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A Review of Academic Research on Regional Entrepreneurship: A Bibliometric Analysis

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Abstract

Introduction. Prior studies have connected entrepreneurship to the economic growth of regions. This fact has led to an increase in academic interest on regional entrepreneurship in Russia and around the world. However, these studies are highly diverse in their research scope, goals, methodologies and results. Therefore, the goal of this paper is to provide some coherence and synthesis to academic research on regional entrepreneurship in Russia.

Materials and Methods. Using a bibliometric method of analysis, this research presents an empirical review of academic studies on entrepreneurship in Russian regions. To maintain a quality threshold, our research focus was limited to studies indexed in the Scopus citation database. We analysed 361 articles from 2006 to 2022. The research includes a thorough performance analysis and a scientific mapping of the field.

Results. Our results show that the main thematic clusters include entrepreneurship, innovation system, government support, knowledge economy and competitiveness, while emerging themes include pandemic, digitalisation, higher education and investment attractiveness, among others. Also, we identified a number of research gaps, particularly in the sociological research of entrepreneurs, and propose suggestions for future research.

Discussion and Conclusion. This article provides an important resource for scholars interested in the study of regional entrepreneurship in Russia and around the world.

Keywords: entrepreneurial sociology, regional entrepreneurship, bibliometric, individual entrepreneur, regional economy, entrepreneurial behaviour, socio-economic development

Conflict of interests. The authors declare that there is no conflict of interest.

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Оригинальная статья

Обзор исследований по региональному предпринимательству: библиометрический анализ

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Аннотация

Введение. Предыдущие исследования связывали развитие предпринимательства с экономическим ростом регионов. Понимание этого факта привело к росту академического интереса к исследованию регионального предпринимательства в России и во всем мире. Однако эти исследования весьма разнообразны по целям, применяемым методологиям и полученным результатам. Цель статьи – на основе проведенного библиометрического анализа обеспечить согласованность и обобщение академических исследований по региональному предпринимательству в России.

Материалы и методы. Проведен эмпирический обзор академических публикаций по предпринимательству в российских регионах с использованием библиометрического анализа. Для обеспечения качества проведенного исследования наше внимание было ограничено работами, индексируемыми в базе данных цитирования Scopus. Проанализирована 361 статья с 2006 по 2022 г. В исследовании также применялись тщательный анализ производительности и научное картирование области.

Результаты исследования. Определено, что основные тематические кластеры включают следующие темы: предпринимательство, инновационная система, государственная поддержка, экономика знаний и конкурентоспособность; среди новых тем ученых интересуют пандемия, цифровизация, высшее образование и инвестиционная привлекательность. Выявлен ряд пробелов в научной литературе, особенно в социологических исследованиях предпринимателей. Предложены рекомендации для будущих исследований.

Обсуждение и заключение. Проведенное исследование и полученные результаты представляют собой важный академический ресурс для ученых, заинтересованных в изучении регионального предпринимательства в России и во всем мире.

Ключевые слова: социология предпринимательства, региональное предпринимательство, библиометрия, индивидуальный предприниматель, региональная экономика, предпринимательское поведение, социально-экономическое развитие,

Конфликт интересов. Авторы заявляют об отсутствии конфликта интересов.

Финансирование. Исследование выполнено при финансовой поддержке Министерства науки и высшего образования Российской Федерации в рамках Программы развития Уральского федерального университета имени первого Президента России Б. Н. Ельцина в соответствии с программой стратегического академического лидерства «Приоритет 2030».

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Introduction. There is an increasing interest in developing entrepreneurship at the regional level in many countries of the world. There is now a broad consensus in academic research that entrepreneurship can lead to regional economic growth, job creation and poverty reduction [1–4]. Furthermore, academic interest in entrepreneurship continues to rise.

The purpose of this study is to thoroughly investigate academic research on the analysis of entrepreneurship in regions of Russia. In order to control the quality of studies included in this review, we exclusively focus on articles indexed in the Scopus scientific database. Also, an earlier version of this research was presented

at the 17th International Conference “Russian Regions in the Focus of Change” in November 2022¹. Scopus is a reputable international database and is one of the most frequently used data sources for review studies [5]. In addition, Scopus has one of the leading collections of peer reviewed journals, books, conference proceedings and other scientific publications. Also, unlike eLibrary.ru which is more focussed on publications from Russia, Scopus provides an international benchmark for academic research in all parts of the world.

Literature Review. In different parts of the world, regional entrepreneurship has been analysed from the perspective of the knowledge economy [6], economic growth [7], electronic commerce and the internet [8–10], the triple helix model and entrepreneurial ecosystems [11; 12], job creation [2; 4], and COVID-19² [13], among others. In Russia, studies on regional entrepreneurship include research on indigenous and rural entrepreneurship³, gender issues in regional entrepreneurship [14], techno-entrepreneurship in Russian regions [15], the effects of COVID-19 on regional entrepreneurship [16], and entrepreneurship in the leisure industry of Russian regions⁴, among others.

