



# Imitation strategies in entrepreneurship: Bibliometric analysis

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## Abstract

The article presents the research results on the evolution of key patterns of scientific publications devoted to the use of imitation strategies by business entities. End of purpose was ensured by solving two interrelated tasks: first, to form a relevant sample of scientific articles (2,302 publications on selected topic, indexed by the Scopus scientometric database, for the period from 1992 to 2022); secondly, to analyse the co-occurrence of keywords to characterise the current state of the research field and determining the perspective of its development. The terms “imitation strategy, innovation” or “innovation, imitation, strategy” were chosen as keywords. The bibliometric analysis and visualisation of its results were performed using the VOSviewer software product. On the basis of visualisation maps, five clusters of the content matching of keywords in articles and five stages of the evolutionary development of innovative behavior of enterprises were identified. The results of the research can be used in studying various aspects of the implementation the imitation strategies by business entities.

**Keywords:** imitation, innovation, strategy, entrepreneurship, bibliometric analysis.

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# 商业中的模仿战略：文献计量分析

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## 摘要

本文介绍关于企业行为者使用模仿战略的科学出版物主要模式演变的研究结果。两个相互关联的目标有助于实现这一目标：以确定研究领域的现状和当前趋势的特点，制定了相关的科学文章样本（1992–2022 年被 Scopus 引文数据库索引的2302篇出版物）以及进行了对关键词的相合分析。“模仿战略、创新”或“创新、模仿、战略”的组合被选择作为关键词。文献计量分析和其结果的形象化是使用 VOSviewer 软件产品进行的。基于形象化根据文章中的意义关键词匹配，确定了五个集群。以及企业创新行为的问题范围的发展五个阶段。结果可用于研究企业实体实施模仿战略的不同方面。

**关键词：**模仿、创新、战略、企业经营、文献计量分析。

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## Introduction

The strategic impact of innovation activity on individual enterprises, industries and the economy as a whole is undeniable, which is confirmed by the constantly growing volume of publications. Today, both scientists and practitioners [Meshkov et al., 2021; Innovative environment for business..., 2022; Kravchenko, 2022a; 2022b] consider innovation to be an important source of competitive advantage, ensuring not only, and sometimes not so much, the sustainable development of business entities but also the quality and possibility of their continued existence. At the same time, in the last decade more and more studies have appeared showing that imitation as an attempt to reproduce a part or a whole also effectively allows business entities to obtain valuable and fairly stable opportunities for competitive advantage [Rivkin, 2000; Linder, 2020; Trachuk, Linder, 2022]. It is obvious that over time the emphasis in scientific publications changes, the content characteristics of innovation and imitation are transformed and intertwined, but their fusion (relationship) in one formula of success, which some researchers call ‘imovation’ [Shenkar, 2015; Wu et al., 2020; Scuotto et al., 2022], is not focused on.

Considering the importance of ensuring sustainable competitive advantages in the aggressively turbulent conditions of the modern external environment, the problems of analysing the characteristics of the development of innovative behaviour in entrepreneurial activity are relevant and deserve special attention. The purpose of the article is to characterise the development of the main patterns of scientific publications devoted to the use of imitation strategies by business entities.

## 1. Research methodology

The analysis of scientific articles on innovative behaviour in entrepreneurship was carried out in several stages. In the first stage, periods of high publication activity on the subject under study were identified in the scientometric database Scopus in order to construct a relevant data sample. The title, abstract and keywords were chosen as the basic patterns of scientific publications. The search query included the following combinations: ‘imitation strategy, innovation’ or ‘innovation, imitation, strategy’ (with different endings). The study covers publications in the Scopus database from 1992 to 10 December 2022. Based on the results of the first stage, 3397 publications were selected.

In the second stage, the subject area of the initial sample was clarified - scientific articles in the following publication areas of Scopus publications were selected for further analysis: business, management and accounting; social and human sciences; economics, econometrics and finance; the science of decision making. In this way, the sample size was reduced to 2302 publications, while respecting the principle of representativeness of the data analysed.

The third step is a bibliometric analysis of the generated sample of publications, using the software product VOSviewer v.1.6.18, in order to identify existing promising areas for the study of innovation and imitation problems. The use of this tool made it possible to create neural network visualisation maps of keyword matches that identify areas of research on innovative behaviour in entrepreneurial activity. Note that the size of the circle on the visualisation map is responsible for the frequency of occurrence of the element in the considered publications, while its colour is responsible for belonging to a certain cluster. The strength of the connection between elements is characterised by the length of the line between them (a longer line indicates a weaker connection between two elements).

## 2. Research findings

Over the last thirty years - since 1992 - there has been a steady increase in publications on the use of imitation strategies in the implementation of innovation activities by firms (Figure 1). From January to the first ten days of December 2022, 137 articles were published in the Scopus database on the subject under study, which indicates its relevance and, accordingly, the growing interest of researchers in this area. This trend is due to the importance of sustainable scientific, technological and innovative development for the economy of any country, especially in the face of aggressive competition, disruption of supply chains and partnerships, including in the field of R&D. The latter has to a large extent updated and taken to a new level the issue of the active use of imitation strategies.

