

ABC METHOD AND ITS ROLE IN MANAGING INVENTORIES AND THE TURNOVER OF THE COMPANY

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ABC method is the result of investigations by Italian economist Vilfredo Pareto (1906). This method is commonly used in the analysis of inventories, the turnover, costs, customers, suppliers etc.

As regards the management of inventories, on the basis of this method lies finding that about 70% of the small number of items of inventories in most industrial companies, representing about 10% of the total inventories, 20% the number of inventories items that hold about 20% of the total inventories, while approximately 10% of significant items of inventories represents about 70% of the total value of inventories.

ABC method allows analysis of the structure of turnover from the grouping of products for sale in three groups, namely Group A, Group B and Group C.

For a manager, the method is that it reminds them to focus on the 20% that matters. Of all the things you realize in a day, only 20% matter indeed. Those 20% produce 80% of your results.

Key words: ABC method, inventories, turnover, company.

Meeting the company objectives presupposes knowing and taking multiple risks. The process of risk management includes three stages: identifying risk, risk analysis, and reaction to risk. Risk is identified by drawing control lists, organizing meetings for identifying risks, and analyzing the archived documents. Risk and performance analysis and evaluation in a company use a series of methods, such as: margin analysis, the cost – benefits analysis, analysis through value creation, the ABC method, the checklist analysis, the Monte – Carlo simulation.

MATERIAL AND METHOD

This article presents the ABC method and its role in the risk and performance analysis of a company, exemplifying its usage in the stock and sales figure management. The application of this method takes into account the fact that when studying a phenomenon, all its components must not be given the same importance. Following statistical studies, it was noticed that approximately 80% of the variation of phenomena is due to a reduced number of variables (component elements or influencing factors), the rest of 20% being caused by a very large number of variables.

For this reason, the author of this method suggests a selective analysis of the components of a phenomenon or result, according to their position in the whole.

RESULTS AND DISCUSSIONS

The ABC method is the result of a research performed by the Italian economist Vilfredo Pareto (1906).

The application of the ABC method requires following the stages below [1]:

- Establishing the field and contents of its specific parameter;
- Establishing the value of the specific parameter;
- Classifying the components of the investigated phenomenon according to an ABC logic (in decreasing order of the specific parameters);
- Determining the cumulated value of the specific parameter;
- Delimiting the three signification groups: A, B, C;
- Graphically representing the real ABC curve and comparing it to the theoretical one (*figure 1*).

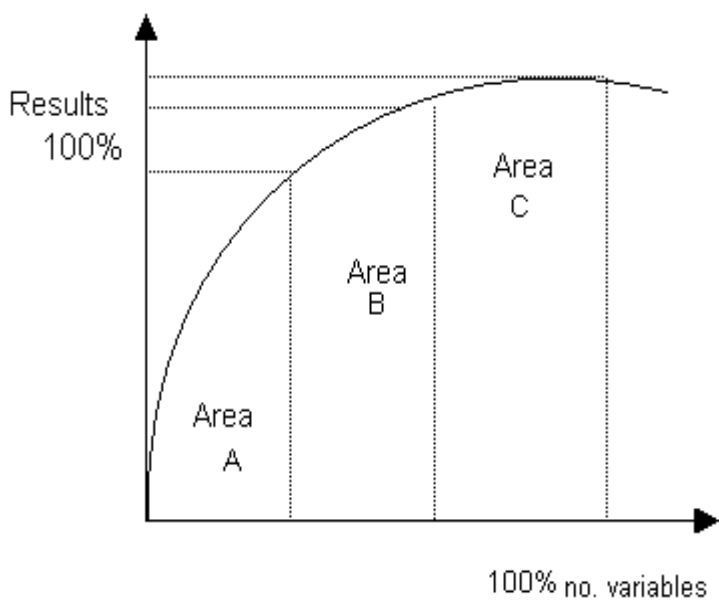


Figure 1 The theoretical ABC curve

Decisions related to the studied phenomenon are made according to the position of the real curve compared to the theoretical curve. In general, the position of the real curve below the theoretical curve shows that the phenomenon has a high component weight in the B and C areas, whereas the position of the real curve above the theoretical one shows that area A components are predominant.

This method is frequently used in stock analysis, in the sales figure analysis, in cost analysis, in customer and provider analysis, etc.

In what concerns **stock management**, this method is based on the fact that approximately 70% of the number of small stock items in most industrial companies represent approximately 10% of the total stock value, 20% represent the number of stock items that account for approximately 20% of the total stock value, while approximately 10% of the significant stock items represent approximately 70% of the total stock value. This means that, from a financial point of view, the detailed analysis and control of small value stock items with a high weight in the total stock items is unjustified [4]. According to the ABC method, stocks are divided into three groups, as follows [3]:

- *Group A* is composed of high value stock items but with a small weight in the total number of stock items (this category usually includes 8-10% of the total number of items, which account for approximately 70-75% of the total value of the analyzed stock). These materials must be rigorously managed because they represent, from the point of view of their value, the most important part of the stock;

- *Group B* is made up of stock items with a medium value and weight in the total number of stock items (this category includes around 20% of the total number of items, which account for approximately 20% of the total value of the stock);

- *Group C* includes small value items, but that have a high weight in the total number of stock items (approximately 65-70% of the total number of items, which account for approximately 5% of the stock value).