A bibliometric method of analysis is a quantitative approach to literature review. It comprises of two main systems of analysis: a scientific mapping and analysis of performance [5; 17]. Unlike a traditional literature review, a bibliometric approach provides an objective method analysing large volumes of data, and for analysing the content and development of a research field. The bibliometric method of analysis for this research follows guidelines proposed by Donthu et al. [17] and recent standards in business and management research [18–20].

Within entrepreneurship research, bibliometric analyses have been used to examine entrepreneurship within public sector organisations [19], the ethical aspect of entrepreneurship [20], the rise of social entrepreneurship [21], the relationship between religion and entrepreneurship [22], the growth of rural entrepreneurship [23], and the relationship between crisis and entrepreneurship [24], among others.

To the best of our knowledge, our research provides the first quantitative review of academic research on entrepreneurship in Russian regions. The results include important suggestions for future research and provide a much-needed guide for researchers in the field. The research is structured in the following way. The following sections include the methodological process, results, discussion/research suggestions and conclusions/limitations.

¹ Olumekor M., Polbitsyn S. Entrepreneurship in Russian Regions: A Bibliometric Analysis. In: [17th International Conference “Russian Regions in the Focus of Changes” Coll. of Report]. Ekaterinburg: Azhur; 2023. p. 521–526.

² Olumekor M., Polbitsyn S. Problems for Regional Entrepreneurs Due to Economic Digitalisation and COVID-19. In: Collection of the XVI International Conference. 2022. Ekaterinburg: Ural Federal University named after the first President of Russia B.N. Yeltsin; 2022. p. 242–246.

³ Polbitsyn S. National Ruralities as the Blockchain for Global Agriinnovation System // Proceedings of the European Conference on Innovation and Entrepreneurship. 2018. p. 596–603; Abilova E., Zakharova E., Davydov D. Rural Entrepreneurship in the Region. In: E3S Web Conference EDP Sciences. 2021;258:06034. <https://doi.org/10.1051/e3sconf/202125806034>

⁴ Boyarchuk N.K., Bukreev I.A. Simulation of Entrepreneurship Development Scenarios in the Recreational Sphere of the Region. 2021. 12 p. Available at: <https://ceur-ws.org/Vol-2914/paper8.pdf> (accessed 14.03.2023).



Materials and Methods. This research uses a bibliometric method of analysis following the systematic process proposed in the guidelines of Donthu et al. [17], and the recent practice of Olumekor [19]. We aim to answer the following research questions:

RQ₁: What are the development patterns and bibliometric variables of academic research on entrepreneurship in Russian regions?

RQ₂: What are the gaps in academic research on entrepreneurship in Russian regions?

Before beginning the data collection process, it was important to set clear inclusion criteria to ensure objectivity and transparency. Therefore, studies would only be included in this research if they met all of the following inclusion criteria:

1. Articles must specifically analyse entrepreneurship or new business creation. Therefore, studies on other areas of business/economics would be excluded.

2. Studies must exclusively analyse one or more regions in Russia. Studies on other countries, or national studies on Russia without a direct examination of regions would be excluded.

3. Studies would be included only if they are indexed in the Scopus citation database. Therefore, studies in other scientific databases such as eLibrary.ru, Google Scholar and the Web of Sciences would be excluded unless they are also included in Scopus.

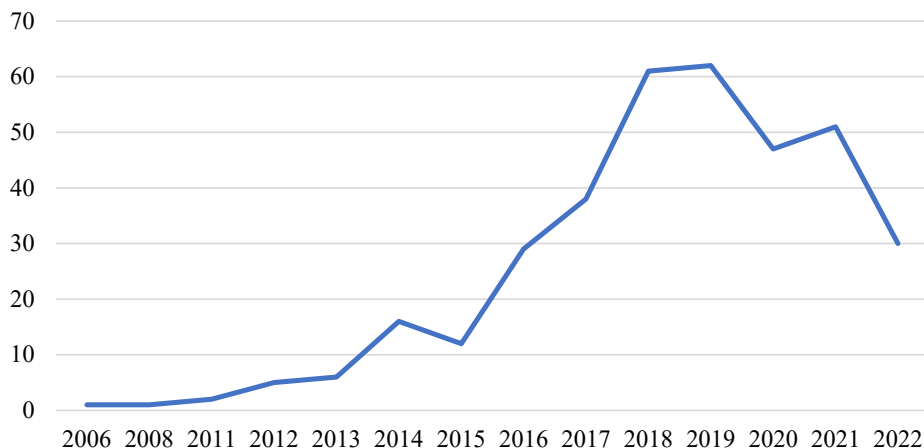
4. Studies that meet all of the aforementioned criteria would be included regardless of the type of publication. As such, studies in books, book chapters, conference proceedings and journal articles would be included.

