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Implementation of Imitation Strategies in the Innovative Behavior of Companies: Bibliometric Analysis

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ABSTRACT

The article presents the results of a study of the evolution of key patterns of scientific publications dedicated to the use of imitation strategies by companies. Achieving the set goal is ensured by solving two interdependent tasks: forming a relevant sample of scientific articles (759 publications on selected issues, indexed by the scientometric database Web of Science, for the period 1986–2025) and analyzing the coincidence of keywords to characterize the current state of the research field and modern trends. The chosen keywords are the combinations "imitation strategy, innovation" or "innovation, imitation, strategy". Bibliometric analysis and visualization of its results were carried out using the software product VOSviewer v1.6.20. Based on the visualization maps, seven clusters were identified based on the coincidence of the content of keywords in the articles and five stages of evolutionary development of the issue of innovative behavior of companies. The results obtained can be used in the study of various aspects of the implementation of imitation strategies by companies.

1. Introduction

The strategic impact of innovation activity on individual companies, industries and the economy as a whole are undeniable, as confirmed by the ever-growing volume of various publications. Today, scientists and practitioners [8, 4] consider innovations as an important source of competitive advantage, ensuring not only, and sometimes not so much, the sustainable development of companies, but the quality and possibility of their further existence. At the same time, over the past decade, more and more studies have appeared indicating that imitation as an attempt to reproduce a part or a whole also effectively allows companies to obtain valuable and quite sustainable opportunities for competitive advantage [9, 5, 12]. It is obvious that over time the emphasis in scientific publications changes, the transformation and interweaving of the substantive characteristics of innovations and imitations takes place, but their fusion (interrelation) into a single successful formula, which some researchers call "imitation" [11, 13, 10] has not received much attention. Given the importance of ensuring sustainable competitive advantages in the aggressively turbulent conditions of the modern external environment, the problems of analyzing the characteristics of the development of innovative behavior in entrepreneurial activity are relevant and deserve special attention. The purpose of the article is to characterize the evolution of key patterns of scientific publications dedicated to the use of imitation strategies by companies.

2. Research methodology

The analysis of scientific articles dedicated to innovative behavior in entrepreneurship was carried out in several stages. At the first stage, in order to form a relevant data sample, publication periods on the studied topic were identified in the scientometric database Web of Science. The selection of title, abstract and keywords was carried out as a basic model for scientific publications. In turn, the search query contained the following combinations: "imitation strategy, innovation" or "innovation, imitation, strategy" (with variations at the end). The study covered publications included in the Web of Science database, starting from 1986 and ending in January 2025. Based on the results of the first stage, 759 publications were selected. The second stage was the bibliometric analysis of the generated sample of publications using the VOSviewer v.1.6.20 software product to identify existing promising areas of research in the problems of innovation and imitation. The use of this tool made it possible to create neural network visualization maps of keyword coincidences that identify research

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areas of innovative behavior in entrepreneurial activity. It is worth noting that the size of the circle on the visualization map is responsible for the frequency of occurrence of the element in the publications considered, while its color is responsible for its membership in a particular cluster. The strength of the connection between elements is characterized by the length of the line connecting them (longer lines indicate a weaker connection between two elements).

3. Research results

Over the past forty years – since 1986 – there has been a steady increase in publication activity on the use of imitation strategies in the implementation of innovative activities by companies (Fig. 1).