Stock items in groups A and B are subject to optimization, because of their importance, and the necessary financing for them is computed through analytical methods (a model used with positive results to this purpose is the Wilson-Whitin model). Stock items in group C, which are provisioned in large lots, are managed using synthetic methods.

Stock optimization is the starting point in determining the necessary financing of the exploitation cycle and must precede the closing of the provisioning contracts, for dimensioning the quantities and provision delays.

The ABC method allows **analyzing the structure of the sales figure**, starting from grouping the products for selling into three groups, respectively [2]:

- *Group A*, composed by at least 15% of the total number of products, but which contributes with about 60% to the sales figure;

- *Group B*, which includes approximately 25% of the total number of products and accounts for up to 25% of the sales figure;

- *Group C*, including up to 65% of the products, but which contributes with up to 15% to the sales figure.

According to this method, products in *group A* are characterized by *very high rotation speeds* and small expenses for provisioning-stocking-selling, so that the increase in the sales figure is explained either by the acceleration of their rotation speed or by the *very high product accumulation margins*; products in *group B* are characterized by *medium rotation speeds and accumulation margins*,

which implies medium levels of the sales figure; products in *group C* have a *slow rotation speed*, which implies high stocking expenses, which trigger *high accumulation margins*, but in spite of this, they create difficulties in the financial management of the company.

In what follows, we will exemplify the analysis of the sales figure per product, according to the ABC method, based on the data in the table below (*tab.1*):

Table 1

The analysis of the sales figure per product type - the ABC method

Product	CA (thousands lei)	Products in decreasing order of CA	CA (thousands lei)	Cumulated CA (thousands lei)	Structure (%) in:	
					no. of products	CA
1.	140	1.	140	140	46.16	71.57
2.	30	11.	135	275		
3.	55	5.	115	390		
4.	86	6.	92	482		
5.	115	4.	86	568		
6.	92	10.	84	652		
7.	48	3.	55	707	38.46	24.04
8.	10	7.	48	755		
9.	43	9.	43	798		
10.	84	12.	38	836		
11.	135	13.	35	871		
12.	38	2.	30	901	15.38	4.39
13.	35	8.	10	91		
Total	911	-	911	911	100.00	100.00

Interpretation:

The analyzed company capitalizes on a significant number of finished products, and the sales figure is concentrated in six products (1, 11, 5, 6, 4, 10), respectively 46.16 % of the total number of products, whose selling accounts for approximately 71.57% of the total sales figure of the company, which is 911 thousands lei. Five products (3, 7, 9, 12, 13), respectively 38.46% of the total number of products, represent 24.04% of the sales figure, and only two products (2 and 8), respectively 15.38% the total number of products, account for only 4.39 % of the sales figure.

As a conclusion, we can notice that in the analyzed company, products in area A are predominant, characterized by a high rotation speed, which means their availability for selling is permanent, which requires reduced stocking expenses. In what concerns the consequence of the dominance of the products in area A on profitability, the company has an advantage in the case when the demand for these products is constant; otherwise, a diminution in the demand of the appearance of strong competition for some products in area A can decrease the profitability of the company. Since the number of products in area A involved in achieving the sales

figure is the highest, the activity of the company is not risky. Products in area B have a moderate rotation speed and contribution margin, and products in area C usually imply problems related to the company's financial management because of their low rotation speed and of the high expenses for provisioning and stocking.

CONCLUSIONS

The ABC method is frequently used, as mentioned before, in stock analysis, in the analysis of the sales figure, of costs, of customers, providers, etc.

For a manager, the value of this method is given by the fact that it reminds them to focus on the 20% that matter. Of all the things achieved in one day, only 20% truly matter. These 20% produce 80% of our results.

The ABC method should remind us all, every day, to focus 20% of our time and energy on the 80% of our achievements.

Considering that in a company, a high amount of raw materials and components etc. is used, the operational analysis of the evolution of the stocks for each individual item is practically impossible. In these circumstances, the ABC method can be used with very good results for grouping the different materials used in the company. Following such a grouping, the task of stock management becomes much easier. It will be mainly concerned with the materials in group A, fewer in number, but estimated as the most important.

Based on the results of the analysis of the sales figure structure using the ABC method, according to the nature of the products and the characteristics of the market for these products (for example, products whose demand is constant or random, on a market with a high or low competition), decisions are made regarding the focus on those products that do not imply a high exploitation risk and do not endanger the profitability and the development of the company's activity.

In conclusion, the ABC method is an extremely useful way of identifying most of the critical aspects on which the company's management should focus. When used correctly, it becomes a powerful and effective tool for the continuous improvement of the activity, in solving problems of separating "a few vitals" from "many others", causes expressed in terms of costs and/or frequency of occurrence.

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