DOI: 10.17747/2618-947X-2023-1-86-95
UDC 338.24

Opportunities and problems of applying imitation strategies for technological development in Russia

K.A. Rubanova[1]

[1] Financial University under the Government of the Russian Federation (Moscow, Russia)

Abstract

Economic sanctions against the Russian Federation highlighted the problem of technological sovereignty. It is proposed to consider the problem of using simulation strategies to organise the process of equipment import substitution in a timely manner, successful implementation of which was shown by some Asian countries (Japan, China). Studies in other countries prove the effectiveness of using imitation strategies as a reference point for the technological breakthrough for individual companies and the economy as a whole. The purpose of this article is to analyse the experience of developing countries in using imitation strategies for technological development, and to assess the opportunities for the wide application of such strategies in Russia to form technological sovereignty in the current conditions. In this study the author identifies some key factors of the effectiveness of applying the imitation strategies in developing countries, primarily in China. Among these factors are the role of small and medium-sized businesses in technological development and dissemination of knowledge, the development of a system for protecting intellectual property rights, as well as the existence of a technological gap between domestic and foreign firms in the home market. These factors have had a significant impact on the spread of imitation strategies and the subsequent development of China's own innovation environment. The study demonstrates that small business, the system for protecting intellectual property rights and the competition of foreign high-tech companies will not be able to become the driving force behind the implementation of imitation strategies in the conditions of Russian reality. With this in mind, the article proposes industrial policy measures that will create favourable economic conditions for the successful use of imitation strategies based on the experience of China. The results of this study contribute to the problem of Russia's technological sovereignty formation in the current sanctions. They also contain proposals for the introduction of economic measures that may influence the effectiveness of import substitution.

Keywords: imitation strategies, China, reverse engineering, technological development, import substitution, formation of technological sovereignty.

For citation:

Rubanova K.A. (2023). Opportunities and problems of applying imitation strategies for technological development in Russia. *Strategic Decisions and Risk Management,* 14(1): 86-95. DOI: 10.17747/2618-947X-2023-1-86-95. (In Russ.)

在俄罗斯应用促进技术发展模仿战略的机会和挑战

K.A. Rubanova[1]

[1] 俄罗斯联邦政府金融大学（俄罗斯莫斯科）

摘要

对俄罗斯联邦实施的经济制裁凸显了技术主权的问题。为了迅速组织设备的进口替代，建议考虑广泛使用模仿战略。一些亚洲国家（如中国、日本）在此类战略方面有成功经验。国际研究证明了模仿战略作为单个企业和整个经济的技术突破的一个基点的有效性。本文章的目标是分析发展中国家在使用模仿战略促进技术发展方面的经验，以及评估这些战略是否可以在俄罗斯广泛使用，以便在当前环境下建立技术主权。作者确定了发展中国家，特别是中国，模仿战略有效性的一些关键因素。这些因素中：中小企业在技术发展和知识传播中的作用、知识产权保护制度发展、以及国内市场上的外国和国内公司之间存在的技术差距。上述因素对模仿战略的扩散和中国自身创新环境的后续发展产生了重大影响。本研究表明，在俄罗斯的现实中，小企业、知识产权制度和外国高科技公司的竞争将无法成为模仿战略发展的推动力。考虑到这一点根据中国的经验，作者提出了一些为成功使用模仿战略创造一个有利的经济环境的产业政策措施。本研究结果有助于解决在当前制裁环境下塑造俄罗斯技术主权的问题，并提供了可对该过程的效率产生影响的经济措施的建议。

关键词：模仿战略、中国、逆向工程、技术发展、进口替代、技术主权的形成。

供引用:

Rubanova K.A.（2023）。在俄罗斯应用促进技术发展模仿战略的机会和挑战。战略决策和风险管理。14(1)：86-95。DOI：10.17747/2618-947X-2023-1-86-95。（俄文 。）

Introduction

Since 2014, when the Russian economy faced the first Western sanctions, the country's leadership has been pursuing a course of import substitution. At the same time, the focus of economic policy was placed on export-oriented production in order to increase the global competitiveness of domestic products and increase non-resource, non-energy exports [Kalygina, 2022]. In recent years, economic measures have been implemented precisely in this paradigm. However, the new sanctions of 2022 led to the realisation that the economy of our country does not have sufficient technological sovereignty, which led to the disruption of many logistics and production chains. In this regard, it became necessary to search for new solutions aimed at implementing the process of import substitution [Rubanova, 2022].