Following a delineation of the inclusion criteria, we proceeded to begin the data collection process on Scopus. The main search was conducted on the 10th of November 2022 and includes the following search code: *TITLE-ABS-KEY (entrepreneurship AND region) OR (entrepreneur W/ region) AND (LIMIT-TO (AFFILCOUNTRY,"Russian Federation"))*.

Following the search on Scopus, 387 articles ($n = 387$) were retrieved. All 387 articles were sorted using Microsoft Excel. The data included 243 journal articles ($n = 243$), 82 conference proceedings ($n = 82$), 41 book chapters ($n = 41$), 20 reviews ($n = 20$) and 1 data paper ($n = 1$). The next stage of analysis involved a painstaking screening of the title, abstract, key words and full article in doubtful cases. 24 articles were excluded for not meeting all of the outlined inclusion criteria. As a result, 361 articles ($n = 361$) were included in our results. The results include manual analyses/calculations, and a visualisation analysis using the VOSviewer software [25].

Results. Performance analysis. Number of publications. The first analysis was to examine the development of academic interest in regional entrepreneurship in Russia. We measured this by the number of publications on the topic. We found that studies on entrepreneurship in Russian regions have risen since they first began appearing in Scopus in 2006.

Figure 1 shows that while research output on regional entrepreneurship has increased since 2006, it has not always maintained a year-on-year increase. For examples, research output declined in the years 2015 and 2020. We believe the lower productivity for the year 2020 could be due to the COVID-19 pandemic. There was also a decline in 2022.



Note. 2022 shows data until the 10th of November 2022.

Source. Authors' calculations. Data from Scopus.

Fig. 1. Publications per year

Figure 1 shows that while research output on regional entrepreneurship has increased since 2006, it has not always maintained a year-on-year increase. For examples, research output declined in the years 2015 and 2020. We believe the lower productivity for the year 2020 could be due to the COVID-19 pandemic. There was also a decline in 2022.

Most productive universities. A frequently analysed metric in bibliometric studies is to analyse the most productive research institutions on a given topic. For our research, we analysed the Russian academic institutions with the most articles on regional entrepreneurship in Russia. Table 1 shows our results for this.

Table 1. Productive research organisations

Institutions	Number of articles
Russian Academy of Sciences	27
HSE University	24
Plekhanov Russian University of Economics	21
Ural Federal University	20
Russian Presidential Academy of National Economy and Public Administration (RANEPA)	20
Kazan Federal University	18
Financial University under the Government of the Russian Federation	14
Lomonosov Moscow State University	12
Institute of Economics of the Urals Branch of the Russian Academy of Sciences	12

Source. Authors' calculations. Data from Scopus.

Table 1 shows the results for the most productive research organisations. To calculate this, only research institutions with at least 12 articles on entrepreneurship in regions ($n \geq 12$) were included. The results show that the Russian Academy of



Sciences (RAN) is the leading institution in the research field ($n = 27$), while the Higher School of Economics is a close second ($n = 24$).

Leading authors. To calculate the leading authors, we analysed the authors with the greatest number of published researches on regional entrepreneurship in Russia. Other methods of analysis can include analysing the number of citations, or the Hirsch index (*h*-index) of the authors on the specific topic. The results of calculations: S. Zemtsov – 10 publications, V. A. Barinova – 7, R. I. Malikov – 6, R. A. Abramov – 5, M. S. Sokolov – 5, N. Z. Solodilova – 5.

For the leading authors, we included only authors with 5 or more articles in our calculations ($n \geq 5$). Productive authors include Zemtsov of RANEPa ($n = 10$), Barinova also of RANEPa ($n = 10$) and Malikov of Ufa State Petroleum Technological University ($n = 6$).

Leading journals and publications. To calculate the leading journals on regional entrepreneurship in Russia, we analysed journals and other types of publications with the highest number of published articles on the topic. Only journals/publications with at least 5 articles were included in the results ($n \geq 5$) which are shown in Table 3 below.

The results show (Table 2) that *Economy of Region* is the most active journal on regional entrepreneurship in Russia with 26 publications beginning in 2011. The *IOP Conference Series* is next with 24 publications. However, unlike *Economy of Region* which has been publishing on the topic for more than twelve years, studies in the *IOP Conference Series* have been published in the recent years. The high concentration of studies in the last five years means that the *IOP Conference Series* is presently the favourite method of publication for scholars of regional entrepreneurship. Other publications include the Springer book series, *Lecture Notes in Networks and Systems* ($n = 17$), and the *E3S Web of Conferences* ($n = 10$).

