow (supply), internal flow (production) and outgoing flow (distribution). Depending on the individual stages through which the material flow in the company's output passes, three subsystems of logistics are distinguished: supply, production and distribution. The use of modern technologies allows efficient organization of stocks, as well as checking the availability of finished products by the customer service department to provide quick information to customers; the ability to check routes and available vehicles to organize delivery according to customer requirements; calculation of the cost of finished products; receiving a request to the warehouse for the preparation of finished products for shipment and preparation of the documents accompanying the goods, with the customer's data. Modern companies are highly dependent on suppliers, and the main goal when choosing them is to provide the necessary raw materials and materials according to production needs at the most effective costs possible. Choosing suitable suppliers shows how well the company can deliver customers' desired products. A central question before the company is how to provide the necessary materials and raw materials for production at low prices, guaranteeing security in terms of deliveries. In addition to the cost of materials and raw materials, a leading criterion is also compliance with delivery deadlines, which lead to shorter delivery planning periods on the one hand and, on the other hand, provide an opportunity to react to individual customer orders that are not satisfied by the standard products manufactured by the company. Finding external suppliers complying with the initially agreed delivery terms and having the ability to make deliveries in short terms ensures the security of the company's production and the efficiency of the organized logistics process. Customers' changing wishes can be realised quickly without requiring capital to secure many materials and raw materials. In conclusion, modern information and communication technologies provide a competitive advantage to companies and optimize the logistics and production process and the effective use of available resources. Automation of processes offers the opportunity to create innovative products in response to the changed requirements of modern customers, with optimal use of resources.

4. References

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