If we look at the experience of other countries, we can see examples of significant technological growth in a relatively short period of time: Japan in the second half of the 20th century or China in the late 20th and early 21st centuries, which can be a guideline for building a strategy for the development of the domestic economy. Undoubtedly, it is not possible to repeat the path taken by these countries due to the different political, economic and socio-cultural characteristics of our countries. However, studying their experience is very important for building our own Russian path of technological development with the possibility of applying individual measures of these states' industrial policy.

One of the factors that led Japan and China to make the technological leap was the use of imitation strategies based on technological imitation. At the same time, if technology was actually transferred from Western countries to Japan in the post-war period [Chung, Tan, 2017], in China, as in most other developing countries, reverse engineering methods

were used to a greater extent to gain knowledge about foreign technologies [Zhang, Zhou , 2016], which has become a benchmark for the development of Chinese industry.

In the current economic conditions, the widespread use of simulation strategies through reverse engineering is a possible strategy for technological development in the Russian Federation, including to achieve the effect of import substitution.

In the domestic literature there are studies on the implementation of import substitution models [Boiko, 2016; Nikitin, 2016; Folomiev, 2017; Kalygina, 2022], an analysis of the so-called Chinese economic miracle [Blinov, 2015; Avdokushin, 2019; Chichilimov, 2021], simulation models [Aleksandrovsky, Shushkin, 2015; Shushkin et al., 2017; Golichenko, Obolenskaya, 2018], however, there are practically no studies on the applicability of simulation strategies in the conditions of the Russian reality for the formation of technological sovereignty. It seems that the present study will fill the gap in this issue.

In view of the above, the purpose of this study is to analyse the experience of developing countries in using simulation strategies for technological development, as well as to assess the possibilities of widespread use of the simulation strategy in Russia to form technological sovereignty in the current conditions.

1. Materials and methods

The theoretical basis of the analysis are publications in scientific journals based on the results of research on the markets of developed (Japan) and developing (Brazil, China, Colombia) countries on the application of imitation strategies and their impact on the economy. For the selection of journals, the bibliographic database Scopus was used, which is available from the territory of the Russian Federation until 31 December 2022. In this database, research articles were searched by title, keywords and abstracts for the terms 'imitation' and 'innovation' (articles with the simultaneous use of the given terms were selected), as well as with the restriction of the subject 'economics, econometrics and finance' and 'business, management and accounting'. The study period was not restricted. Only empirical studies that identified factors influencing the use of imitation strategies were selected for analysis.

As a result, 22 articles published between 1966 and 2022 were taken for analysis. Of these, 3 were published before 2000, 2 in the 2000s, 8 in the 2010s and 9 after 2020. This distribution indicates a growing interest in the study of imitation strategies, which is due to the high estimation of the success of the Chinese economy based on them.

The analysis of the selected articles was carried out by studying the main sections of the publications and highlighting the key factors that influence the use of imitation strategies by individual companies. On the basis of the obtained results the influence of the identified factors on the processes of implementation of imitation strategies in the conditions of the Russian reality was assessed. General scientific methods of system analysis, synthesis and deduction were used in the article.

2. Results of the analysis

Imitation strategy is based on technological imitation. As a rule, imitation activity is perceived from a negative point of view and is seen as an opportunity to run one's own business in the absence of innovative capabilities. Thus, the study [Luo, Child, 2015] states that companies that do not have an advantage in the form of resources, patented technologies or market power can compete successfully and achieve competitive advantages by creatively gathering and integrating available external and internal resources.

Indeed, firms that do not have competitive advantages and the ability to develop their own developments choose an imitation strategy because copying innovations developed by others is usually cheaper than implementing the firm's own innovative activities [Cappelli et al., 2014; Shushkin et al., 2017].

However, in addition to the aforementioned market and competitive effects, the choice of imitation strategies creates long-term conditions for the further technological development of imitating firms. For example, studies conducted in emerging markets have found that imitation is an integral part of the innovation process.

For example, a study on the imitation behaviour of Colombian firms [Corredor et al., 2015] showed that imitation may be the first step for many firms in emerging markets to achieve new innovation goals. Moreover, a small amount of imitation almost always accelerates growth and leads to increased competition, which encourages firms to invest in research and development based on the accumulated knowledge gained in the process of imitation [Aghion et al., 2001; Mukoyama, 2003; Zhou et al., 2021].

