THE ROLE OF THE STOCKS OF PRODUCTS IN THE DISTRIBUTION CHAIN; TYPES OF SPECIFIC STOCKS

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ABSTRACT

The major objective of the stocks' management refers to the increase of incomes through revenues from selling the goods that exist on the distribution channels and the improving of the level of serving the clients. This happens in the circumstances of forming at the level of the outlets (distribution centers, sales deposits, etc) of stocks that are as small as possible, in the context of the constant preoccupation of continuously reducing the stocks, altogether with the improving of the selling service.

The present paper intends to distinguish the means of actions through which this kind of objective can be achieved. The paper also mentions the typology of stocks which can be formed on the distribution chain, altogether with their role. The stocks' dimensioning and forming is assured through a complex action of stock planning, of deciding using economic criteria the optimal level of the stocks. In order to do that, it is necessary to be known the essential elements (parameters) that must be taken into consideration, these parameters being presented in the paper altogether with specifying the methodology of planning the stocks from the distribution channels.

KEYWORDS: *distribution chain (channel), stock management, optimal management, stock planning, distribution, backordering, distribution center, unhonoured orders, order amount, provisioning.*

The product stocks from the product distribution chain represent this activity's driver. The stocks' availability for sale is the most important of the services offered to clients. The purpose of the stock management is considered to be the one related to the ensuring of the increase of incomes through revenues by selling the products from stocks and to the improvement of the level of services available to clients. This happens in the circumstances of forming stocks as small as possible on the distribution chain, in the context of the systematic concern of continuously reducing the stocks and in the same time of improving the selling services and of satisfying completely their needs.

The means through which this kind of objective can be achieved is presented in figure. 1[1].

[1] Edward H. Frazelle,. *Supply Chain Strategy*, McGraw-Hill Companies, Inc., New York, 2002, p. 92.

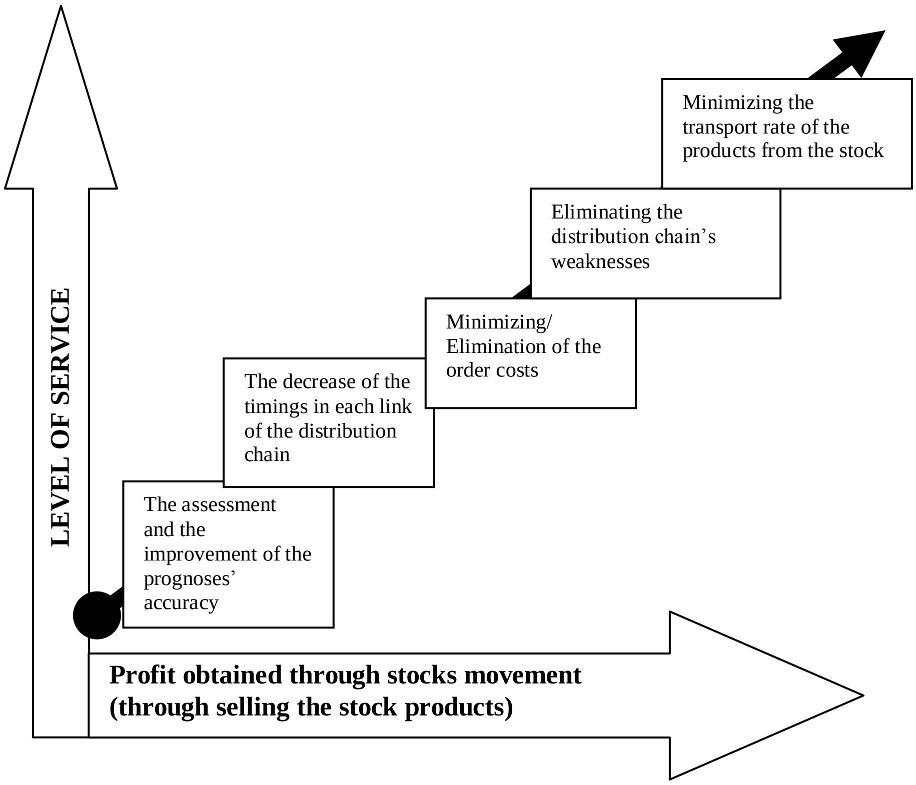

Figure 1 Efficient action taken to reduce the stocks and to increase the level of the services in the same time

The firms should have in mind the decrease of the stocks, first through increasing the product sales. The research related to this aspect lead to the identification of five important actions (figure nr. 2), which are:

- -the improvement of the prognoses related to the products sales;
- -the shortage of the duration of the cycles of forming, owning and selling of the products;
- -the improvement of the stocks' visibility (the awareness of the existence of the stocks of products by the potential clients);
- -the reduction of the transport costs and the distribution stocks.

