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**INVENTORY MANAGEMENT IN LOGISTICS
BY THE EXAMPLE OF THE OJSC "KOMMUNARKA"**

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Today for most companies questions about effective inventory management are becoming increasingly actual and important because the annual costs of maintaining stocks make up 20 to 50% of the purchase value of the goods. In this way the main purpose of inventory management is to increase the turnover of stocks together with maximum satisfaction and customer needs.

This article focuses on optimizing inventory at the OJSC "Kommunarka". The following aspects will be addressed in this article:

– Inventory management on the OJSC "Kommunarka" (Republic of Belarus) and Confectionery Association "Beloved Land" (Russian Federation);

– Recommendations for improving inventory management system for the OJSC "Kommunarka" based on the experience of inventory management by the CA "Beloved Land".

Stage 1. Description of inventory management at the OJSC "Kommunarka"

Next we consider the notion of inventories. In order to understand how to optimize inventories in the company we should find out that this definition refers to. Inventories are products of industrial and technical purposes, consumer products and other products that are in various stages of production and circulation and are awaiting entry into the process of production or personal consumption [1, p. 131].

Now we will describe the activities of the OJSC "Kommunarka". In October 2012 the Belarusian authorities through court restored the state share to a controlling 57% share in the Kommunarka. Revision of shares was made possible because of mistakes made in the appraised value at the time of privatization of the enterprise. This action led to the loss of many sales channels, which were controlled by the former principal owner of the factory, an American businessman Marat Novikov.

In January – April 2013, chocolate confectionery and sugar were produced to the number of 18,200 tons, which is 13.7% less than in January – April 2012, while stocks of sweets on May 1, 2013 amounted to 4600 tons (103, 9% of the average monthly production), which is 6.7% less than April 1, 2013 (5300 tons).

Thus, it turns out that Belarus managed to sell 0.7 tons of sweets from the stores in April. This situation may be due to limited power of Ukrainian import of chocolates [2].

Consider one of the possible solutions to the problem of congestion at the warehouses of the OJSC "Kommunarka".

One means of inventory optimization is the study of positions of the nomenclature of goods. This is done in order to understand what product groups account for a large part of the money the company and demand for goods which is constant. We use the ABC-analysis and XYZ-analysis methods for this.

When using the ABC analysis nomenclature is divided into three groups – A, B, C. Group A is the smallest in number, but the most important. The importance of goods is determined on the basis of any particular feature or combination of features. As such a feature can be: sales of goods in the sales prices, profit margin, etc.

The averages size groups A, B, C:

A – 10 – 20% range and share of result – 50 – 80%;

B – about 30% range and share of result 10 – 15%;

C – 50 – 60% range and share of result – 5 – 10% [3, p. 33].

XYZ-analysis allows us to classify the resources depending on the nature of their consumption and the accuracy of forecasting changes needs in its.

Category X – is characterized by stable value of consumption, minor fluctuations in their consumption and high accuracy of the forecast. The coefficient of variation is in the range from 0 to 10%.

Category Y – resources are characterized by well-known trends determining the need for them (for example, seasonal fluctuations) and the average of their forecasting capabilities. The coefficient of variation – from 10 to 25%.

Category Z – resource consumption is irregular, any trends are not available, prediction accuracy is low. The coefficient of variation – more than 25%.

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Application ABC-analysis in conjunction with XYZ-analysis reveals the absolute leaders (group AX) and outsiders (CZ) [3, p. 34].

Based on ABC and XYZ-analysis nomenclature of inventory at the OJSC "Kommunarka" the following results were obtained (Table 1).

Table 1– Matrix ABC - XYZ-analysis of the OJSC "Kommunarka"

AX –	AY Chocolate "Alenka" candy "Kuznechik"	AZ Candy "Stolichnye", candy "Minchanka", candy "Malyshok", candy "Batonchiki slivochnye"
BX –	BY Candy "Belochka"	BZ Chocolate "Krasnaia Shapochka"
CX –	CY Candy "Belorusskie", candy "Duches"	CZ –

We obtain the following conclusions as a result of the analysis:

- Chocolate "Alenka", candy "Kuznechik" are a group of AY. This means that stocks according sweets occupy a significant share of the costs on a content inventory (about 80%) and the demand for these products is subject to known trends, so the demand for these sweets is easily predicted. These candies require individual chocolates management technologies.

- Candy "Stolichnye," candy "Minchanka," candy "Malyshok", candy "Batonchiki slivochnye" are a group of AZ. These candies are the most important for the study group, as they account for a large part of the company's cash and the demand for these products is not subject to any trends, therefore, is practically unpredictable. For these goods requires a considerable safety stock and daily monitoring.