In other words, a new firm can start competing with imitation without necessary resources for its own research and development, having accumulated enough knowledge and skills in the process of using such a strategy to develop its own innovative technologies and products over time.

Many successful organisations have used imitation as an important strategy to outperform competitors and have combined it with innovation to offer better product or service

features [Wu et al., 2020]. For example, companies from developing countries that are now key players in their fields (Tata and Ranbaxy in India, Odebrecht and Promon in Brazil, Huawei and Lenovo in China) have used imitation strategies to challenge dominant innovators in the international market.

However, imitation is not only important for companies at the beginning of their development and striving for growth, but also for those that are already a major player in the market and want to maintain a high level of competitiveness.

For example, the study [Levitt, 1966] notes that organisations are motivated by competition to treat imitation as a survival and growth strategy, so that even the largest innovation-active organisations should be involved in the process of imitation.

Moreover, the use of imitation strategies affects not only the technological development of individual firms, but also the market as a whole: imitation increases competition, which makes innovative products and technologies more accessible to a wide range of consumers and contributes to the diffusion of knowledge and innovation to other geographical markets [Aleksandrovsky, Shushkin, 2015].

In the context of the identified effects of imitation strategies under certain conditions, the scientific community is increasingly considering such strategies as acceptable for bridging the technological gap in developing countries. In addition, more and more researchers consider imitation and innovation not as mutually exclusive and opposite concepts, but as complementary ones, the combination of which makes it possible to achieve the maximum return on innovation [Yu at al., 2015; Wang, 2021].

The strategy of imitation at the national level has worked very well in Japan, for example, which has long since moved from a developing economy to a developed one. China is now in the process of such a transition, and its example is also very instructive in terms of the use of imitation. China's rapid economic growth and the achievements of Chinese companies in technological development over the past few decades are largely due to the imitation strategy.

The success of Japan and China is stimulating the interest of other developing countries in imitation strategies for the technological development of their economies. For Russia in particular, the issue of rapidly building technological sovereignty is particularly relevant in the current sanctions environment, and many researchers are considering the possibility of using China's experience.

However, the transition to the use of imitation strategies at the national level is impossible without taking into account the specifics of the Russian economy. Furthermore, the key success factors of imitation strategies for the technological development of emerging markets are analysed and the possibilities of their impact on the Russian economy are assessed. This article focuses only on economic factors without taking into account social and socio-economic factors (population density, average income, etc.).

The first factor is the impact of small and medium-sized enterprises on technological development. At present, small and medium-sized manufacturing enterprises have become the main driving force of China's economic development, providing a huge innovation driving force in the evolution of China's market economy and manufacturing ecosystem, and making important contributions to economic construction [Chung, Tan, 2017]. In addition, research conducted in the Chinese market points out that Chinese SMEs can respond to market trends and conduct research and development of new products more efficiently than large enterprises [Wang, 2021].

Thus, the role of SMEs in China's technological development is enormous, which is reflected in their financial performance. For example, data from 2017-2018 show that Chinese SMEs account for more than 70% of patents and almost 70% of exports, with growth rates higher than all exports [Zhang, Merchant, 2020]. According to 2020

Table 1
Indicators of the SMEs' contribution to the economic development of selected countries (%), 2019

	The USA	Japan	China	Russia
Contribution of SMEs to economic growth	52	47,6	55	20,8
Share of persons employed in SMEs	68	67	76	27

Sources: [Wang, 2021]; Report of the Commissioner to the President of the Russian Federation on the Protection of Entrepreneurs' Rights for 2021: http://doklad.ombudsmanbiz.ru/doklad_2021.html.

data, the contribution of Chinese SMEs to the country's GDP exceeds that of developed countries - the United States and Japan - and amounts to about 55% (Table 1).

In Russia, the situation is quite different: the contribution of small and medium-sized enterprises to GDP is 20-21%, employment is about 25-27% of the economically active population (Table 1), and these figures have remained unchanged for many years.

It becomes clear that the structures of the socio-economic systems of Russia and China are fundamentally different: large enterprises play a significant role in the Russian business structure, which are less dynamic compared to small businesses, react more slowly and less effectively to changes in the domestic market [Maidanevich, Bedrik, 2017].