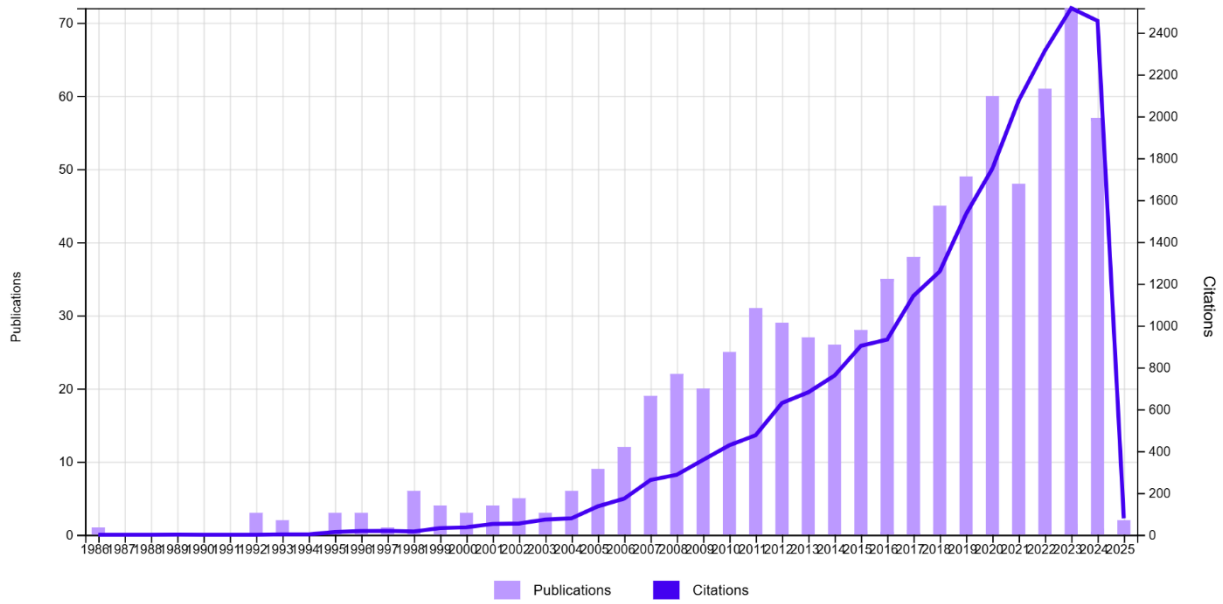

Figure 1. Dynamics of the number of publications and citations dedicated to imitation strategies in entrepreneurial activity

Source: drafted by the authors based on materials from the Web of Science database

The year 2023 saw the highest number of publications, with 72 publications and 2,517 citations. In January 2025, 2 articles on this research topic were published in the Web of Science database, demonstrating its relevance and the growing interest of researchers in this area. This trend is driven by the importance of sustainable development of science, technology and innovation for the economy of any country, especially in the context of fierce competition, disruption of supply chains and partnerships, including in the field of research and development. The latter significantly updated and brought to a new level the issues of active use of imitation strategies.

3.1. Most cited publications

Of all the identified articles, some of them were cited by more than one person, respectively below in Table 1 we can view the five most popular articles with the highest number of citations within the studied sample, respectively from 1986 to January 2025.

Table 1. The five most cited publications in the Web of Science database (within the limits of the studied sample for 1986–2025)

No.	Authors, year	Title of	Number of citations	Journal
1	Mata, FJ; Fuerst, WL and Barney, JB, 1995	”Information technology and sustained competitive advantage: A resource-based analysis”	877	MIS QUARTERLY
2	Kim, L., 1998	”Crisis construction and organizational learning: Capability building in catching-up at Hyundai Motor”	587	ORGANIZATION SCIENCE
3	Casadesus-Masanell, R and Zhu, F, 2013	”Business model innovation and competitive imitation: The case of sponsor-based business models”	484	STRATEGIC MANAGEMENT JOURNAL

No.	Authors, year	Title of	Number of citations	Journal
4	McEvily, SK and Chakravarthy, B, 2002	”The persistence of knowledge-based advantage: An empirical test for product performance and technological knowledge”	462	STRATEGIC MANAGEMENT JOURNAL
5	Jacobides, MG; Knudsen, T and Augier, M, 2006	”Benefiting from innovation: Value creation, value appropriation and the role of industry architectures”	453	RESEARCH POLICY

Source: drafted by the authors based on materials from the Web of Science database

Thus, the most cited (877 citations) is the publication “Information technology and sustained competitive advantage: A resource-based analysis”, presented by Mata, FJ, Fuerst, WL and Barney, JB [6]. This article emphasizes that in a system of rapid technological change, creating a competitive advantage depends largely on improving the internal technological, organizational, and management processes within the company, including the ability to copy and imitate innovations that enter the market and are in demand. The authors conclude that there is a need to synthesize research in the fields of strategy, innovation, production, organizational behavior and business history to study the factors that underlie corporate and national competitive advantages.

The next publication in the table is “Crisis Construction and Organizational Learning: Building Capacity in the Catching-up Hyundai Motor” [3]. Kim L. points out that effective learning requires a high absorptive capacity, which includes such basic elements as previously acquired knowledge base and applied efforts. Kim L. presented the experience of Hyundai Motor Company in implementing an autonomous strategy for developing absorptive capacity, concluding that in the process of transition from one stage to another, through the preparation and acquisition, development and improvement of foreign technologies, the company received knowledge transfer that can expand its existing knowledge base and actively create crises as a strategic means to improve the learning process. Kim L. concludes that, unlike external crises, proactively planned internal crises can change the orientation of learning from imitation to innovation and improve the effectiveness of learning in the company.

