

## PROBLEMS OF TECHNOLOGICAL ADVANTAGE OF THE FIRM IN THE MARKET CONDITIONS

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**Abstract:** *In article the laws formation and development of the firm competitive advantage are considered. It is noticed that environment and conditions of the enterprises development influence the competitive advantage of the enterprise. The basic aspects of research are made on the analysis of the logistical model of deduction of the firm competitive advantage.*

**Keywords:** *firm, competitive advantage, technological advantage, product quality, logistics, value chain.*

In the conditions of market economy development in Moldova and Ukraine, the model of retention of the technological advantage of the firm, which depends not only on its competitiveness, but also on the ability to retain a competitive advantage, is recognized as a civilized value. This problem is particularly topical for the firms of Moldova and Ukraine during the period of integration into the world economy and strengthening of relations with the European Union.

The modern stage of development of the market economy is characterized by the rapid development of technologies, as a result of which the evolution of technological systems is accelerating, and new technologies become one of the factors of the firm's competitive advantages. The concept of technology is becoming much broader. This concept is associated not only with technical activities, but also with any other activities of the firm (management, marketing, logistics, etc.).

Developing a competitive strategy, the firms seek to find the best way to maximize (in comparison with their competitors) profits in their branch. However, in conditions of uncertainty and risk, the choice of a competitive strategy is determined by two moments:

- a) structure of the branch in which the firm operates;
- b) segment of the market that this firm occupies in the branch.

The firms in Moldova and Ukraine should not only timely react to changes in the structure of the market segment and try to change it in their favor, but also choose the optimal segment for themselves within the branch, since the market segment determines the competitive advantages of the firm.

The competitive advantage of the firm is divided into two main types:

- 1) with low production costs;
- 2) with differentiation of goods.

The differentiation of goods is understood as the ability to provide a buyer with a unique and greater value in the form of a new product quality, special consumer properties or post-sale service. The differentiation of goods allows firms to dictate large prices on the market, which, given equal costs of production with competitors, enables them to make greater profits.

It should be noted that it is quite difficult for a firm to obtain competitive advantages, based on low production costs and differentiating goods at the same time. Therefore, any effective strategy, paying attention to both types of competitive advantage, can adhere to one of them. So, a firm that is trying to gain a competitive advantage based on minimum production costs must nevertheless ensure acceptable quality, service, etc.

Another important variable that determines the position of the firm in the branch is the sphere of its competition and the purpose for which it is oriented within its branch. One of the reasons of the importance of the sphere of competition is that the branches in modern conditions are sufficiently segmented, i.e. they correspond to different sectors of the market, different requests of buyers, and, based on this, they can either compete "on a broad front", or aim at any one sector of the market. It should be noted that practice shows that in order to achieve success in a certain market segment, it should be focused on one of the market segments.

The type of competitive advantage and the scope of the firm in which it is achieved can be combined into the concept of model strategies:

- 1) sphere of competition (broad goal), that is, leadership on costs and differentiation;
- 2) sphere of competition (narrow goal), that is, focus on costs and focused differentiation.

The concept of model strategies is based on the idea that in order to achieve its main objective, the firm must choose a strategy, determine the type of competitive advantage and the scope in which it is possible, based on its financial and economic situation.

In order to obtain a competitive advantage, the firm should either give buyers about the same value as competitors do, or produce goods at lower costs (*strategy of lower costs*), or act so as to give consumers a product with a higher value for which a higher price can be obtained (*strategy of differentiation*).

In order to implement the strategies for lower production costs and differentiate goods, the firms should actively use the logistics that enable them to formulate an effective policy to ensure their competitive advantage.

The basic idea of logistics is that all stages of production (extraction of raw materials, obtaining materials, products, manufacturing of final products), transportation and merchandising should be viewed as a single and continuous process of transformation and movement of labor products and related information. According to experts, the introduction of logistics in firms related to the production of products will allow reducing material costs by 15-20%, and if flexible operating systems are used at such firms, the duration of the production cycle should also be reduced by 15-20%.

The firms of Moldova and Ukraine, when using strategies of lower production costs and differentiation of goods, should apply any opportunities of total quality control of products (services) aimed at reducing the product costs and increasing the value of products (services) in order to meet the needs of the buyer.