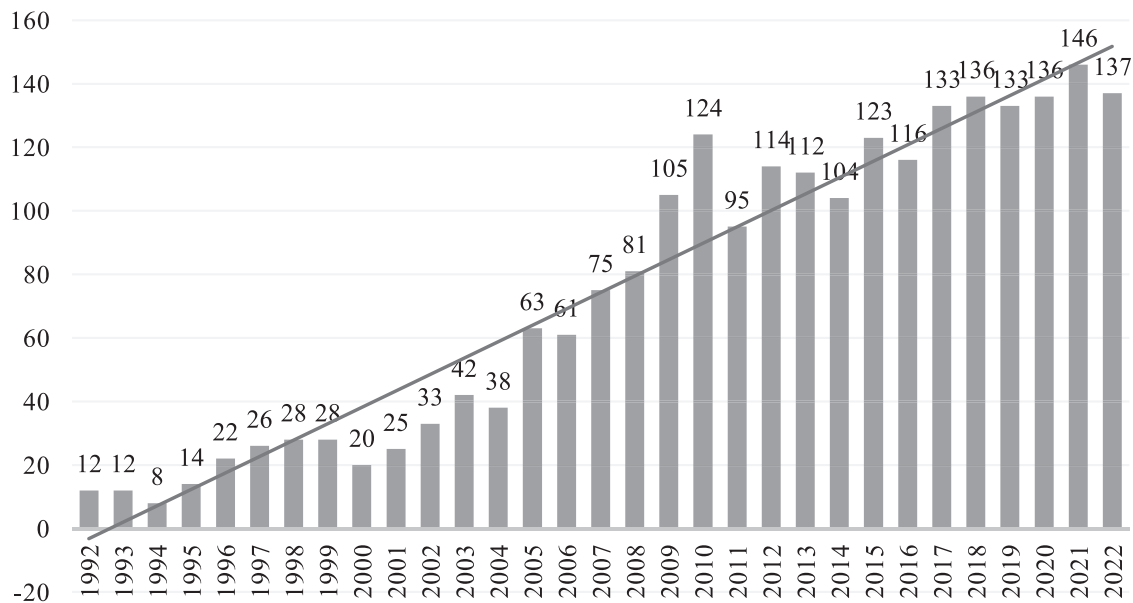
### 2.1. Most cited publications

Based on the metadata of the scientific papers included in the generated sample, a rating was made using the software product VOSviewer - the top 5 most cited publications in the scientometric database Scopus for the period from 1992 to December 2022 (Table 1).

The most cited paper (more than 17 thousand citations) is ‘Dynamic opportunities and strategic management’ by D. Teece, G. Pisano and E. Shuen [Teece et al., 1997]. In this paper, attention is drawn to the fact that the creation of private capital in regimes of rapid technological change largely depends on the refinement of the firm’s internal technological, organisational and managerial processes, including the ability to reproduce and imitate innovations that enter the market and are in demand. The authors conclude that it is necessary to synthesise research in the fields of strategy, innovation, production, organisational behaviour and business history in order to study the factors underlying firm and national competitive advantage.

The second most cited paper was Local Learning and Industrial Competitiveness [Maskell and Malmberg, 1999], which suggests that changes in the international economy

Fig. 1. Dynamics of publications devoted to the imitation strategies in entrepreneurial activity



Source: compiled by the authors using the Scopus database.

are gradually shifting the basis of industrial competitiveness from static price competition to dynamic improvement, favouring firms that can create knowledge faster than their competitors. In the publication of the same title, the authors argue that proximity between firms plays an important role in interactive learning processes and that knowledge creation is supported by the institutionalisation of tacit knowledge useful for certain activities. Sustained competitiveness requires the constant replacement of obsolete resources, the rebuilding of obsolete structures and the renewal of economically important national or regional institutions, as imitation gradually transforms local capabilities into global ubiquitous capabilities.

The next most cited publication is ‘Competing with Opportunities: New Rules for Corporate Strategy’ [Stalk et al., 1992], where the authors write that a company’s success in the marketplace depends on anticipating trends and responding quickly to changing customer needs. In such an environment, the essence of strategy lies not in the structure of the firm’s products and markets, but in the dynamics of its behaviour. Scholars conclude that to be successful, a company must transform its core business processes into hard-to-imitate strategic opportunities that differentiate it from competitors in the eyes of customers.

The paper by K. Zhu and K.L. Kraemer [Zhu, Kraemer, 2005] is the most cited, with 1059 citations. The results of this study show that technological competence, firm size, financial commitment, competitive pressure and regulatory support are important preconditions for the functioning of e-business. In

addition, the authors argue that internal integration has the strongest impact on the value of e-business. This is consistent with the resource theory of the organisation, since internal integration has value-creating resource characteristics (e.g. firm-specific, difficult to imitate by competitors).

