



ALGORITHM FOR THE DEVELOPMENT OF INNOVATIVE STRATEGIES INDUSTRIAL HOLDING

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ABSTRACT

This article considers the classification of innovative strategy depending on the model of the behavior of the enterprises in market conditions and depending on the innovative purposes. The factors, allowing to define are proved, the company will generate ideas or blindly to simulate. As a result of the analysis of innovative strategy, this work presents an algorithm of development of the innovative strategy of industrial holding.

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1. INTRODUCTION

The concept of strategy in the modern interpretation is a complex management action, which is aimed at strengthening the position of the organization and meeting the needs of consumers, contributing to the mission of the organization and the achievement of its goals. It should be noted that in the digital economy, the formation of an innovation strategy should take into account the basic processes (the development of knowledge-based technologies and information society), both in the organization and in its external environment, the possibility of growth of the innovative potential of the organization on the basis of internationalization of innovation.

2. LITERATURE REVIEW

The innovative strategy of the industrial holding should focus on the future and take into account the constant changes in the external environment, widely use the innovative potential of the holding's subsidiaries, characterized by flexibility and the ability to quickly adapt to new market conditions.

Therefore, it is impossible to achieve the desired result in the holding without the formation of an innovative strategy that would be able to most effectively link all the innovative processes of the organization.

Previous studies regarding the development of innovative strategies for the industry have been discussed in [1-5]. Ramensky proposed the theory of types of competitive strategies, independently rediscovered and brought to a qualitatively new level in 40 years by the British ecologist [2]. The type of Ramenskoye [3] strategy reflects the facility's ability to resist competition and capture a particular volume of hyperspace of ecological niches, to experience stress, to recover from violations. The main determinants for determining the strategy are competition, stress, and disturbance [2].

Under this approach, the strategic behavior divided into four types: violenta (power) strategy; patienta (niche) strategy; commutata (linking) strategy; experienta (pioneer) strategy.

The natural growth of the firm during the life cycle is often associated with a consistent change of strategies. His development of this approach was in the works by the Swiss expert [4], which proposed designation of the type of innovative firms associated with the animal world (Fox, elephants, lions, mouse, etc.). Another approach to the classification of innovative strategies is based on the definition of the purpose of the developed strategy.

An interesting point of view on the division of strategies [5]. The author makes the selection of their varieties based on the concept of conversion. At the same time, it is proposed to understand the conversion of the enterprise activity as a continuous chain of various reactions to changes in the external environment and, above all, the market of goods and technologies. Innovations introduced by conversion can have different degrees of radicality: from changing the distribution channels of products (carried out without changing the production technology) to a radical change in the technological specialization. Among the most typical strategies, according to Kruglova, we can distinguish the following:

- The strategy of partial changes in the product range;
- Full range change strategy;
- Strategy for changing technological specialization.
- Adaptation of the company's business priorities to market requirements by stages of the technology/demand life cycle.

In addition, in the literature on strategic and innovation management, you can find other options for the classification of innovative strategies, in one way or another corresponding to the above methods.

Today, there are many different types of techniques and tools available: conceptual and mathematical models, checklists, comparative analysis, specific techniques (such as cost optimization and quality function deployment) and methods (such as PERT, CPA). Many of them are based on academic empirical research; others have been developed in industry or by consultants working in the industry. Some are widely used, while others are only useful in specific contexts.

2.1 IMITATION OR INNOVATION

The mechanism of innovation management is always aimed at achieving specific innovation objectives by influencing the factors that ensure their achievement. The mechanism of management of innovative development of holding depends on subjects of innovations. Subjects of innovative development of industrial holding can act as innovators – generating new ideas or as simulators that reproduce new (foreign) ideas.

The dilemma of "imitate or not imitate" is always faced by companies that lack technology. Typically, companies start as simulators and then learn. Although imitation is the primary mode of action, the understanding of imitation will vary from company to company. For some companies, imitation will be a strategy, for some a short-term tactic. How quickly an industrial holding company can change its strategy, move from the position of a simulator to an innovative strategy is determined by the ability to absorb and learn new things, namely to recognize, assimilate and apply the knowledge that helps it better absorb and adopt external resources [6].

