



## **Small Businesses in the Context of Innovation Competition**

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### **ABSTRACT**

The article presents the results of the analysis and systematization of publications on the competitive behavior of small businesses in the innovation economy. It is shown that the adoption of innovation activity in small firms is an effective way of mass replication of innovations and is connected with the non-linearity of the innovation process, the need for the accumulation and constant search for new knowledge and the successful adaptation to a changing business environment. In accordance with the presented in the article approach to the analysis of the competitive behavior of a small firm there were highlighted the motives (reasons) incorporating different forms of imitations in its innovation activity, individual objects of imitation, the range of factors affecting the success of the business. Suggestions put forward in this article are the basis of the author's model of the impact made by innovative solutions on the performance of small businesses using imitations of varying degrees of creativity.

**Keywords:** Innovative Economy, Small Business, Imitation

**JEL Classifications:** M13, M20, M21, M29

### **1. INTRODUCTION**

The most important feature of the world economy in modern conditions was the rapid growth of small businesses and a sharp increase in their importance in maintaining and creating competitive advantages of national economies of many countries. However, today a fundamentally new context of doing business is formed, while small business is faced with complex problems caused by the stress of competition, fundamental changes in its nature, sources and mechanisms for its implementation under the influence of many factors – The globalization of business, increasing the role of innovation and intangible assets, differentiation in demand, etc. At the same time, for example, in the US 80% of the post-war economic growth was provided by the use of improving innovations and only 20% – by the use of essentially innovative ideas (Jones, 2002).

In these circumstances, there is an urgent need to rethink the existing forms and methods of entrepreneurial activity, the development of approaches providing its successful adaptation to the dynamic business environment. For small businesses today, an important factor in creating sustainable competitive advantages becomes the use of effective methods of participation in the innovation competition through the development of skills for a successful search and the use of external knowledge and technologies. Despite the large number of works devoted to the issue of competition, its research continues to be relevant, the process of innovation and competitive behavior of companies is very complex and contradictory; with respect to small business, many aspects remain insufficiently studied, making it difficult for entrepreneurs to actively use effective strategies suitable for realities.

## 2. LITERATURE REVIEW

Researchers today pay considerable attention to the rethinking of the innovation phenomenon. At the same time they indicate that the established underestimation of the importance of innovation imitation is largely based on the interpretation by Schumpeter of an entrepreneur as “a leader and innovator,” who is threatened by the crowd of imitators, eager to release a similar product (Schumpeter, 1995). The classic vision of an imitation activity was criticized by Kirzner, one of the first back in the 1970s, who pointed out that entrepreneurship is demonstrated by imitators just as by innovators themselves. In later works, he paid great attention to the justification of the provisions of the innovation and imitation complementary nature (Kirzner, 2010).

It should be noted that in the traditional areas of the theory of innovation management the imitation activity practice is usually opposed to the tasks solved on the basis of the innovation strategy. However, at the end of the 20<sup>th</sup> – The beginning of the 21<sup>st</sup> centuries a number of authors stated that the imitation strategy can break the technological gap, saving value and time costs. At the same time the desirability of the consideration of the imitation at the level of both individual firm and the national economy as a whole was pointed out (Shenkar, 2010a).

The practice of borrowing knowledge and technology is of great importance for the successful development of competitive advantages of small firms. In 1997, MacPherson introduced the term “external knowledge acquisition” and substantiated it as an efficient cost-effective way of acquiring technologies, especially for small and medium business (MacPherson, 1997). Buckley used the term “strategy of technology transfer” to describe the way the knowledge is borrowed by small business entities (Buckley, 1997). Gentry et al. (2013) interpret the practice of borrowing technologies and “imitation strategy” as an effective way of start-ups development. At the beginning of the 2000s Chesbrough (2003) justified the need for a paradigm of “open innovations,” in which the imitation practice is linked with the idea of the importance of a constant search for and implementation of internal and external knowledge and technologies by a company. Overall, however, the available theoretical and methodological tools related to the investigation of the processes of the competitive advantages of small business through the application of different types of innovation strategies are not sufficiently developed.