The third most cited paper was “Business model innovation and competitive imitation: The case of sponsor-based business models” [1], which states that strategic interactions between an innovative participant and an actor in which the latter can imitate a business model. This suggests that the participants must tactically choose whether to shows their innovations and compete with new business models or to hide their innovations, accepting traditional business models. In this article, the authors argue that proximity between companies plays an important role in interactive learning processes and that knowledge creation is supported by the institutional embodiment of tacit knowledge useful for specific activities. Sustainable competitiveness requires the constant replacement of worn-out resources, the reconstruction of outdated structures, and the renewal of economically important national or regional institutions, where imitation gradually transforms local capabilities into ubiquitous capabilities at the global level. The next most cited publication is "The persistence of knowledge-based advantage: An empirical test for product performance and technological knowledge" [7], where the authors write that a company's success in the market depends on anticipating trends and responding quickly to changing customer needs. This article aims to shed light on whether and how the plurivalence, tacit character and particularity of a company's knowledge impact its performance advantages. In this kind of environment, the essence of strategies lies not in the structure of a company's products or markets, but in the dynamics of companies' actions. The researchers conclude that, to succeed, a company must transform its core business processes into strategic capabilities that are difficult to imitate, which differentiate it from its competitors in the eyes of its customers.

The paper “Benefiting from innovation: Value creation, value appropriation and the role of industry architectures” is characterized by a citation volume of 453 references [2]. The results suggest that companies have opportunities to benefit from imitation as they invest in and acquire complementary assets. Also, the way in which investments in them transform the company's scope of execution and, respectively, expand its capabilities to support future innovations. Technological competence, company size, financial commitment, competitive pressure and regulatory support are important antecedents of e-business performance. This is consistent with the resource-based organization theory, as internal integration has the characteristics of value-creating resources (e.g., company-specific, difficult to imitate by competitors).

3.2. Analysis of coincidence of publication keywords

Based on the results of the bibliometric analysis performed using the VOSviewer software, a terminological map was compiled, displaying the existing connections between keywords and phrases used in publications. The resulting map allows us to identify the main clusters into which publications dedicated to the use of simulation strategies by companies can be distributed. In general, based on the analysis of keyword

coincidence, seven clusters were identified in the work (Figure 2). The first cluster (red) contains the largest number of terms – 66 items, among which the following can be distinguished: imitation, strategy, model, system, cooperation, dynamics, evolution, learning through imitation, innovative diffusion. The keyword "imitation" deserves special mention, its frequency of common use in the studied sample is 236, and the strength of the connection is 1243. Accordingly, this cluster mainly covers learning aspects of the imitation strategy (the relationship between innovations and imitation) for achieving the company's competitive advantages. Taking this into account, the cluster can be called "Learning imitation strategy in the context of increasing a company's competitiveness". The second cluster (green, 43 items) combines terms such as performance, knowledge, strategy, firm performance, competitive advantage, innovative performance, success, absorptive capacity, perspectives, dynamic capabilities. In this cluster, the keyword "performance" has the highest frequency of common use – 109, while the connection strength is 730. The third cluster (blue, 40 items) describes the relationship between imitation strategies and innovations in the company's activities in the following terms: innovation, growth, technological innovation, technology transfer, industry, intellectual property, economic growth, efficiency, patent, and others. The main key term in this cluster is "innovation", the frequency of use in the studied sample of scientific publications is 262, and the strength of the connection is 1426. Thus, the content of the formed cluster can be characterized by the name "Technological innovations as a way of economic convergence".