These five actions are considered to be essential for an efficient distribution and an optimal stock management. These actions must be had in mind in planning the stocks and in the stock management.

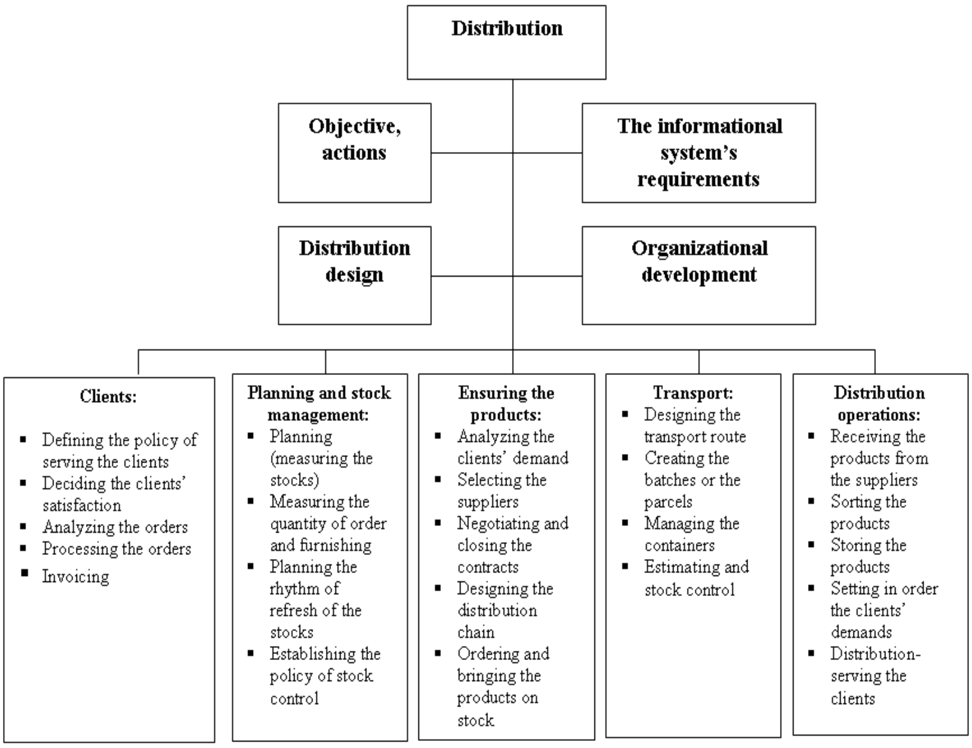

Figure 2 Planning and stock management in the distribution system

In the specialty literature the stocks' role on the distribution chain is interpreted according to their economic nature and to the functions they fulfill. The stocks' existence mean the transformation of the financial resources of sustaining them in passive resources, that don't bring any profit, an aspect which is explicitly mentioned in the publication "The Management of Provisioning and Selling"[1]. This kind of characteristic is a negative one and must be avoided. Still, the functionality of the distribution system needs in an objective way, in the majority of cases, the creation of some stocks of products on the distribution chain. In order to balance these two characteristics, one must answer the question: "What one gains and what one loses, if the stocks are too large or too small for a long or a short period of time?" The answer to this question is related to the "identification of the optimal level of the stocks to balance the advantages with the disadvantages of the stocking of the products". The circumstance imposes the establishing of the total effort of stocking and the estimation of the favourable economical effects generated by stocking.[2]

The types of stocks and their role in the distribution chain are presented in Table 1.[3]

[1] Gheorghe Băşanu, Mihai Pricop, *The Management of Provisioning and Selling*, Third Editon, Economica Publishing House 2004, pp.89-92

[2] Idem, pp.93-94

[3] Edward H. Frazelle, *Supply Chain Strategy*, McGraw-Hill Companies, Inc., New York, 2002, p. 92