- Planning chocolate goods chocolate "Krasnaia Shapochka" and candy "Belochka" can be carried out according to the same, and on individual technologies (both in terms of planning and delivery terms), since they belong to the group B and occupy a middle position in the formation of warehouse stocks. Compared with group A range of positions, they require less attention to them, produced normal control current stock in stock and timely order.

- Planning candy "Belorusskie" and candy "Duches" can be for a longer period, for example, for the quarter, with a weekly (or monthly) checking that the stock in the warehouse, as they belong to the group CY – they account for a small proportion of the enterprise funds and the demand is predictable.

Stage 2. Description of inventory management at CA "Beloved Land"

In order to achieve a sustainable competitive position in the modern market relations, modern companies should pay attention to strategy and mistakes, that other organizations in the industry have made. In our opinion, the best example to follow when building development strategies and inventory management in an organization is the CA "Beloved Land" is the largest enterprise in the North-West of Russia specializing in the production of biscuits and gingerbread. Consider the company "Beloved Land", which reached high results in their activities, including inventory management and to develop recommendations for improving inventory management the Kommunarka.

The company "Beloved Land" was created in 1999. CA "Beloved Land" is a leading manufacturer of oatmeal cookies (11% market share in 2010).

The following ones are the key decisions on inventory management adopted in the CA "Beloved Land" from 2004 to 2012.

In 2004, the "Beloved Land" took the following decisions to reduce inventory:

- Early entry of orders in the information system to inform the production of the expected shipments;
- Identifying the largest shipment volumes to create such a production cycle to meet all the needs for shipments, while avoiding an increase in stocks.

Next, consider the years 2005-2008., the CA "Beloved Land" have taken the following steps to shipment were more uniform:

- Negotiations were held with all customers and replaced bonuses dependent on the volume of sales on marketing support which is independent of the volume of sales to establish uniform shipments;
- Rejection of motivation sellers depending on the volume and performance of the plan and translation vendors on salaries. This was done to make the shipment uniform, being able to predict demand.

As a result, changes were made to the CA "Beloved Land" in the period from 2004 to 2011 following results were obtained (Fig. 1).

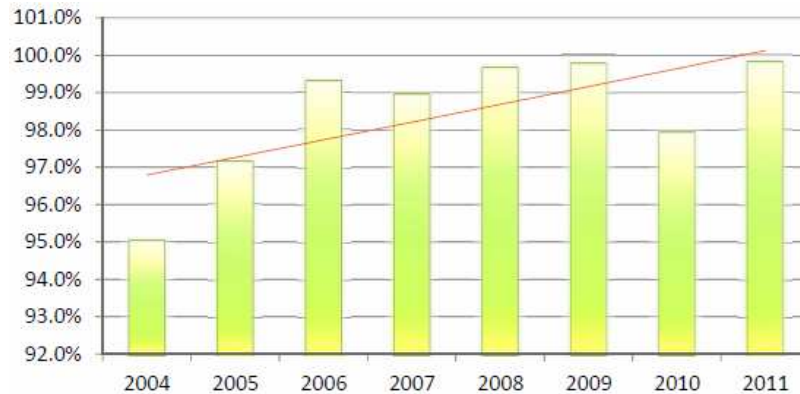


Fig. 1. Accuracy Orders for the CA "Beloved Land"

Analyzing Figure 1, we can conclude that as a result of changes the company managed to achieve almost absolute accuracy of order fulfillment.

Another important decision taken by the "Beloved Land" in 2011, there was an offer to distributors test methodology Theory of Constraints (TOC) inventory management. The safest way for the client has been selected. It is increasing the frequency of delivery using the Beloved Land's cash.

Consider a more detailed description Theory of Constraints. Theory of Constraints – the popular management methodology developed in the 1980s, Eliyahu Goldratt, which is based on finding and managing the key limitation of the system, which determines the success and effectiveness of the whole system. The main feature of the methodology is that making an effort over the management of a very small number of aspects of the system, an effect well beyond the result of simultaneous exposure to all or most of the problem areas immediately [5].

The testing methodology TOC on the LLC "QL-Logistic" the Kazan (the distributor of the CA "Beloved Land") in inventory management following results were obtained (Fig. 2):