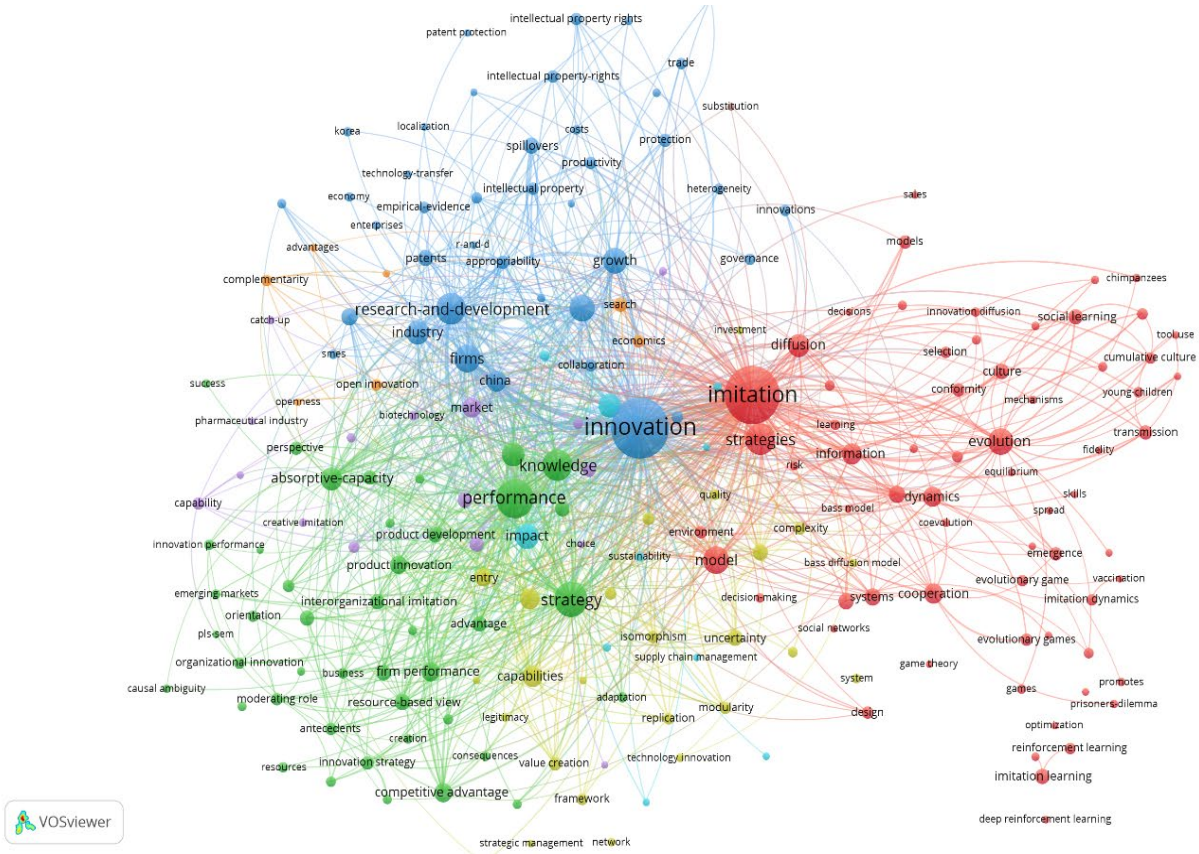

Figure 2. Terminological map of the categories that have the highest frequency of appearance in publications on the issue of imitation strategies in companies' activities

Source: drafted by the authors based on materials from the Web of Science database using VOSviewer v.1.6.20.

The fourth cluster (yellow, 25 items) is associated with the following terms: bass diffusion model, capabilities, opportunities, value creation, markets, complexity, integrity, strategic management. The keyword "capabilities" has the highest frequency of shared use – 33, while the connection strength is 233. The fifth group (purple, 16 items) covers the following categories: product, dynamic system, technology transfer, experience, creative imitation, exploration, market, exploitation. The number of uses of the main keyword in the cluster "market" is 30, and the connection strength is 178. The sixth group (light blue, 10 items) is characterized by keywords such as: competitiveness, impact, price, new product development, sustainability, supply chain management, incentives. The keyword of this cluster is "impact" and has 44 common uses and a connection strength of 285. The seventh orange cluster includes 7 elements, namely: advantages, complementarity, savings, empirical analysis, open innovation, research and openness. The results obtained indicate, first of all the relevance and multiple facets of the issues that make up the effective innovative behavior of companies, as these aspects are very common in different research, and on the other hand their interdependence due to the presence of numerous links between key terms.

3.3. Evolution of thematic research areas

Based on the results of the bibliometric analysis in the evolutionary-temporal dimension, the presence of five most significant stages in the development of scientific research dedicated to the implementation of simulation strategies in the introduction of innovations in the company is noted (Figure 3). The first stage of development is observed until 2014, the dominant key terms in the researchers' publications being competitive advantage, industry, prospects, system, market, innovations, success, advantages, integration, and management. In the second stage – from 2014 to 2016 – the emphasis in the scientists' research shifted to the terms innovation, imitation, research and development, strategy, model, economy, competitiveness, technology transfer. From 2016 to 2018, that is, at the third stage of those identified, the dominant key terms were dynamics, evolution, cooperation, innovative product, absorption capacity, impact, productivity, growth. The fourth stage – from 2018 to 2020 – is characterized by the predominance of the terms imitation strategies, innovative strategies, innovative performance, firm performance, business model, created value, emerging markets and interorganizational imitation.