It should be noted that the logistics activities carried out by firms allow improving the quality of products (services) by changing one aspect of quality - logistic quality. For example, the logistic organization of providing products (services) leads to the detection of acceptable prices by buyers, a high level of service and the desired variety of products (services). Such types of activities in the competition in any branch are divided into categories and are united in a values chain of the firm.

All types of activity that are part of the value chain contribute to the user value of the goods and affect the volume of profits, but each activity requires different resources and a combination of different technologies.

The competitive strategy chosen by the firm determines the way in which certain activities, included in the value chain, are performed. The value chain of a firm is a system of interdependent activities, between which there are links, i.e. the existence of such links requires coordination of different types of activities. In this regard, the effective and optimal management of communications is now becoming one of the decisive factors of competitive advantage. In order to achieve a competitive advantage, the value chain should be approached as a system, not as a set of components. Due to these circumstances, it is necessary to more carefully approach system analysis, which offers a methodology for a comprehensive research of objects of economic nature as systems.

So in practice, it is possible to follow the change in the value system that occurs in the dynamics of the movement of raw materials and its transformation into used goods from the supplier to the consumer. Proceeding from the fact that the different trajectories of the movement of raw materials (goods) correspond to different costs of production, this leads to the emergence of a need for logistics, which range of tasks extends from the traditional tasks of logistics to the tasks of banking, services and other areas of market economy.

The chain of values allows determining better the competitive factors of the firm's advantages at the level of production costs, which ultimately allows benefiting from the cost of production, i.e. the firms achieve a competitive advantage and find new ways of competition (innovations) in their branch.

As the main innovations that give the firm a competitive advantage, are considered new technologies that affect the appearance of a new segment in the product market, etc. As practice shows, the retention of competitive advantages of a firm depends on factors, number of sources and continuous modernization of production, as well as other activities. At the same time, it is important not only to react quickly to changes in the structure of the branch, but it is also necessary to make optimal and effective solutions for the development of technology. To this end, the firms should use as a forecasting tool the S-shaped (logistic) curves that reflect a certain relationship between the costs associated with the modernization of technologies or goods and the economic indicators obtained from invested funds in different sections of the life-cycle curve of technological systems.

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Indeed, if we analyze the trend in the development of any branch of technology in modern production, then it appears a picture indicated by the logical curve. So, at first there is a slow rise, at the middle stage there is a rapid rise and it continues until it approaches its logical limit.

The achieved level of technology efficiency can be maintained for a certain period of time after which efficiency can actually fall, i.e. the technology, in the long term perspective, may cease to be such. In this situation, neither additional investments nor modernization of production can restore the dying technology and in a competitive market it should be made only one decision - to switch to a new one.

Thus, in order to ensure the competitiveness of products and segment advantages on the market, the firm must master the entire range of methods of technological renewal. This methodology is based on the ability to use in practice the life cycle categories of technology: logical S-curve, technological frontiers and technological gaps.

The practice of economic development of the national economy of Moldova and Ukraine shows that, in the dynamics of the evolution of technological systems for firms, the technology, with the help of which competitive advantages in the market are retained, is of practical value.

In order to solve the problems of the technological advantage of firms, the Moldovan and Ukrainian economies face a number of challenges that need to be addressed at the macroeconomic level:

- accelerated economic development by creating conditions for the reproduction of resources by as many manufacturers as possible;
- elimination of unemployment by including in the process of reproduction as many industries as possible within the single economic space of the national economy;
- development of the economy, determined by the development of all, and not individual, branches and industries;
- priority in the development of the economy of solving the problems of the real, and not the financial sector;
- transformation into one of the main factors of the development of the economy of scientific and technological progress;
- change in the structure of production and export of products due to the priority of branches that produce technologically complex products and the unimpeded flow of capital within the borders of the national economy;
- transformation of prices from the category that maximizes the effect and accumulation of resources within individual large firms and the economy of the municipality (city) into a category conducive to the flow of capital into the regions of the country;
- development of a regional model of economic development and of a specific instrument for assessing the impact of investment factors in human and physical capital on the economic development of regions;
- determination of new approaches to state regulation and support of human capital development, by ensuring effective employment, improving the education and health system.

At the beginning of the 21<sup>st</sup> century it became evident that in the sectors of the national economy that determine the economic progress of society, it is the highly skilled labor force that turns into a driving factor that will determine the structure and potential of countries.

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