Japan's experience in moving from imitation to innovation strategies shows that being a quick adopter is a more reliable strategy with the advantage of minimising costs and risks than being a pioneer or market-leading creative innovator [Bolton, 1993]. Conversely, mature stage firms grow slowly and face poor market response to their product improvements and marketing expenditures, and thus are the most disadvantaged compared to early innovators and early adopters [Yu at al., 2015].

Thus, under the imitation strategy paradigm, more dynamic SMEs are more likely to become early adopters through rapid growth opportunities, allowing them to further develop their own R&D base and carry out their own innovation activities. More SMEs following such a strategy create economies of scale, which lead to an increase in the innovativeness of the economy as a whole.

On the contrary, large firms, being more static and slower, may not be willing to follow innovators as quickly, which may ultimately lead to the inertia of the innovation system of such firms.

These conclusions are in line with the position expressed in studies [Chen, Hambrick, 1995; Giachetti, Pira, 2022], according to which small firms may be able to react more quickly than large firms due to their flexibility, while the latter may be limited by structural complexity and slower information processing, which impairs their performance, responsiveness to attack opponents.

The following conclusion can be drawn. Since economic growth in Russia is driven by large firms, the technological push effect of imitation strategies may not be achieved due to the insufficient role of SMEs in the Russian economy. In this respect, the state's industrial policy plays a very important role, particularly in terms of smoothing out this factor.

The next factor that requires attention when assessing the possibility of using imitation strategies is the system for protecting intellectual property rights. A number of studies [Sun et al., 2020; Yi et al., 2020] note that a characteristic of emerging markets is the weak protection of intellectual property rights. This feature is typical of both China, where it was one of the factors behind the success of imitation strategies, and Russia, where such a legal feature could contribute to the success of the use of imitation strategies.

Thus, according to the international rating of the degree of protection of property rights in the countries of the World International Property Rights Index 2022[1] China currently ranks 47th, and Russia 85th.

It is worth noting the following. Based on this index for 2009[2], China is ranked 69th and Russia is ranked 88th, which means that 13 years ago the state of China's intellectual property laws was much worse, and in recent years significant restrictions and other changes have been introduced. However, little seems to have changed in Russia's IPR legislation, given the insignificant change in position in the ranking, and this is the next problem.

When a country's IPR system is immature and poorly enforced, companies are not highly motivated to undertake groundbreaking research and development. Instead, they are content to imitate new product development to reduce their exposure to technology and market risks, shorten product development cycle times, and meet changing market demand [Fang et al., 2017; Yi et al., 2020].

It turns out that the effectiveness of imitation strategies is facilitated not so much by a static, weak IPR protection system, but by its dynamism and improvement, accompanied by a gradual increase in R&D in the country and an increase in the innovativeness of firms. At the same time, the process of improving legislation is accompanied by a change in the approach of entrepreneurs to the issue of intellectual property rights protection. Thus, according to a study [Yu et al., 2015], the owners of Chinese enterprises that have moved from low-quality imitations to original innovations and have achieved success are no longer willing to take the legal risks associated with copying other people's products, especially after the tightening of regulation in the area of legal protection of intellectual property.

Thus, for the imitation strategy to be successful in Russia, it is necessary to simultaneously change the legislation in the field of intellectual property protection so that Russian companies do not get stuck in imitation, but receive an additional incentive to use accumulated knowledge in innovative strategies.

[1] https://internationalpropertyrightsindex.org/.
[2] https://rate1.com.ua/ru/society/standard-of-living/3037469d/рейтинг-стран-по-уровню-защиты-права-собственности.

Finally, the third factor to consider is the following. A study [Guo et al., 2016] in the Chinese market found that the technology gap between domestic and foreign firms has a positive impact on the domestic market. The technology acquisition strategy at the industry level is more targeted, as local firms move from imitation to innovation in a catch-up process. That is, the presence of high-tech competitors from other countries sets a certain bar for local firms and stimulates them to technological growth.

However, in 2022, due to the introduction of a large number of economic sanctions against the Russian Federation, a number of Western high-tech companies ceased or suspended their activities in the Russian market (for example, the world's largest manufacturers of special equipment Caterpillar, Deere, Tadano Ltd.). This situation carries the risk of a lack of competition in the domestic market, which may lead to technological backwardness.