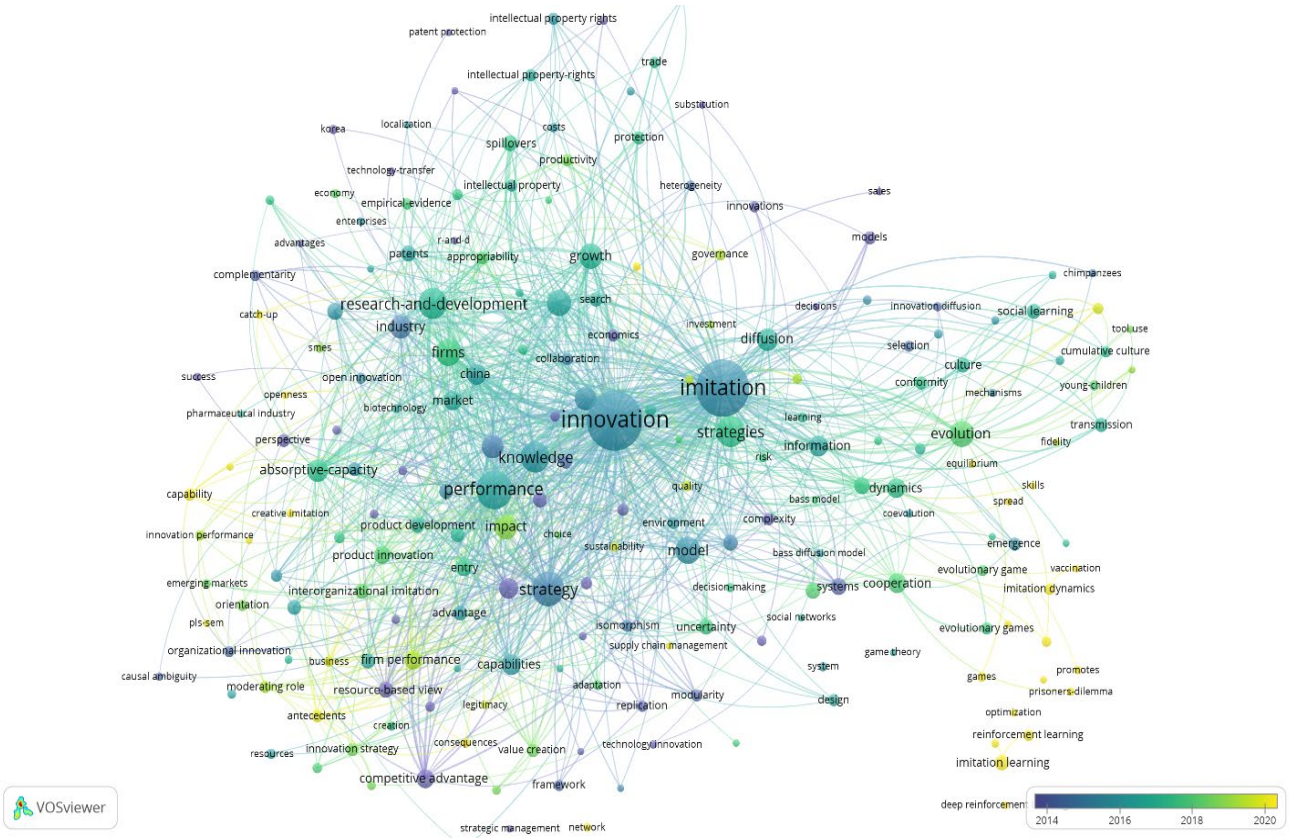

Figure 3. Map visualizing the evolution over time of the main aspects of imitation strategies

Source: drafted by the authors based on materials from the Web of Science database using VOSviewer v.1.6.20.

The final, fifth stage began after 2020. The key terms used in the studies were imitation learning, imitation dynamics, dynamic systems, sustainability, quality, capacity, creative imitation, optimization, supply chain management. To summarize the results of the bibliometric analysis of the evolutionary-temporal dimension, it is necessary to highlight the significant changes in the focus of scientific publications - the transformation and interweaving of the substantive characteristics of innovation and imitation.

In general, we can distinguish the results of the analysis based on Figure 4 by colors. Yellow areas indicate that the terms contained in that color have received a lot of attention from researchers, while blue areas indicate that the terms contained in that color have received less attention from researchers.