Two factors that allow determining whether the company will "generate ideas" or blindly "simulate" include:

1. The ability to absorb and learn new things, namely to recognize, assimilate and apply the knowledge that helps it better absorb and adopt external resources.
2. Available additional assets are available to the firm, such as specialized production facilities, access to sales channels, service networks, and related technologies.

The ability to absorb new and additional assets depends on the chosen path and can make a significant contribution to the success of the organization. Therefore, the ability to develop new products in the future depends on the ability to match the strategic intent with existing resources and knowledge.

Thus, companies with the ability to identify, assimilate and apply external knowledge and at the same time the ability to apply the acquired knowledge will choose an innovative way of development. They will not just try to imitate their competitors but will start their own, more systematic innovation. If the company lacks the necessary ability to absorb new and additional assets, it will be forced to just blindly simulate.

2.2 DEVELOPMENT OF INNOVATIVE STRATEGY OF INDUSTRIAL HOLDING

As we noted above, there is no single model of innovation strategy that is successful for all enterprises. The choice of strategy depends on many factors, including the market position of the enterprise, the dynamics of its change, the production, and technical potential of the enterprise, the product or services produced, the state of the economy, the cultural environment, and so on.

Evaluation of the chosen strategy is carried out by analyzing how taken into account the problems of the market and in accordance with the principles of innovative development of the holding. In addition, learning is a key factor in strategic development. Holdings that have the ability to identify and apply the accumulated knowledge will not only seek to imitate their competitors but will start their own, more systematic innovation.

3. RESEARCH METHOD

There is no single model of innovation strategy, as well as single strategic management for all enterprises for one simple reason – each company is unique in its characteristics. It follows that the content of the strategic management of the innovation process is also unique and each company has its own specific form. The type of innovation strategy depends on external and internal factors.

The strategy of the market leader involves the introduction of basic (radical) innovations,

including the creation of fundamentally new products, technologies, methods of organization and management. Follower strategy, adhere to organizations implementing to improve innovation.

B. Santo gives the following classification of strategies [1]:

- by the nature of "planners" and "implementers": institutional (at the enterprise level) and Central (at the state level);
- by subject matter at the level of enterprises distinguish strategies in the field of research and development, product structure, market, Finance, organization, etc., which are part of a long-term innovation strategy;
- on "managerial behavior": traditional, opportunistic, imitation, defensive, dependent, offensive.

Understanding the innovation strategy as a particular model of the company's behavior in the new market conditions, we can distinguish two groups of strategies: active and passive (Figure 1).

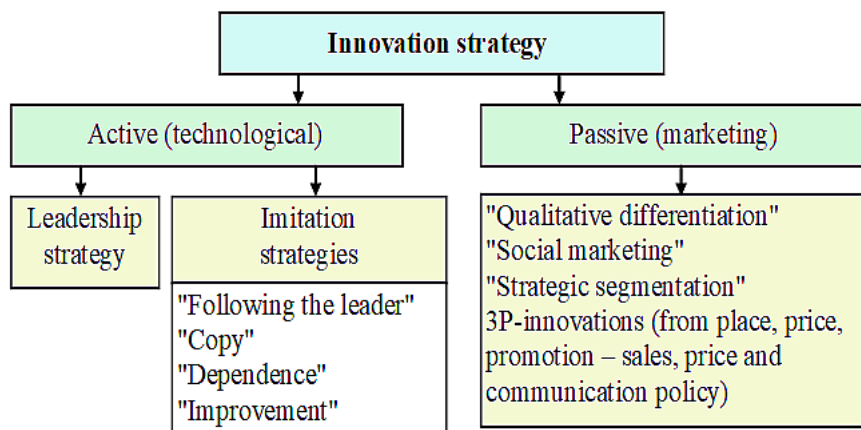


Figure1: Classification of innovative strategies depending on the behavior of the enterprise in the market

4. RESULT AND DISCUSSION

As such, the goals are considered to achieve a leading position in the market or hold the won positions (Figure 2). This classification extends and complements the division of innovative strategies on "managerial behavior" proposed [1].