This point of view was expressed, for example, by the head of Sberbank German Gref at the Finopolis forum in November 20-22, when he negatively assessed the departure of foreign companies from Russia. In his opinion, the opportunities that will open up for domestic business will be offset by a sharp decline in the level of competition, 'In the long term, the economy will lose because the density of competition will decrease. What we are talking about - innovation, the main means of developing innovation - is very fierce competition. Where there is no competition, there is no innovation. And in this sense, I think that one of the most long-term negative consequences for the Russian economy is the exit of powerful foreign companies from the Russian market and the decrease in "competition"[3].

On the one hand, the incentive to solve this problem is the legalisation of parallel imports since June 2022, which creates a supply of high-tech goods on the Russian market (although not enough). However, parallel imports can lead to a number of problems, including a significant increase in the cost of imported goods [Maglinova, 2022], a potential increase in the flow of counterfeit products under well-known logos, as well as the shifting of responsibility for maintenance, service, labelling and safety to sellers [Kovtun, Kalinina, 2022]. But even these shortcomings can serve as an additional incentive for import substitution.

On the other hand, a significant increase in costs and the existing shortage of high-tech goods imported through parallel imports do not help create conditions for price competition on the domestic market. It may contribute to a situation in which it is advantageous for Russian companies to raise the prices of manufactured import substitutes without ensuring an adequate level of quality of these products, which will not contribute to increasing the innovativeness of the economy of our country.

It is worth mentioning another factor that should be taken into account in connection with the termination of partnerships with some Western companies due to sanctions. In the case of imitation strategies, domestic demand for manufactured products may initially be small and not be the driving force behind the development of the economy. Initially, external demand turns out to be crucial for development, stimulating the supply of innovative goods and services from national industries [Golichenko, Obolenskaya, 2018].

Taking into account the current situation in Russia, domestic producers who start production using imitation strategies may face insufficient demand for their products. In this regard, it is very important to establish partnerships with companies from friendly countries that can become consumers of import-substitution products, which will become an additional incentive to increase production and, in the future, to introduce their own developments and improvements in the production process.

It is difficult today to assess the practical impact of the withdrawal of foreign companies from the market. However, in any case these risks should be taken into account when developing industrial policy measures, which should include measures to create competition in the domestic market, especially in high-tech industries, as well as measures to create demand (including in friendly foreign markets) for import-substituting products.

3. Discussion

The analysis of the economic factors of the effectiveness of imitation strategies in developing countries allows us to identify a number of features without which the use of imitation strategies in Russia on a national scale will not be effective.

It is possible to eliminate the negative impact of the identified features by means of a competent industrial policy. It should be noted that industrial policy, as a set of measures taken by the government to increase the competitiveness of local enterprises and promote the structural transformation of the economy, is a necessary condition for supporting any developing economy in the international arena [Zhang, 2020]. In this regard, the smoothing of national characteristics of technological development of the Russian economy can be carried out precisely through industrial policy measures.

[3] https://www.rbc.ru/finances/10/11/2022/636cb18f9a79478393ddffda.

Taking into account the identified peculiarities of the economic situation in Russia, these measures should, in particular, take into account the following.

1. Developing an institution to support high-tech small and medium-sized enterprises. An important role in gaining experience in carrying out simulations and using this knowledge to carry out their own developments belongs to SMEs as more flexible business entities in contrast to large enterprises. In this regard, it is necessary to expand the strategic areas of support for small and medium-sized enterprises including financial (concessionary loans, state guarantees, grants, extension of loan terms, review of the tax burden); informational (creation of a positive image of an entrepreneur in the media, entrepreneurship education); legal (reducing the burden of inspections, bureaucracy, organising legal consultations); production (organising public procurement of SME goods, providing free places in municipal co-working centres, ensuring interaction between large enterprises and SMEs on the principle of 'customer – contractor') [Plotnikova et al; Rubanova, 2022; Shkuratov, 2022].

2. Taking into account the existing structure of participants in the economic system and the huge role of large enterprises. It is necessary to encourage them to form the flexibility of management systems. It will allow them to respond more quickly to changing market conditions, to follow trends, including in the field of marketing and technology, in order to increase the pace of technological development.

3. Encouraging large enterprises to adopt imitation strategies, including through the implementation of government orders. At the same time, it is advisable to create sales markets for new industries not only within the country, but also to stimulate the conclusion of contracts with foreign buyers.

4. Systematic development of the Institute for the Protection of Intellectual Property, carried out together with the gradual technological development. The introduction of changes in the legal field is particularly important in terms of creating an incentive for domestics.