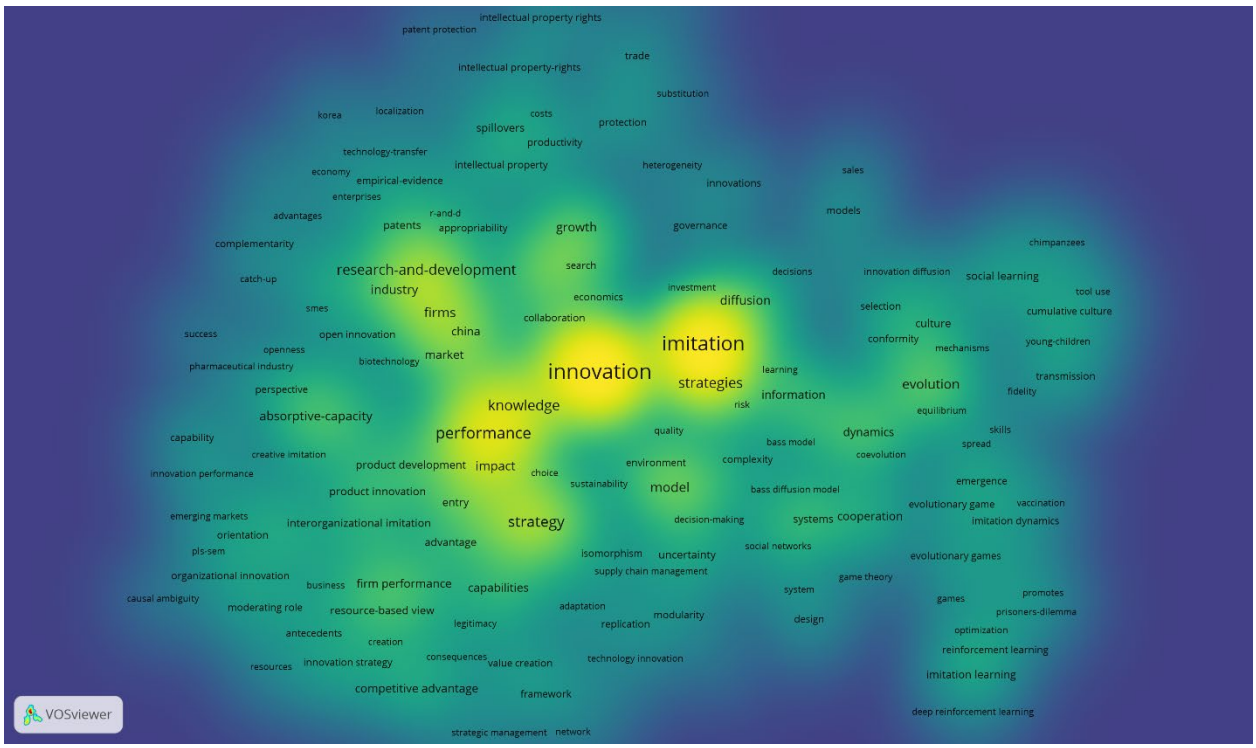

Figure 4. ***Keyword density visualization map in imitation strategy research***

Source: drafted by the authors based on materials from the Web of Science database using VOSviewer v.1.6.20.

Researchers have paid much attention to innovation, imitation, performance, knowledge, strategies, research and development, growth, and impact on firms. These results provide us with information about research gaps that we can develop in relation to current research trends.

4. Conclusions

A bibliometric analysis of key patterns of scientific publications on issues of innovative strategy in entrepreneurial activity over the past forty years made it possible to identify and characterize seven clusters based on the consistency of keyword content after a sample of studied articles, the five most important stages in the expansion of scientific research on the topic under discussion. The outcome of the analysis of the sample of scientific articles indexed by the scientometric database Web of Science, as well as a map of terms, constructed categories and the most important keywords related to the problem of imitation, offers the following possibilities: first, it is necessary to take into account the relevance of the field of study and its many facets (since there are many connections between terms and their high incidence is observed in numerous researches), secondly, to monitor the changes in emphasis in scientific publications from the tradition of companies using the method of imitation strategies in the implementation of innovative projects (from the first to the third stage) to the growing importance of environmentally oriented and anthropocentric development of companies and an increase in the importance of tools, technologies and business models for the implementation of innovations (stages four to five). The results obtained characterize the current state and direction of the research sphere of the problems of imitative behavior of companies, which allows determining the key aspects of ensuring their effective functioning in modern economic conditions, as well as obtaining a more complete understanding of the formation of new trends.

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