The types of stocks and their role in the distribution chain

Table 1

Types of stocks	Role	Benefits
Current stock (according to the dimensions of the ordered stocks)	It is used for the rhythmic serving of the clients; sometimes depends on the relation between the whole sales orders and the retail orders, in order to benefit from bonuses and savings when buying and transporting the products from the supplying source to its recipient	• Discounts when buying the products • Reduced period of placing the products • Reduced costs of transport, handling and management
Safety stock (the demand's fluctuation)	Insuring against the high demand and against periods with great demand	• Reducing the amount of lost sales and reducing the order's refund • Better services for clients • Reduced transport costs • Reducing the costs of maintaining the clients' feed-back
Anticipatory stock (the offer's fluctuation)	Insuring against the offer's interruption. Production outside the period of demand (ceasing the production in certain periods of the year for vacations, keeping the hygiene, changing the fabrication lines)	• Reduced period of ceasing the production or overproduction • Reducing the costs with the lost sales • Reduced subcontracting and extra hours • A better use of the production capacity
Transit stock or in train of transport	Moving the stocks between distribution centers or in areas that stop the prices' increase	• Mobile stocking – optimal servicing • Reduced costs with the distribution

The current stock, for a distribution center represents the amount of products that **are in the stock;** the corporate current stocks of a company represent the **"total amount that exists in all a company's distribution centers", and the sum of the amount of products from the distribution centers of the international network is interpreted to represent that company's *global current stock*"**.

Beside the current stock that was described before, the companies have in mind, according to the circumstances, the existence of a **safety stock**.

The safety stock has the role of preventing the impossibility of serving the clients, in case in which the current stock is exhausted and also preventing the delay of its recovery. The safety measure taken by the companies, in order to create this kind of stock, is based on the idea of preventing:

- ✓ supplementary costs determined by the urgent provisioning for refreshing the current stock;
- ✓ avoiding the occurrence of the feeling of lack of satisfaction of the clients, a circumstance that may generate unfavorable consequences from their part.

The second circumstance would prove the existence of a highly defective stock management.

In case in which the product is not on stock, in the moment in which a client demands for it, the distribution center faces three possibilities, variants of action: backordering, substitution or accepting the fact that it can't offer the product that was ordered.[1]

In the back ordering's case, for the amount of the products ordered by the client a separate order, which is called backorder, is issued, the order having to be honored, as soon as the product is offered by the supplier or from other sources and it is put in the current stock. In some circumstances, the respective product is delivered straight to the client, from the source which owns or produces it. This procedure is practiced frequently when there is no alternative for the respective product.

The second procedure, that of substitution, is practiced when the client accepts another product, offered as a substitute, having the same range of uses as the one that was initially ordered.

The third procedure refers to accepting the fact that there is an impossibility in serving the client – a circumstance which belongs to unhonoured orders, which is the equivalent of lost sales (failure in selling), this kind of sales are frequent in the case of the retail sales of products that differ from the qualitative point of view (products which have the same utility, but not offering the same quality). The penalties for not being able to honour the orders can be significantly important especially when it comes to basic products, a circumstance in which the negative reaction of the clients can become extremely unfavorable for the primary sales and the ones from the distribution chain. The evolution of a stock that present the phenomenon of lack of the product from the cycle of provisioning-selling is presented in figure 3.[2]

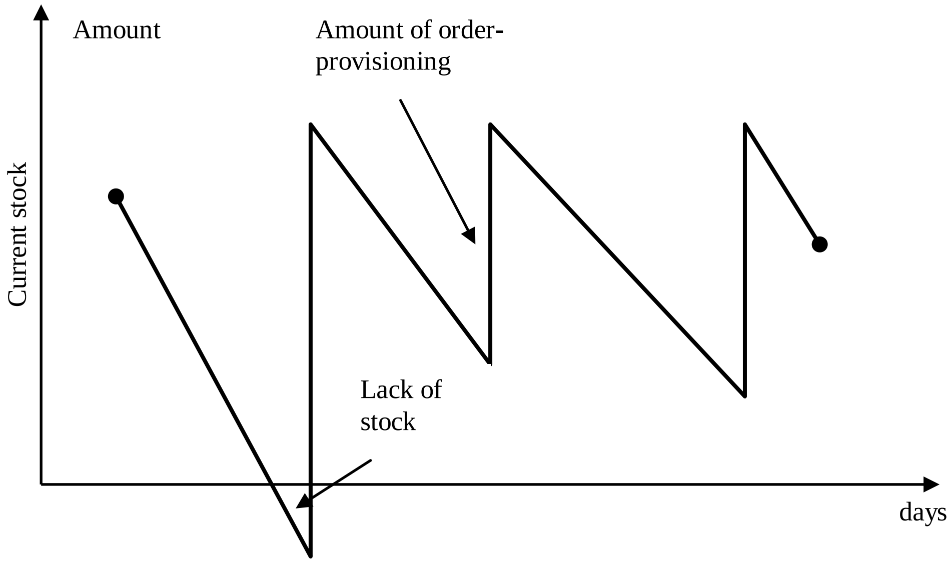

Figure.3 The current stock's evolution in the circumstance of the phenomenon of lack of stock