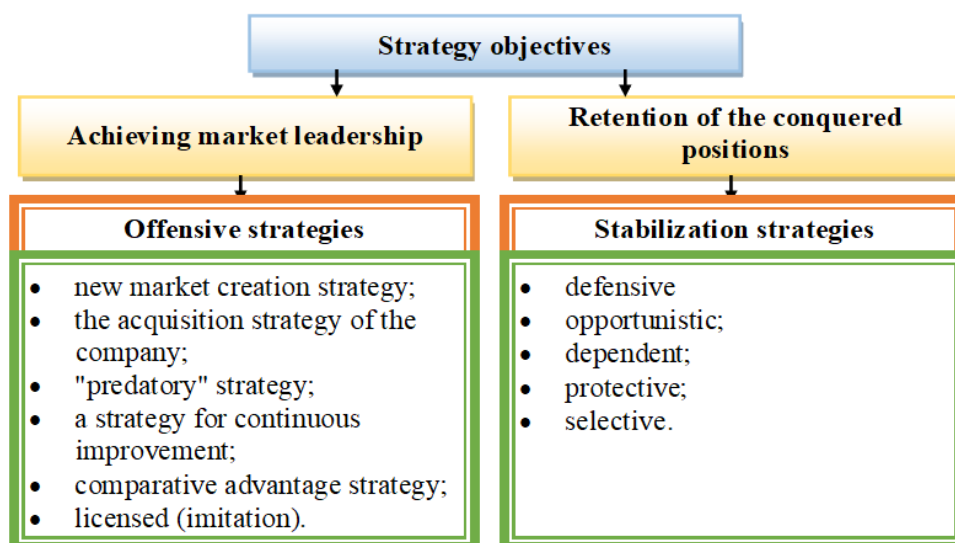


Figure 2: Classification of innovation strategies depending on the innovation objectives.

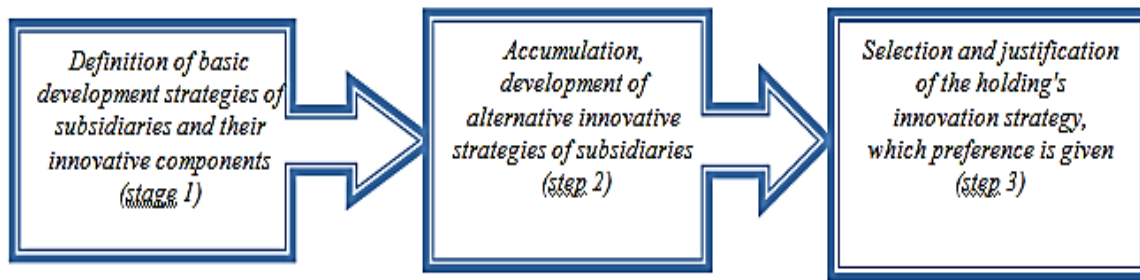


Figure 3: The sequence of development of the innovative strategy of the holding (developed by the authors).

Figure 3, the development of the holding's innovation strategy is proposed to be divided into three stages. The structure of the industrial holding is an integrated network [7]. Most large holdings are combined organizations, which is expressed in centralized management in combination with the structure of semi-independent but related subsidiaries.

The organizational structure of the holding allows several structures of the industrial holding to work on one project simultaneously with the overall coordination of the center, which is usually assigned to the parent company [8]. At the same time, the project management tools allow individual structures to monitor the progress of innovation development, experimental research, adaptation and implementation [9].

Thus, the effectiveness of the innovative development of industrial holding is possible only if a single innovative strategy for all subsidiaries of the company is formed. The strategies of subsidiaries and their components are determined, which are accumulated in the future, and taking into account all these strategies, the overall strategy of the holding is formed (Fig. 4).

