STRATEGIES FOR OPTIMIZING INVENTORY MANAGEMENT WITHIN THE OPERATIONAL MANAGEMENT OF AN ENTITY'S ECONOMIC ACTIVITIES

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Abstract: In a complex and volatile global economy, but full of opportunities and challenges, managers can add value to entities by optimizing operational management in general and operational management of financial-accounting activities in particular, by identifying and implementing ways to increase profitability and earning capacity. Thus, the objective of the research is to present a number of strategies on the optimization of inventory management in order to meet the entities' desideratum, namely to increase the entity's efficiency through efficient management and correct analysis of inventories, being considered as basic elements of the production process.
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1. Interdependence between general management and operational management

The organization and management of entities in the production environment considers both strategic and operational approaches.

General management consists of the ability to lead and represents all the activities of organizing, leading and managing entities. Moreover, general management encompasses an accumulation of theoretically and practically conceived alternatives in terms of the organization and management of an entity, the description of the operations carried out within the entity, the results obtained, in conditions of efficiency, effectiveness and economy, in order to achieve objectives.

Operational management is the application of strategies to achieve the entity's objectives. Moreover, it is seen as a process of coordinating human, material, informational and financial resources, carried out within a planned timeframe, in order to achieve overall objectives.

"In the modern conception, operational management is concerned with the establishment of leadership at the level of all functions and activities carried out in industrial and service enterprises. In conclusion one can identify:
- operational management of Research & Development
- operational production management
- operational management of business activities
- operational management of financial-accounting activities
- operational management of human resources activities" (Burghelea and Iacob, p.52).

2. Operational management of the financial-accounting activity

The operational management of these categories of activities takes into account:
- preparation of the financial plan;
- calculation and forecasting of financial indicators based on the financial plan;
- production plan drafting and production cost anticipation;
- accounting for intangible assets, in particular fixed assets;
- stock accounting and stock management;
- payroll accounting;
- production cost accounting and identification of production costs by orders, goods, services;

- revenue accounting.

In a volatile, threat-driven global economy, where the business environment is becoming increasingly complex, entities are looking for solutions to increase performance by optimizing operational management through a range of strategies.

► In the context of the digital economy, automating business flows can contribute to increased profitability of entities. Investments in technology and innovation generate entity development. Thus, with the help of technology, the entire operational activity can be optimized and efficiency can be remedied through automation.

► Increasing profitability is the goal of any entity. Therefore, managers adopt various strategies to maximize the performance, efficiency and profitability of companies, aiming to increase revenues and reduce costs.

► Digitization and implementation of information systems updated to the economic and social context, allow entities to improve operational management.

► The correct management and use of stocks of raw materials, materials, consumables, spare parts contribute to the optimization of the production process within an entity.

3. Stock management optimization strategies

Inventories are economic goods held and used by an entity within a period of up to one year.

They are included in current assets, together with accounts receivable, cash balances and short-term financial investments.

Stocks are current assets:
- held for sale in the course of doing business at entity level;
- considered as work in progress for sale within the entities;
- in the form of raw materials, materials, consumables and other products to be used in the production process or for the rendering of services in entities.

The delineation of stocks, based on the main classification criteria, is as follows (Tiron, p.2):
"a) By source of origin:
- bought;
- manufactured.
b) By membership to an estate:
- are part of the estate and are located in the company's own premises or with third parties: custody, processing, consignment, repair;
- are not part of the estate but are under the management of the facility, received from third parties.
c) According to the degree of individualization and management:
- identifiable, individualized by items, elements;
- fungible, interchangeable."
According to the Order of the Ministry of Public Finance (OMFP) 1802/2014 stocks include:
"(a) goods, i.e. goods that the entity purchases for resale or products that are handed over for sale to its own stores;
(b) raw materials, which participate directly in the manufacture of products and are found in the finished product wholly or partly, either in their original state or processed;
(c) consumables (auxiliary materials, fuels, packaging materials, spare parts, seed and planting materials, fodder and other consumables) which participate in or assist in the manufacturing or operating process but are not normally included in the finished product;
d) materials in the nature of inventory items;

(e) products, namely:

- semi-manufactured products, which are products whose technological process has been completed in one section (stage of manufacture) and which are further processed in another section (stages of manufacture) or delivered to third parties;

- finished products, i.e. products that have completed all stages of the manufacturing process and do not require further processing within the entity, and can be stored for delivery or shipped directly to customers;

- scrap, recoverable materials and waste;

- agricultural products;

(f) biological assets in the nature of stocks are those to be harvested as agricultural products or sold as biological assets;

g) packaging, which includes reusable packaging, purchased or manufactured, intended for the products sold and which may be temporarily held by third parties, with the obligation to return it under the conditions laid down in the contracts;

(h) work in progress, i.e. products which have not passed through all the stages of processing provided for in the technological process and products which have not been subjected to technical testing and acceptance or have not been fully completed. Work in progress also includes services and studies in progress or unfinished" (OMFP 1802/2014).