The last publication in the rating in Table. 1 – the article ‘Crisis construction and organisational learning: capacity building in the catching-up Hyundai Motor’ [Kim, 1998]. The author states that effective organisational learning requires a high absorptive capacity, which consists of two main elements: a prior knowledge base and effort intensity. Describing the experience of the implementation of the strategy of independence in the development of the absorptive capacity of Hyundai Motor Company, the researcher comes to the conclusion that in the process of moving from one stage to another through the preparation and acquisition, development and improvement of foreign technologies, the company received migratory knowledge, which allowed it to expand its prior knowledge base, and actively created crises as a strategic means to intensify its learning efforts. The author concludes that, unlike external crises, proactively designed internal crises shift the learning orientation from imitation to innovation and increase the intensity of organisational learning efforts.

## 2.2. Keyword analysis of publications

Based on the results of the bibliometric analysis carried out with the software product VOSviewer, a terminological map was created that shows the existing relationships between

Table 1

*Source:* Compiled by the authors on the basis of the Scopus database.

growth', 'simulation', 'technology borrowing', 'developing countries', 'globalisation', 'entrepreneurship', 'convergence', 'market conditions'. In this cluster, the keyword 'innovation' has the highest frequency of sharing - 634, while the strength of communication is 2000. Thus, the content of the formed cluster can be characterised by the

Fig. 2. A terminological map of categories with the highest frequency of occurrence in publications on imitation strategies in the activity of enterprises







property', 'intellectual property rights', 'innovation management', 'patent protection', 'knowledge management', 'entrepreneurship', 'technological innovation'. A popular (highly cited) paper from this period is [Andries, Faems, 2013], which shows the impact of patenting on licensing, innovation and financial results for both small and large companies. It is hypothesised that small and medium-sized enterprises (SMEs) benefit less from patenting activity in terms of protection from imitators than large firms. At the same time, the propensity and ability of SMEs to license their patents and generate additional revenue streams may be relatively higher than that of large firms. Contrary to expectations, the authors' study shows that not only large firms but also SMEs benefit from patenting in terms of commercialising innovative products.

The fourth phase - from 2014 to 2016 - is characterised by the predominance of the terms 'sustainable development', 'technology borrowing', 'life cycle', 'empirical analysis', 'social learning', 'catching up', 'behavioural research', 'open innovation'. For example, in their work [Revilla, Knoppen, 2015], E. Revilla and D. Knoppen explore the impact of knowledge integration in terms of joint decision-making and joint thinking on the effectiveness of relationships, including operational efficiency and innovation. The authors emphasise the need to create the ability to dynamically integrate knowledge (valuable, rare and difficult to imitate).

The final, fifth stage started after 2016. The main terms in the research were 'emerging economies', 'business model of innovation', 'imitation innovation', 'creativity', 'management approach', 'small and medium enterprises', 'policy definition'. For example, one of the most cited papers is a publication by a team of authors led by Yu. Zhao [Zhao et al., 2020], which analyses the evolution of platform business models. The authors conclude that success in platform battles is plausibly due to a combination of the complexity of business model design and the simultaneous use of innovation and imitation to create complex action systems. In another publication typical of the period [Chen, Dimitrov, 2017], the authors explore the nature of eco-innovations, aspects of their licensing and imitation. The results obtained allow the authors to conclude that an eco-innovator may lose its

competitive advantage when licensing an innovative product; in addition, licensing may lead to an increase in the number of imitations.

Summarising the results of the bibliometric analysis in the evolutionary-temporal dimension it should be noted that there is a pronounced shift in emphasis in scientific publications - the transformation and interweaving of the content characteristics of innovations and imitations.

## Conclusion

The bibliometric analysis of the main patterns of scientific publications on the subject of imaginative strategies in entrepreneurial activity over the last thirty years has made it possible to identify and characterise five clusters according to the content match of the keywords in articles studied, as well as to determine the five most significant stages in the development of scientific research on the subject under consideration.

The results from the analysis of the scientific articles indexed by the Scopus scientometric database as well as the terminological maps of the categories constructed and the most significant keywords related to the problems of innovation, allow us, on the one hand, to note the relevance and multidimensionality of the field studied. To this end, here are numerous links between as well as their high occurrence in different studies). On the other hand, they allow us to trace the shift of emphasis in scientific publications from traditional approaches to the use of imitation strategies in the implementation of innovative projects by enterprises (the first – the third stages) to an increase in the importance of environmentally and anthropocentrically oriented development of business entities as well as an increase in the importance of tools, technologies and business models for the introduction of innovations (the fourth – the fifth stages).

The obtained results characterise the current state and direction of research in the sphere of problems of imaginative behaviour of enterprises, which makes it possible to determine the key aspects of ensuring their effective functioning in modern economic conditions, as well as to get a better idea of the formation of new trends.

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