## 3. METHODOLOGY

Theoretical background of the study of small business behavior in the context of innovation competition is associated with such areas of economic theory as institutional economics, evolutionary economy and the economy of the company. Significant conceptual differences contributed to the formation of the opinion that this problem can be solved by creating a theory that integrates the best of existing concepts. However, this approach is not very promising because of the incompatibility of methodological research programs, and its implementation will lead to the creation of a theoretical construction of the eclectic nature (Foss, 2000; Hodgson, 2000; Savitt, 2000). The general concept of competition

should be developed on the basis of the approach that should be systematic considering the systemic nature of the organization of the company activity, and the evolutionary that would correspond to the nature of its competitive behavior as a complex, self-sustaining and open system.

Among modern theories of management interpreting the formation of the competitive advantages of small businesses in different ways, the resource concept and the concept of dynamic capabilities emerged on the basis of its development are of special importance. In the resource concept the purpose of successful strategies is considered the creation of valuable, difficult to be simulated by other companies’ resources (Barney, 1991). Proponents of the concept of dynamic capabilities indicate that today it is not enough to have unique resources and competencies in a turbulent environment, dynamic capabilities and appropriate procedures to promptly adapt the resources and competences to changing conditions are necessary (Helfat et al., 2007). The concept of dynamic capabilities is most conducive to the study of the behavior of firms in the context of innovation competition. Established on the resource-based approach, it develops Neo-Schumpeterian theory of a firm and decision-making in the organization, which combines the approaches of behavioral theory of the firm, the evolutionary trend in economic theory and Schumpeterian understanding of the innovation process (Biryukov and Romanenko, 2015).

Currently, small businesses may not become a target of the theory of strategic management in determining mechanisms to achieve the competitive advantages under the conditions of innovative competition. In this regard, it is important to develop the theoretical and methodological tools that allow realistic description of the innovative behavior of small businesses using the imitation.

## 4. RESULTS

Based on the theoretical framework and ideas of the basic directions in the theory of management, as well as an array of the published results of studying the behavior of small businesses in the context of innovative competition with the use of imitation this paper attempts to study this phenomenon as a system. Its result is the development of a comprehensive model of the competitive behavior of small businesses in the innovation process; analyzed publications were reviewed within the selected parts of the model.

According to the discussed in the article approach to the development of innovative strategies of small firms, including the imitation of different degrees of creativity, its types were distinguished, as well as individual objects of imitation, its motives (reasons), the range of factors affecting the success of the activity and the entry barriers impeding innovation by using imitation to develop competitive advantages were singled out.

Presented in this article suggestions are the basis of the authors’ model of the impact of innovative solutions with the use of imitation on the small business effectiveness, it can be measured by various indicators, which are formed in an integrated manner and take into account the economic and innovative effects. Ideas put forward in the article, can be used as the theoretical model

characterizing the relationship between the factors and variables. On this basis, it is possible to develop hypotheses about the success of the innovative behavior of small firms and their empirical testing.

## 5. DISCUSSION

### 5.1. Innovations and Imitation Activities as a Source of Competitive Advantage of Small Businesses

According to the modern vision the company can be considered as a self-developing, evolutionary, open system, exposed to the constant impacts of external environment and responding to innovative changes.

Creating and replicating of various types of innovations is determined largely by the stage of the product life cycle. As part of the product life cycle (technology) its successive improvements can be represented as an S-shaped curve. During the product inception Schumpeterian entrepreneurship acts as the driving force, and at later stages Kirznerian entrepreneurship acquires the crucial role (Ploskonosova and Romanenko, 2012). Initially, various models of product are competing; with the distinguishing of the dominant model the competition is carried out within different variants of the same model in the emerging mass market. At that breakthrough innovations are replaced by incremental ones, which act as creative imitations, combining various elements of borrowed past experience and knowledge with elements of novelty.

A standard model, characterizing the changes of the basic parameters within the space of possible modifications of borrowed innovation, comes from the fact that an increase in novelty imitation activity is accompanied by increasing costs and the potential success in the market, with the simultaneous increase of the risk level that slows the growth rate of expected income flow. The best ratio between the expectation of benefits and costs is usually achieved in the implementation of creative imitation, rather than at the maximum and minimum values of the degree of innovativeness of the implemented projects.