One of the strategies for optimizing inventory management is the correct recognition of inventories and the optimal application of evaluation methods, especially at the point of disposal.

Inventories are recognized in the accounts when the recognition criteria in the Framework for the Preparation and Presentation of Financial Statements (*General framework for the preparation and presentation of financial statements*) are met:

- 'any economic benefit associated with the item is likely to flow into or out of the entity; and

- the item has a cost or value that can be reliably measured."

Inventories are valued according to the accounting valuation rules at the four points in time: when entering the entity, when leaving the entity, at inventory and on the balance sheet.

(a) The valuation of inventories on entry shall be performed according to the sources of input, i.e. acquisition cost, production cost, fair value or contribution value.

- The acquisition cost is used for the valuation of stocks purchased against payment: raw materials, materials, goods, consumables;

- Cost of production is used to value inventories produced in the entity: finished goods, semi-finished goods, work in progress;

- Fair value is used when inventories are obtained free of charge or recognized as inventory additions;

- The contribution amount is used for inventories contributed to the entity's equity capital.

(b) The valuation of outward stocks shall be at cost, but the particularity arises in the case of fungible stocks, which provide for the following valuation methods:

- Weighted average cost method (WAC);

- The first in first out (FIFO) method;

- The last in first out (FIFO) method.

The approach of these methods is realized through the following exemplification, presented to highlight the characteristics of each of the above-mentioned paths.

An entity records the following transactions in raw materials during November N:

01.04 N: Initial stock: 500 kg × Lei 10 /kg;

05.04 N: Purchases: 300 kg × Lei 12;

10.04 N: Outputs: 600 kg;

17.04 N: Purchases: 800 kg × Lei 12,75;

29.04 N: Outputs: 900 kg.

The valuation of raw materials at the disposal from the facility is carried out alternatively by the three methods CMP, FIFO, LIFO, as follows:

The weighted average cost involves assigning to each issue of inventories an amount based on the weighted average of the cost of inventories in inventory at the beginning of the period and the cost of inventories purchased or realized during the period.

The method can be calculated both periodically and after each output.

CMP - after each entry:

05.04 N: CMP = (500kg x Lei 10 /kg) + (300 kg x Lei 12 /kg) / 500 kg + 300kg = Lei 10,75 /kg

10.04 N: Output cost: 600 kg x Lei 10,75 /kg = Lei 6,450

17.04 N: CMP = (200 kg x Lei 10,75 /kg) + (800 kg x Lei 12,75/kg) / 200 kg + 800 kg = Lei 12,35/kg

29.04 N: Cost of asset disposal: 900 kg x Lei 12,35/kg = Lei 11.115

Final stock: 100 kg x Lei 12,35 /kg = Lei 1,235

CMP - monthly:

CMP = (500 kg x Lei 10 /kg) + (300 kg x Lei 12 /kg) + (800 kg x Lei 12.75 lei/kg) / 500 kg + 300kg + 800 kg = Lei 11.75 /kg

Cost of asset disposal:

10.04 N: 600 kg x Lei 11,75 /kg = Lei 7,050

29.04 N: 900 kg x Lei 11,75 /kg =Lei 10, 575

Final stock: 100 kg x Lei 11.75 /kg = Lei 1,175

The monthly CMP method has the advantage of calculating a weighted average cost only once a month, close in value to that calculated in the CMP variant after each entry, which reduces the workload. The disadvantage is that this method does not allow for the evaluation and recording of assets disposal during the month, thus not knowing the daily situation of assortment management.

The first-in-first-out (FIFO) method involves valuing outgoing stocks at the acquisition (or production) cost of the first entry. As the batch is depleted, the outgoing stocks are valued at the acquisition (or production) cost of the next batch, taking into account the chronological order of their entry.

Keeping the initial data, the calculation of outgoing stocks according to the FIFO method is as follows:

FIFO

01.04 N: Initial stock: 500 kg x Lei 10 /kg = Lei 5,000

05.04 N: Purchase: 300 kg x Lei 12 /kg = Lei 3,600

10.04 N: 600 kg output, divided as follows: 500 kg x Lei 10 /kg = Lei 5,000 and 100 kg x Lei 12 /kg = Lei 1,200

Stock: 200 kg x Lei 12 /kg = Lei 2,400

17.04 N: Purchase: 800 kg x Lei 12,75 /kg = Lei 10,200

29.04 N: 900 kg output, divided as follows: 200 kg x Lei 12 /kg = Lei 2,400 and 700 kg x Lei 12,75 /kg = Lei 8,925

Final stock: 100 kg x Lei 12.75 /kg = Lei 1,275

The FIFO method consists of evaluating the outflows of stocks in the order of their inflows at the lowest cost.