These measures have general directions and require more detailed study for the purpose of actual implementation, possibly taking into account industrial and regional characteristics. At the same time, they provide a general vector for the development of industrial policy measures in order to successfully adopt the experience of technological development based on simulation strategies, taking into account the national characteristics of our country.

Conclusion

The article discusses the main features of the use of imitation strategies in developing countries and reveals the advantages of imitation strategies for the technological development of the economies of such countries.

The author identifies factors that have had a significant impact on the success of imitation strategies in developing countries: the role of SMEs in economic development, the state of the system for protecting intellectual property rights, and the presence of competition on the domestic market from foreign high-tech companies.

The analysis of these factors in the context of their influence on the possibility of using imitation strategies in Russia showed that the differences in the economic conditions of China and Russia do not allow drawing a clear conclusion about the possibility and potential success of imitation strategies in Russia. The author concludes that the success of such strategies in the Russian Federation at the national level will depend on the industrial policy, which can mitigate the effects of most of the negative factors.

References

Avdokushin E.F. (2019). 70 years of China: From "big leap" to technological "breakthrough". *RGGU Bulletin. Series: Economics. Management. Law,* 4: 116-132. (In Russ.)

Aleksandrovskiy S.V., Shushkin M.A. (2015). Application model of imitation strategy for a company. *Inovations,* 1: 108-114. (In Russ.)

Blinov A.O. (2015). Diagnostics of Chinese miracle: What do we can borrow meditation analyst. *Naukograd Science Industry Society*, 1: 62-67. (In Russ.)

Bojko I.V. (2016). Technological domain of import-substitution policy in Russia. *Innovations,* 1(207): 38-42. (In Russ.)

Golichenko O.G., Obolenskaya L.V. (2018). The way to innovative leadership of a developing country (evidence from new industrial countries). *Innovations,* 6(236): 21-29. (In Russ.)

Kovtun B. A., Kalinina G. N. (2022). Parallel import: Problems and prospects of development in Russia. *Journal of Economy and Entrepreneurship*, 5(142): 186-188. (In Russ.)

Maglinova T. G. (2022). The parallel import and intellectual property. *International Journal of Humanities and Natural Sciences,* 7-2(70): 200-202. (In Russ.)

Majdanevich Y.P., Bedrik K.A. (2017). Small business: Concept and benefits. *Azimuth of Scientific Research: Economics and Administration*, 6, 2(19): 177-180. (In Russ.)

Nikitin G.S. (2016) Key instruments of the new Russian industrial policy. *Strategic Decisions and Risk Management,* 1: 74-79. (In Russ.)

Plotnikova E.V., Lazko L.V., Kulik A.V. (2022). State support for small and medium-sized businesses in the context of tougher sanctions. *Natural-Humanitarian Studies*, 43(5): 230-235. (In Russ.)

Rubanova K.A. (2022). Reverse engineering application at industrial companies in the context of new sanctions. *Journal of Economy and entrepreneurship*, 4(141): 1368-1372. (In Russ.)

Folomev A.N. (2017). New industrial policy and innovation development of the national economy. *Innovations,* 12(230): 28-33. (In Russ.)

Chichilimov S.V. (2021). To the question of the factors of growth of the Chinese economy at the present stage. *Society: Politics, Economics, Law,* 11(100): 51-56. (In Russ.)

Shkuratov S.S. (2022). Strategic priorities for the development of small business in Russia: The Chinese experience. In: *Strategizing: theory and practice: V international research-to-practice conference:* collection of selected scientific articles: in 2 books. Moscow, 17-18 February, 2022. Moscow, Lomonosov Moscow State University, Book II: 157-163. (In Russ.)

Shushkin M.A., Aleksandrovskiy S.V., Fomenkov D.A. (2017). Study of imitation practices in Russian startups. *Innovations,* 9(227): 67-76. (In Russ.)

Aghion P., Harris C., Howitt P., Vickers J. (2001). Competition, imitation and growth with step-by-step innovation. *The Review of Economic Studies,* 68(3): 467-492.

Bolton M. K. (1993). Imitation versus innovation: Lessons to be learned from the Japanese. *Organizational Dynamics,* 21(3): 30-45.

Cappelli R., Czarnitzki D., Kraft K. (2014). Sources of spillovers for imitation and innovation. *Research Policy,* 43(1): 115-120.