[1] Edward H. Frazelle, *Supply Chain Strategy*, McGraw-Hill Companies, Inc., New York, 2002, p. 97
[2] idem, p. 98

2. Stock Planning

The stock management has to show a special attention to stock planning (dimensioning). The methodology of stock planning is presented synthetically in figure no. 4.[1] This action is realized starting with the identification of the key elements (key parameters), which must be taken into consideration; in the present case, they are, generally speaking, the following: the product's selling price, the value of the stock unit, the stock's transport rate (the value of the amount of products needed to refresh the stock), the cost of an order of supplying the stock and the cost of depositing-storage. The time parameters associate with the other key elements: the period of stock control: (the year, semester, trimester), the interval between two successive refreshing of the stock, the time of order-refreshing of the product furnished by the producer-supplier, the periods of time when the provisioning orders are issued.

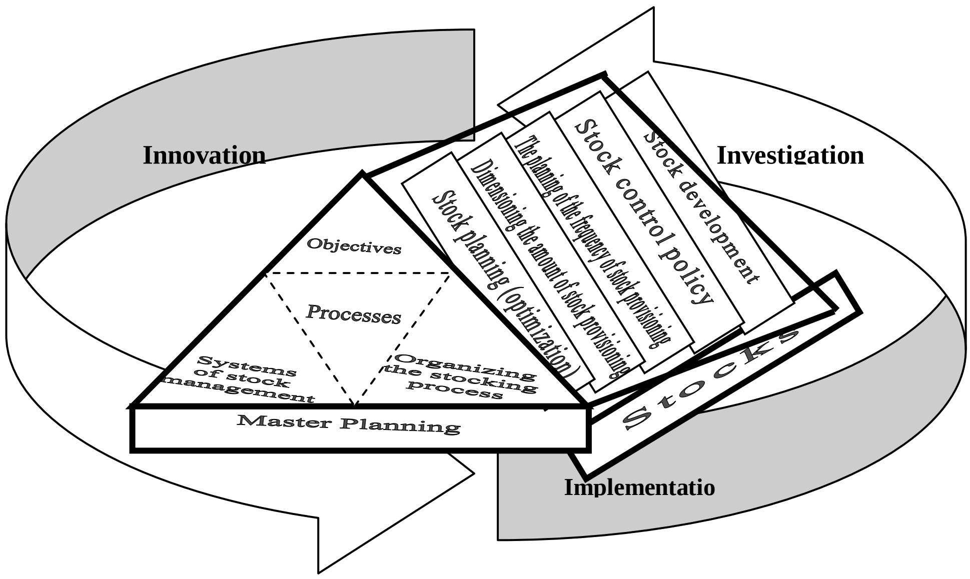

Figure 4 The methodology of stock planning

The launching cost of placing an order by a seller includes of costs of: the order forms, the post, the telecommunications, the order's planning, the order's processing, the order's control, the honouring of the order, the office location in which the issuer of the order activates, the office automation, the systems through which the order is processed, the order's expedition and expedition control. The cost of stocking and storage is evaluated as a percent of the medium value of the stock that can be deposited. This cost covers: the cost of the receiving-reception of the product lot, of the sorting, of its storage, the costs of existence of the stock, the costs for creating normal conditions of protection-conservation of the products, the costs of the guarding of the products, processing the orders for issuing the products to the clients, for issuing the invoice,etc.

[1] Edward H. Frazelle, *Supply Chain Strategy*, McGraw-Hill Companies, Inc., New York, 2002, p. 96

The essential parameter in the distribution-selling processes is represented by the demand for a certain product. The elements of the demands are: the annual demand, the demand's forecast, the period of processing the demands, the standard deviation of the processing demand.

In the processes of distribution-selling it appears a wide range of variables, some of them being controllable, the others uncontrollable. The most important of them help to establish the: optimal order amount, the rate (the frequency) of stock's refresh (recovering), the optimal stock level; the order point; the period of control-revision of the effective stock in proportion with the evaluated optimal level. Based on the elements presented above, the processes of stocking from the distribution chains and at the level of each distribution center, outlet storage or outlet.

The process of optimization of the stocks' level from the distribution chain is a complex one and it necessitates the knowledge of the concrete elements (parameters) that influence it mentioned above; this leads to the optimization of the processes of stocking at the distribution points, an extremely important aspect for the companies that are members of the distribution channels.

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