Shmygol Nadiia, Doctor of Economics, Professor,
Head of the Department of Accounting and Taxation
Viacheslav Durnin
Zaporizhzhia National University, Zaporizhzhia

APPLICATION OF XYZ-ANALYSIS IN DIFFERENT APPROACHES FOR MANAGING OF PRODUCT RANGE

In the XYZ analysis, which is a very common method of classifying resources of a company depending on the nature of their consumption, the product is classified according to the variability of the consumption of the inventory or the speed of shipment. The variation of consumption is estimated from the statistics of shipments for the period with the help of the coefficient of variation of the statistical array V. By the value of this coefficient, the entire list of goods is divided into three groups: "X", "Y" and "Z".

The group "X" includes inventory items with the coefficient of variation of shipment up to 25%. The group "X" will include inventory items with relatively stable shipping characteristics. Therefore, the concept of inventory level minimization can be applied to this group. This means that if all other conditions are the same, the optimum reserve Q_{res} of a product from the group "X" will be less than that from the group "Y", and especially the group "Z".

There are two approaches to the management of the product range, the so-called "American" and "Japanese" inventory management systems.

The "American" or traditional management system involves limiting risks by maximizing the inventory of the product range, formalizing and adjusting all assortment and inventory analysis processes "once and for all."

Clear execution of all procedures provides for effective management and managers of the trading network are trying to protect themselves from interruptions and supply problems, irregular demand for goods by building up sufficient inventory.

Such a management system requires significant material investments and constant inventory analysis, but reduces the risks for the store or trading network.

"Japanese" inventory management system involves minimization, optimization and automation. The system is more flexible and not so standardized compared to the "American". It provides an accurate forecast of purchasing behavior, sales forecast of goods and organizing an auto order system on its basis, clarity in the management of the entire system of ordering and delivery, reliable suppliers, "just in time" delivery. The trading network builds its relationships with suppliers on trust and delegation of responsibilities. Building up inventory is considered as an indicator of distrust to the supplier in the Japanese system. These two models of management are dualistic, but in our circumstances their combining works optimally along with development of universal solutions on their basis.

We will analyze the desirable approaches to each category of goods considering these management systems.

Category X includes products with the highest stability of demand and sales.

It simplifies deliveries - it is always known how much of this product will be sold and how much of it has to be ordered. The inventory reserves should be available to fill the difference between sales and order. It means not minimizing inventory, but minimizing management effort, setting up precise "just in time" deliveries.

Category Y. Seasonal fluctuations, steady growth or decrease are the typical characteristics of demand for these positions, therefore inventory is needed. The main thing for this category is the question of optimizing the level of inventory to provide the necessary level of customer service with a minimum of costs for the creation and maintenance of inventory.

Category Z. These include products that have no tendencies or stability in sales. Forecast of sales for them is impossible and inexpedient, and thus the optimization approach to the management of the inventory is not an option. The choice remains between minimizing (to the exclusion of products from the product range) or maximizing (if allowed by the financial capabilities) of Z category of inventory. When analyzing assortment with XYZ categories it is important to remember that this is one of the whole set of methods that can be used separately or in conjunction with other methods. The XYZ analysis, in its turn, is definitely useful in defining categories throughout a chain, a separate store or product group in terms of the stability of individual sales, as well as for the optimization of the supply system, when identifying problem stores with non-constant sales.