Chen M., Hambrick D. (1995) Speed, stealth, and selective attack: How small firms differ from large firms in competitive behavior. *Academy of Management Journal,* 38(2): 453-482.

Chung L., Tan K.H. (2017). The unique Chinese innovation pathways: Lessons from Chinese small and medium sized manufacturing firms. *International Journal of Production Economics,* 190: 80-87.

Corredor S., Forero C., Somaya D. (2015). How external and internal sources of knowledge impact novel and imitative innovation in emerging markets: Evidence from Colombia. *Emerging Economies and Multinational Enterprises,* 28: 161-199.

Giachetti C., Pira S.L. (2022). Catching up with the market leader: Does it pay to rapidly imitate its innovations? *Research Policy,*51 (5): 104505.

Fang L., Lerner J., Wu Ch. (2017). Intellectual property rights protection, ownership, and innovation: Evidence from China. *The Review of Financial Studies,* 30(7): 2446-2477.

Guo B., Li Q., Chen X. (2016). Diversity of technology acquisition in technological catch-up: An industry-level analysis of Chinese manufacturing. *Technology Analysis & Strategic Management,* 28(7): 755-767.

Kalygina V.V. (2022). International technology transfer as an effective tool of export oriented import substitution in Russia. *RUDN Journal of Economics,* 30(2): 231-241.

Levitt T. (1966). Innovative imitation. *Harvard Business Review,* 44(5): 63-70.

Luo Y., Child J. (2015). A composition-based view of firm growth. *Management and organization review,* 11(3): 379-411.

Mukoyama T. (2003). Innovation, imitation, and growth with cumulative technology. *Journal of Monetary Economics,* 50(2): 361-380.

Sun J., Maksimov V., Wang S.L., Luo Y. (2020). Developing compositional capability in emerging-market SMEs. *Journal of World Business,* 56(2): 101-148.

Wang Y. (2021) Innovation ecosystem with Chinese characteristics: Experiences and lessons from small and medium-sized manufacturing enterprises. *Technical Gazette,* 28(4): 1291-1296.

Wu J., Zhang X., Zhuo S., Meyer M., Li B., Yan H. (2020). The imitation-innovation link, external knowledge search and China's innovation system. *Journal of Intellectual Capital,* 21(5): 727-752.

Yu X., Yan J., Assimakopoulos D. (2015). Case analysis of imitative innovation in Chinese manufacturing SMEs: Products, features, barriers and competences for transition. *International Journal of Information Management,* 35(4): 520-525.

Yi Y., Wang Y., Shu C. (2020). Business model innovations in China: A focus on value propositions. *Business Horizons,* 63(6): 787-799.

Zhang G., Zhou J. (2016). The effects of forward and reverse engineering on firm innovation performance in the stages of technology catch-up: An empirical study of China. *Technological Forecasting and Social Change,* 104: 212-222.

Zhang K.H. (2020). Industrial policy and technology innovation under the US trade war against China. *The Chinese Economy,* 53(5): 363-373.

Zhang M., Merchant H. (2020). A causal analysis of the role of institutions and organizational proficiencies on the innovation capability of Chinese SMEs. *International Business Review,* 29(2): 101638.

Zhou X., Cai Z., Tan K.H., Zhang L., Du J., Song M. (2021). Technological innovation and structural change for economic development in China as an emerging market. *Technological Forecasting and Social Change,* 167: 120671.

About the author

Kristina A. Rubanova

Postgraduate student, Department of Management and Innovation, Financial University under the Government of the Russian Federation (Moscow, Russia). SPIN: 2704-3000.

Research interests: reverse engineering application, increasing efficiency through imitations, formation of imitation strategies, import substitution policy.

rubatina@mail.ru

作者信息

Kristina A. Rubanova

俄罗斯联邦政府金融大学管理与创新系副研究生（俄罗斯莫斯科）。 SPIN：2704-3000。

研究领域：逆向工程的应用、通过模仿提高效率、模仿战略的形成、进口替代战略。

rubatina@mail.ru

The article was submitted on 04.03.2023; revised on 29.03.2023 and accepted for publication on 03.04.2023. The author read and approved the final version of the manuscript.

文章于 04.03.2023 提交给编辑。文章于 29.03.2023 已审稿，之后于 03.04.2023 接受发表。作者已经阅读并批准了手稿的最终版本。