



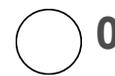
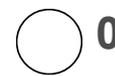
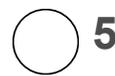
Requirements for Modern Inventory Management Systems

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Analysis of existing software in the market

As it is known, inventory control consists of the following collection of functions: plan, forecast, counting, analysis and regulation. In accordance with this, in contemporary inventory management systems we should find the following functions:

1. Transactions counting

Each system of control must contain the information about the motion of the goods for the goals of control. Accuracy of the goods calculation is difficult to overestimate. Many systems do not ensure the adoption of correct solutions, because does not have precise data about the stock in way and on hand.

2. Forecasts

The administrative solutions must be proposed on the bases of demand forecasting. Since the opinion of the specialists marketing or sales department is insufficient, it must be used quantitative procedure, for example, the procedure of the exponential smoothing. Opinion, nevertheless, can play its role in the forecasts corrections in nonstandard circumstances.

3.Rules for solutions

System must to contain the module for developing solutions about the time and the quantities of the ordered goods. And a system makes orders automatically on the basis of the solutions taken (using R or T policy).

4.Statements about deviations

Statements can concern the situations, when forecast does not reflect a real demand, when too big orders are formed, when deficits have too significant, and so on.

5.Statements of effectiveness

This module must ensure top management with summary information about the effectiveness of inventory. Too much value is usually given to the coefficient of turnover as to one indicator, which brings to incorrect administrative decisions.

6.Assortment (and other external factors) optimization

It is proposed to include also this module in inventory management system. By its aid the system is capable to answer not only how much and in what moments to order, but also to select assortment positions, on the basis of their specific characters (prices, variation in the demand, time of delivery and so on). This module can also help to analyze changes in the conditions of the suppliers (changes in procurement prices, the transportation methods and so on).

Russian programs characteristics

Suppressing majority of the Russian programs make summary and grouping and produce information in those limited areas, giving information about the volumes of sales, turnover, quantities in stock in the days of supply, draw diagram. They really help to assume the inventory control decisions, and also

they help to sum up the results of inventory management. Nevertheless, as the usual accounting software, they carry out only the ensuring functions, and therefore they relate the information-analytical systems class.

There is not demand forecasts, norms calculation and operative inventory control in many programs. Sometimes they carry-out the so-called primitive forecasts, i.e. in determining the order it is allowed that demand will be equal the realization of past period.

Programs are characterized by the use of simplest mathematical-statistical apparatus : addition, subtraction, multiplication, summary, group and so on.

Calculation of factors. Usually, it is considered the factor of average demand, sometimes, the time of delivery, and user must consider himself the remaining factors. Demand Variation factor, price differences of positions, the cost of delivery, the cost of circulating capital are not usually considered in the systems, therefore they do not contain optimum stock norms setting.

In the literature, the content of inventory management is revealed as answer to the questions what, how much and when to order. That is inventory management system itself must find optimal reorder points and optimum quantity for the order for all the assortment, therefore, it must provide complete automation of work. The overwhelming majority of the domestic "inventory management systems" do not give answers to these questions. It is impossible to fully automate inventory management with them and the basic solutions remain the problem of user.

Concerning procedure, it is necessary to say that we do not not go far from the instructions the Soviet period, where safety stock was recommended as 50% of the current stock (according to others sources - 33%).

There are nominally the fields for the minimum stock, maximum stock in some programs , but they are not generated optimally by program itself. They are determined as assigned by the user quantity in days of supply. Operational control is lead as follows: order is produced when the need reaches the volume of railroad car, or after the given by user time interval, and stock is filled by the order up to user-settled maximum or in settled by user quantities.

Sometimes systems use empirical approach to the determination of stock norms (that is according to the experience). This trial-and-error method or the simulation method for understanding probable

figures relations for gaining the inventory decisions. It is studied the content of system by its external projections (factors and results). The same concerns the methods, based on inventory forecasts according to factors correlative forecasts, so the ineffective past practice transfers to the future, and it is considered only passive time factor in inventory management in this case. This methods can be successfully used in many spheres but, in our opinion, it is necessary to use special exact analytical procedures for inventory management. Like Wilson`s formula, that gives one exact decision about optimal order quantity.

During working with different usual systems user will encounter different norming and operative management question: should I order if there is deficit for many items while many positions have excess amounts and the total inventories in days of supply is still very big? Should I order if only one or two positions are in deficit and, if yes, should I fill the whole-truck-order only by those two positions? Should the maximal stock for every item be equal in days of supply if there is a difference in demand variations, margins, delivery time and cost? Neither analytical software nor a specialist can give the answer to these questions contrast to inventory management system.

Every real management has the purpose. Purpose of inventory management is inventory, deficit and order cost minimization. This purpose is external for many existing systems - and is preset only in inventory manager`s mind.

For the conclusion, we want to say that the many developers wish to control inventory deserves respect but often, they improperly present their existing systems as inventory management systems and extensively develop their tools making them more complex trying to scope more fields of firm`s economic activity. **SIMPLE-System** is built on classical inventory management models with the use of SIC(statistical inventory control) technology. Based on past so-called independent demand, it sets inventory norms, determines assortment, reorder time and quantities optimally, automatically and operatively contains all the modules making all inventory management functions, counts all necessary factors and purpose. Its price is quite shorter them the price of MRP-systems, so the term of repay is only 15 days and it is really simple in usage.