For the purposes of innovations every innovator and imitator must have a certain minimum threshold of knowledge and experience, below which they may have infinitely large entry expenses. The higher the level of the original scientific and technical knowledge of the company and the richer the initial experience is, the less entry expenses are. At that the ratio of entry expenses of an imitator and an innovator in the acquisition of knowledge and experience depends on their starting conditions; but an imitator can save on search costs, taking into account the innovator's mistakes.

Even with the publication of the work by Piore and Sabel in 1984 the attention was drawn to the fact that the systemic changes in the context of innovation and entrepreneurial activity caused a weakening of the importance of economies of scale of enterprises in the developed countries (Piore and Sabel, 1984). These changes contribute to the development of the key competitive advantages of small business (Romanenko, 2015).

The current state of competition is defined as hypercompetition (D'Aveni, 1994). The transition to the hypercompetition is linked with the emergence of a new paradigm of business behavior. Today it is not possible to hold superiority over the competitor for a long time without creating new advantages. Hypercompetition undermines the role of the barriers restraining competitive struggle: Technological, trade-related, patent, license and others. The key importance is the ability to find the weak pockets of competitors, to timely abandon outdated advantages and create new ones.

In conditions of innovation competition the time interval has been considerably reduced during which the firms simulate successful practices. Reducing the imitation lag and the variety of management practices used by companies have led, as noted by Samuelsson and Davidsson (2008), to the fact that the distinction between innovation and imitation strategies have largely erased between enterprises in modern business practices. Imitation has become an integral part of the non-linear innovation process; in practice, an exceptionally innovative company, or a company-simulator in its "pure" form, are rare.

### 5.2. Factors Influencing the Success of Innovation, Based on a Imitation Activity of Small Business

Motives for innovation promotion on the basis of borrowing knowledge and technologies are associated with the pursuit of small firms to receive these or other significant benefits. Taking into account the classification proposed in Hagedoorn (1994), the following groups of motivating factors can be distinguished: First, reasons connected with the general characteristics of the process – increasing level of complexity and inter-industry nature of new technologies, a lack of self-innovation reserve; minimizing the risk of innovation activity; reduction of costs for research and development; secondly, the reasons connected with the imitation project – The access to the implicit knowledge and technology transfer; reduction of the product life cycle, reducing the costs of creating and commercializing new products; third, reasons related to market access and search capabilities – The creation of new products, obtaining financial and economic benefits, access to new segments in the domestic market, etc.

The factors that determine the success of borrowing innovative solutions largely overlap with the factors influencing the innovation as a whole. According to the Oslo Manual (2005), these include: The dynamic factors that determine innovation within the firm; human, social and cultural factors that determine the dissemination of information and training organizations; the impact of scientific institutions; basic conditions and institutions, establishing a zone of opportunities for innovations. The researchers consider other groups of factors as well: The characteristics of the company and the project, peculiarities of the industry and markets etc. (Okamuro, 2007; Zirger and Maidique, 1990).

The analysis of theoretical and empirical research in the field of imitation processes, innovations and strategic management lets you divide all factors into two groups: First, the factors associated with the choice of an object of imitation; second, the factors influencing the success of the this choice and related to the state of internal and external business environment.

Small firms can simulate products and services, as well as the technologies, processes, strategies, methods, techniques, tools, management practices, business models, design and brand elements. The more organizations use competitive practice, the higher the probability that the practice will be copied by other organizations (Fernhaber and Li, 2010). In this regard material and visible objects are simulated easier than immaterial ones.

The success of innovation promotion on the basis of the adaptation of one object of imitation or another depends, first, on internal factors: (1) Age, existing capabilities, core competencies and dynamic capabilities of the company; (2) the quality of management; (3) the resources of small firms; (4) the organizational structure of the company; secondly, by external factors: (1) The functioning characteristics of the industry and the segment; (2) geographical location and market imperfections; (3) entrepreneurial infrastructure, and institutional factors (Hwang et al., 2009; Miotti and Sachwald, 2003; Faria et al., 2010; Dosi, 1982; King et al., 1994; Mahoney and Qian, 2013).