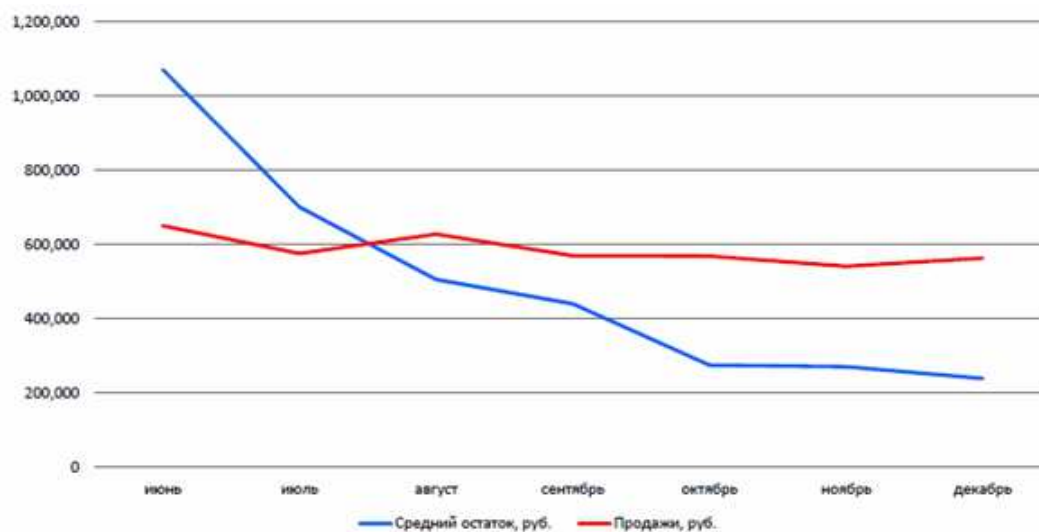


Fig. 2. Schedule of changes in the volume of reserves QL-Logistic

According to Figure 2, we can conclude that each month in 2012 a slight decrease in sales volume occurs, but a significant decline in inventory levels in the organization is noticeable (4.5 times). This is due to the fact that shipments have become more uniform, increased accuracy of order fulfillment. This has led to the ability to produce products to the extent that it is needed for a given period and to avoid excessive amounts of products. Thus there is a slight decrease in production along with the optimization of the stock (the release of more than 800,000 rubles for 7 months).

Stage 3. Findings

The study of inventory management at the CA "Beloved Land" allows us to offer the following recommendations to improve inventory management for the OJSC "Kommunarka":

- increase the number of dealers products the OJSC "Kommunarka". This solution will increase the number of channels and find new customers;

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- rationalize the product range. Equally important for production planning is the selection of the product range. When you decide the issue you should pay close attention to customer demand, as the range of products as much as possible must accord with the wishes of consumers;

- create new types of products demanded by the consumer. Creating new types of products helps to remind consumers about their company and their attention to new products through the media;

- coordinate sales in favor of insufficient development regions of Belarus, since in order to become a successful one, the company should start to familiarize with their products as much as possible the number of consumers;

- use TOC as Theory of Constraints has established itself as an effective tool of management skill. Thousands of companies in dozens of countries around the world have proved the effectiveness of their successes Theory of Constraints. Among them there are Tata Steel and Boeing, Ford Motors, DaimlerChrysler, Procter & Gamble, ABB, Hitachi tools, Japan Ministry of Infrastructure. The Russian company "POLAIR" using this theory in crisis not only maintained, but also increased the rate of its development. POLAIR is the largest Russian manufacturer of professional equipment for catering and trade, with an impressive product line and vast geography of sales. Management and coordination of production and marketing activities of the holding structure is carried out at the headquarters located in Moscow;

- hold a variety of advertising actions. Advertising actions allows interested consumers of their products and on a subconscious level to get them to buy their goods beyond their needs;

- increase accuracy of order fulfillment. This result can be achieved by organizing early order entry in the information system to inform the production of expected shipments;

- the replacement of volume bonuses on marketing support that does not depend on the volume of shipments to establish uniform to reduce stocks in warehouses.

So, summing up, we can say that to create the perfect inventory management system for the OJSC "Kommunarka", it should focus on activities of the CA "Beloved Land" and in the first place to pay particular attention to the accuracy of execution of the order, to create conditions for the uniformity of shipments, namely, to translate sellers in salary which is independent of the sales and make the substitution on the amount of bonuses on marketing support which does not depend on the volume and a detailed analysis of the range of products, to eliminate the least popular products and optimize the release of goods which are in constant demand from consumers.

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**IMPROVEMENT OF PACKAGE OF DAIRY PRODUCTS
FROM THE POINT OF VIEW OF LOGISTICS.**

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This article describes the concept of package, its functions, criteria of classifications, its major characteristics, the strategy of its creation and consumer psychology in choice of products. The types of package of dairy products of JSC Orshansky Dairy Combine are examined. Their advantages and disadvantages are also discovered. The example of the English retailer Asda, in which milk production is packed in so-called "Green Bottle", is considered as a way to package improvement.

Realization of the majority of goods is impossible without package. Package is a means or a complex of means which protect goods from damages and losses, and the environment from pollution. In logistics package plays an important role. Package provides consumers the information about the product, which is inside. Package protects goods from damage, that reduces the logistic risks connected with crush, damage, influence of chemicals, moisture, temperature and possible plundering of products. From the point of view of logistic