The last-in-first-out (LIFO) method involves valuing stocks disposed from the management of the entity at the acquisition (or production) cost of the last entry. As the batch is reduced, the stocks disposed from the management are valued at the acquisition (or production) cost of the previous batch, in chronological order.

The initial data is still maintained and the calculation of stocks exited according to the LIFO method is as follows:

LIFO

01.04 N: Initial stock: 500 kg x Lei 10 /kg = Lei 5,000

05.04 N: Purchase: 300 kg x Lei 12 /kg = Lei 3,600

10.04 N: 600 kg output, divided as follows: 300 kg x Lei 12 /kg = Lei 3,600 and 300 kg x Lei 10 /kg = Lei 3,000

Stock: 200 kg x Lei 10 /kg = Lei 2,000

17.04 N: Purchase: 800 kg x Lei 12,75/kg = Lei 10,200

29.04 N: 900 kg output, divided as follows: 800 kg x Lei 12,75 /kg = Lei 10,200 and 100 kg x Lei 10 /kg = Lei 1,000

Final stock: 100 kg x Lei 10 /kg = Lei 1,000

This method, being the opposite of the FIFO method, values the outgoing stocks in the reverse order of their inflow, i.e. at the highest cost.

(c) Inventory valuation of stocks shall be carried out at the inventory value of each item. The inventory value shall be identified as the book value of the goods, established at the time of the inventory, i.e. the value entered on the inventory lists.

(d) The valuation of stocks on the balance sheet shall be made at book value, adjusted in accordance with the results generated by the inventory.

Optimizing stock management can also be achieved through optimal stock management, which is also considered another strategy.

Inventory management is an economic process carried out at the level of producing entities, which includes activities such as receiving, storing and holding stocks on the one hand, and tracking, controlling, redistributing and using them on the other.

Stock management contributes to:

- Ensuring the continuity of the production process, which leads to the generation of constant income through the commercialization of products;

- sales efficiency, when goods are produced on time, in the quality and quantities demanded by consumers;

- avoid production gaps by ensuring the continuous flow of raw materials;

- safeguarding the entity's assets through continuous internal control of inventories to minimize wastage and spoilage and to prevent stock-outs;

- providing relevant information to the entity's management on the stock situation by determining the optimal quantities to be stocked and when to replenish, establishing the stock turnover rate and reducing errors in the documentation of these structures;

- maintaining production stocks at planned levels within the units;

- maintaining the quality characteristics of raw materials and materials during storage.

In order to avoid problems related to the limitation or overstocking of stocks at the production level, as well as for the smooth production and sale of goods, stock management identifies a number of methods to address these issues, namely:

A. The classic stock management model

This model helps to determine the quantity needed for each order to build up the stock, taking into account a number of indicators such as: fixed costs of the order, turnover and the unit cost of stock. In this type of model, a number of variables are identified, namely: quantity required, sales and delivery intervals are assumed to be constant.

B. ABC method of stock management

The ABC method is a management system that groups materials supplied and stored into three groups. This method divides stocks into three broad categories:

a) Group A: stock items with a high value, but small share in total stock;
b) Group B: stock items with average value and average weight;
c) Group C: stock items with low value but high share in total stock.

The method makes a detailed tracking of stocks in groups A and B by mathematically determining their optimum to minimize the related expenses, and a global tracking of those in group C, which will be supplied in large batches for long periods of time.

C. The Wilson Model - Within

This type of model considers the balance between ordering costs and warehousing costs in determining the order quantity needed in the replenishment process. A high reorder quantity reduces the frequency of reorders and ordering costs, but results in high average inventory value, which increases warehousing costs. On the other hand, a smaller order quantity reduces the average stock, but leads to an increase in the frequency of orders and thus to higher ordering costs. The order quantity that minimizes costs is called the economic order quantity.

3. Conclusions

On the basis of the arguments presented, it is obvious that the motivation for the choice of the research topic was precisely the growing importance given to operational financial-accounting management at entity level and the streamlining of the production process through the correct management of stocks held and used.

Thus, inventory management is essential for a well-functioning entity, in particular by helping entrepreneurs to avoid certain risks with regard to: insufficient stocks, surplus of raw materials and products or incorrect labelling of them. Poor management of these balance sheet structures can lead to the loss of customers when orders are not fulfilled on time or, why not, to significant losses for the entrepreneurs, especially if they have invested in the purchase of raw materials and components and the demand is not significant to sell finished products.

In other words, inventory management is meant to streamline operational management so that performance targets are met.

The development of strategies aimed at the sustainability of stock management is an essential requirement for the efficient functioning of the entity and the achievement of the expected return.

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