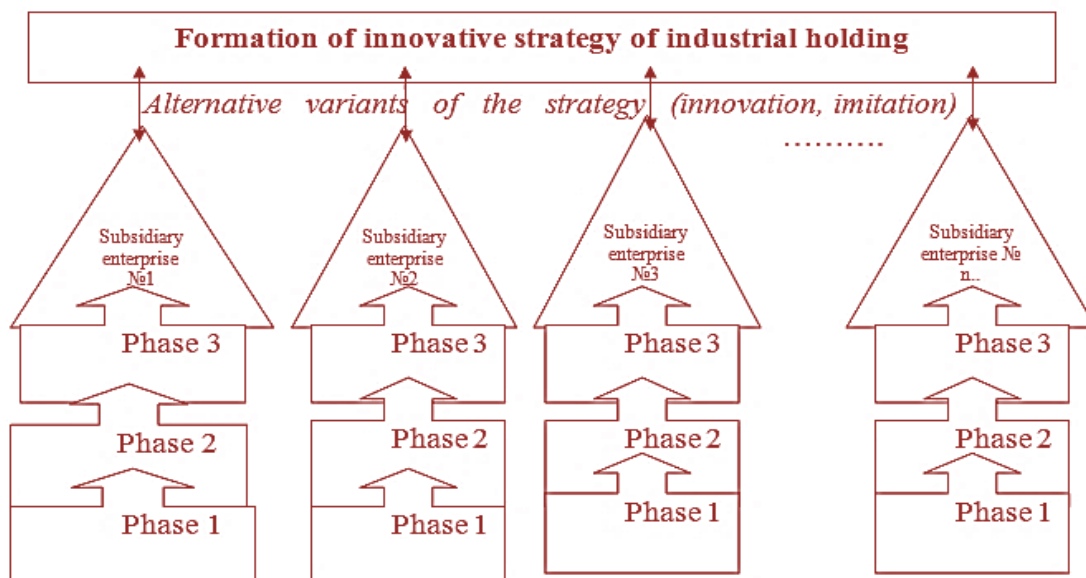


Figure 4: Formation of innovative strategy of industrial holding (developed by the author)

The innovative strategy of the industrial holding should focus on the future and take into account the constant changes in the external environment, widely use the innovative potential of the holding's subsidiaries, characterized by flexibility and the ability to quickly adapt to new market conditions [10].

5. CONCLUSION

From this study, it finds that the innovative strategy of the industrial holding will be considered successful if it leads to a new product or service that will sell well. Therefore, it is necessary to use the synergy of different methods and tools for managing the innovation system of an industrial holding company in order to maximize the "overlap" of the shortcomings of one method with the advantages of another. Each company should independently choose which method to work with and which set of tools to use, and by drawing attention to the fact that a comprehensive approach to solving management problems has repeatedly proved its effectiveness.

6. REFERENCES

- [1] Santo B. *Innovation as a means of economic development*. Moscow: Progress, 1990, 296-302. (in Russ.)
- [2] Mirkin B.M. About the types of ecological-coenotic strategies in plants. *Journal of General Biology*. 1983, 5: 603-613. (in Russ.)
- [3] Grime J.P. Vegetation classification by reference to strategies. *Nature*. 1974, 250: 26-31.
- [4] Pankrukhin A.P., Soloviev V.A. *Face to the market: problems and opportunities of practical marketing*. Moscow. 1991: 95.
- [5] Kruglov N.Yu., Kruglov M.I. *Strategic management*. Moscow. 2004, 255p.
- [6] Dmitrieva S.I. From imitation to innovation. *Scientific perspective*. 2012, 9: 6-8. (in Russ.)
- [7] Gavrilenko T.Yu., Provorova O.P. Network economy as a phenomenon of information society. *Rossiyskiy tekhnologicheskii zhurnal (Russian Technological Journal)*. 2016, 4(1): 53-61. (in Russ.)
- [8] Dmitrieva S.I. Organization of work of the Department of innovations in the industrial holding. *Bulletin of Moscow State Regional University, Economics Series*. 2009, 1: 48-52. (in Russ.)
- [9] Rogova V.A. Personnel problems of high technology development in Russia in the mirror of the Global innovation index. *Rossiyskiy tekhnologicheskii zhurnal (Russian Technological Journal)*. 2018, 6(4): 105-116. (in Russ.)
https://rtj.mirea.ru/upload/medialibrary/f3d/RTZH_4_2018_105_116.pdf.
- [10] Parviala, T. (2019). *EU Entering the Era of AI: A Qualitative Text Analysis on the European Union's Policy on Artificial Intelligence*, 56p.



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