The entry barriers may prevent from the imitation activities. According to the Oslo Manual leadership for innovation activities these include: Economic factors (connected with high risks, cost of innovation); internal factors of the company and other factors. In addition, other classifications of barriers are proposed, so they include: The physical and time barriers; organizational and hierarchical barriers; cultural barriers; barriers associated with the knowledge and information management system, etc.

There are specific entry barriers in small businesses, so they are subject to “the vulnerability of small size,” “the vulnerability of newness” and “the vulnerability of youth” (Thornhill and Amit, 2003; Baum and Oliver, 1991; Delacroix and Swaminathan, 1991; Singh et al., 1986; Bruderl and Schussler, 1990).

On the ground of the carried out analysis with consideration for the peculiarities of small business the following main groups of entry barriers can be singled out: (1) The economic barriers associated with the an imitation project characteristics; (2) organizational innovation barriers resulting from “the vulnerability of small size” of an enterprises: Lack of innovation potential; lack of qualified personnel, etc.; (3) cultural barriers; (4) the barriers caused by “the vulnerability of newness” and “the vulnerability of youth;” (5) barriers related to the lack of technological and market opportunities, physical and institutional infrastructure, and others.

### 5.3. Strategy of Development of Small Business in Innovation Competition

When analyzing the innovative strategies of small business development it is important to consider its many options as a space characterizing the transition from pure imitation to pure innovation through creative imitation (Ethiraj and Zhu, 2008). The choice of rational option is determined by the expected ratio of benefits, costs and risks of its implementation.

The innovation strategy aims to implement a system of measures aimed at creating capabilities of small firms to identify, to study, to filtrate and to creatively adapt successful innovative practices,

as well as staff training. To do this, different types of borrowed innovations can be used: Product and services, processes and technologies, and others. The innovation process arising from this can vary in the degree of radicality of innovations, amount of the costs, the size of the expected effects, time of implementation and obtaining results, the complexity of implementation, areas of small business activity and other characteristics (Biryukov and Solovyova, 2014). Based on the market potential, resource availability and the ability to innovations a small firm brings its own set of factors of success that it transfers to its practice, and also identifies the sources of their formation – New core competencies and combinations of resources.

In young small firms the most radical innovations are often created (Shane, 2009). However, they usually lack the skills, market power and other resources (Campos et al., 2012). Although the mortality rate of young firms is very high, the survival rates and growth of start-ups is much higher in innovative industries (Audretsch, 1995).

Creative imitation allows avoiding many drawbacks peculiar to the simple copying of innovation and is more reliable compared with radical innovation. It is especially important for small companies that do not have sufficient resources and innovative abilities. Creative simulator uses a lack of features, errors of segmentation and positioning of the original product (Drucker, 1985). Creative imitation model often leads to better results when used in small companies in the fast-growing and high-tech markets.

Imitation strategy is used by companies in developed and developing countries; it usually evolves from the simple copying to creative imitation. Today, the experience of Chinese companies to attract foreign knowledge is often considered (Assimakopoulos and Yan, 2006). Chinese companies use a combination of illegal methods and legal imitation: Reverse engineering, benchmarking, buying licenses and others. The imitation practices similar to the practice of Chinese companies are found in other developing countries.

The choice of imitation object depends on various factors that affect small business. So, we can assume that the main reason for the imitation of the company activity related to the same technological level, will be the aim to reduce costs and gain other benefits by improving business processes and marketing; the imitation of the best practices of the company from the more technologically advanced countries or sectors will be directed at the access to new markets or technological options in many cases (Faria et al., 2010). At each stage of the imitation activity a small business is influenced by a wide range of factors, but the level of influence of each of them can vary considerably over time, depending on the aims and structural conditions. The simulator should enter the market at a time when it has considerable potential of competitive advantages.

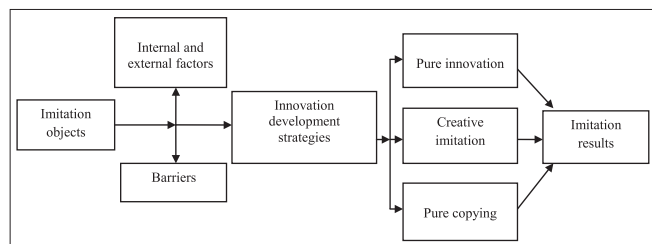
### 5.4. Description of the Model of the Innovation Strategy Effect, Using Imitations, on the Performance of Small Firms

The carried out analysis allows describing the model of the innovation strategy implementation using imitation (Figure 1).



## 6. CONCLUSION

**Figure 1:** The model of the imitation influence on the effectiveness of small business activities



This model can be considered as a basis for further development and testing of a variety of empirical models.

In the presented model the strategies the innovative development of small firms can be classified as follows: (1) Pure innovation; (2) creative imitation; (3) pure imitation (copying). It is advisable to single out the following groups as objects of imitation: Production technology; management; strategic and/or operating business model, the product properties; the product design; brand elements (Shenkar, 2010b). The choice of the strategy type depends largely on the object of imitation, as well as internal and external factors: Internal characteristics of small companies, industry peculiarities, geographical location and market imperfections, entrepreneurial infrastructure, and institutional factors. In addition, on the way to a successful imitation a small business is faced with entry barriers, which can be divided into five groups: The economic barriers, organizational innovation barriers resulting from “the vulnerability of small size;” cultural barriers; the barriers caused by “the vulnerability of newness” and “the vulnerability of youth;” barriers related to the lack of technological and market opportunities, physical and institutional infrastructure.

Many authors describe the impact of innovation on the firm performance, using a variety of indicators to measure it and various samples (Branstetter and Sakakibara, 1998; Okamuro, 2004; Tellis et al., 2009; Belderbos et al., 2004). It is advisable to use a comprehensive approach to measuring the results of small business with the possibility of not only economic gain.

Among the variables that reflect the performance of small firms, one can attribute the achievement of the desired parameters of the market share, sales volume, the degree of customer satisfaction, the number of new products introduced to the market, the company profitability, the number of patents, the commercialization of radical innovations, the labor productivity, the efficiency of sales in new segments. The effect from the implementation of different types of innovations based on imitation can be different. For example, food imitations can influence primarily customers’ satisfaction and the number of successful innovations. Changes in market share can be largely due to the release of not new products, but successful modifications of existing ones; the imitation of process innovations will affect the profitability of small firms.

We can assume that it is advisable to use different variables to assess the performance of small firms in different types of innovation. To determine these relationships it is necessary to check the assumptions in empirical researches.

An approach based on system-evolutionary paradigm, allows expanding the object field of research investigating innovative behavior of small businesses that have limited resource capabilities, originality of strategic motives, goals and methods of innovation implementation.

The carried out analysis of the various aspects of innovation activity with the use of imitation indicates that this activity can be performed for various reasons, and bring different benefits depending on the type of strategy and influenced by many factors. Owing to the imitation activity a mass innovation distribution takes place and innovative competition is enhanced. The imitation allows small businesses which do not have the necessary resources for their own research and development, to develop and participate in the competition, gain new knowledge and eventually create their own innovative technologies and products.

Having analyzed the researches relating to the problems of the impact of innovation activity on productivity of small firms, it can be concluded that there is a significant link between this phenomenon and efficiency, and it depends on the different types of imitations, as well as other factors that explain the inconsistency of the results obtained. In many cases, a creative imitation of innovation activity of small firms leads to better results, as it allows more effectively recombining the competences and resources. It is necessary to develop a comprehensive model showing the relationship between the types of innovative strategies and effectiveness of small firms’ activity. In this case the impact of all factors and the need to overcome the above-mentioned barriers should be taken into account. The factors described above may be incorporated into the empirical models as control variables or mediators.

## 7. ACKNOWLEDGMENTS

The work has been prepared with the support of the project within the state order of the Ministry of Education and Science of the Russian Federation for 2015 (basic researches).

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