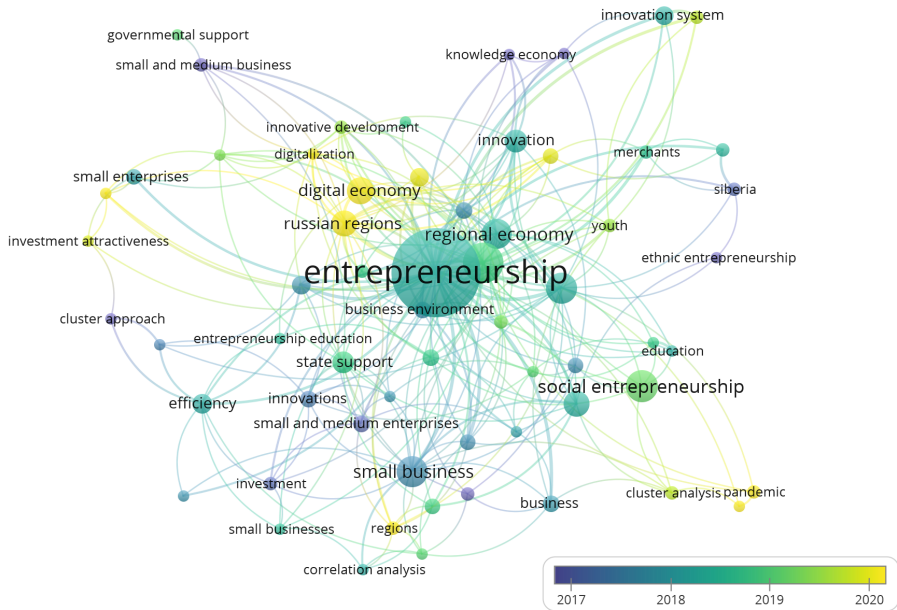
Table 2. Leading journals and publications

Journal / Publication	Number of articles	Published years
1	2	3
Academy of Entrepreneurship Journal	9	2018, 2019, 2020
ACM International Conference Proceeding Series	5	2020, 2021
Advances in Intelligent Systems and Computing	6	2018, 2020, 2021
Bylye Gody	6	2016, 2017, 2018, 2019, 2021
Contributions to Economics	6	2017, 2019, 2020
E3S Web of Conferences	10	2019, 2020, 2021
Economy of Region	26	2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2022
Espacios	5	2017, 2018, 2019
European Research Studies Journal	6	2016, 2018
International Journal of Supply Chain Management	5	2018, 2019, 2020
IOP Conference Series	24	2018, 2019, 2020, 2021, 2022
Journal of Advanced Research in Law and Economics	5	2015, 2017, 2019, 2020



Figure 2 shows that the leading thematic clusters include the entrepreneurship, small business, social entrepreneurship, digital economy, innovation, state support, and efficiency, among others.

In addition, we performed an overlay analysis of the co-word analysis. This type of analysis adds a time period to the thematic analysis and is therefore useful for analysing the emerging trends and themes on a topic [19; 25]. The results are shown in Figure 3 below.



Source. Author’s elaboration using VOSviewer. Data from Scopus.

Fig. 3. Overlay analysis of co-word

Figure 3 shows that the trending/emerging themes include modernisation, pandemic, digital economy, investment attractiveness, digitalisation, cluster analysis, and higher education, among others. Furthermore, although themes like small business, investment analysis and cluster approach or analysis have remained constant, other themes such as regional innovative system, knowledge economy, agriculture, and food security have dwindled in recent years.

Co-citation analysis. Analysis of co-citation examines the references of studies within a research area to find analysis is to find similar themes [17; 27]. Co-citation presumes that two articles are similar in content if they are cited frequently together. To be included in our co-citation analysis, studies must be co-cited a minimum of 3 times ($n \geq 3$). Twenty-one studies met this threshold ($n = 21$).

From Figure 4, the most co-cited studies (in the red cluster) are not actually directly focussed on regional entrepreneurship. They include works by Ragulina [28] and Popkova & Parakhina [29], and Abdulkadyrov et al. [30]. Leading studies in other clusters include Popkova et al. [31] and Sergi⁵.

⁵ Tech, Smart Cities, and Regional Development in Contemporary Russia. In: Sergi B.S., editor. Tech, Smart Cities, and Regional Development in Contemporary Russia. Emerald Publishing Limited; 2019. p. i–xxiv. <https://doi.org/10.1108/978-1-78973-881-020191001>



entrepreneurs [38; 39], very few studies have looked into this in Russia. For example, studies have shown differences in the risk tolerance, need for achievement and locus of control between entrepreneurs and non-entrepreneurs [38; 39]. Similarly, we found some research gaps on entrepreneurial motivation in Russia. Prior studies have discovered a difference between necessity entrepreneurs, those pushed into entrepreneurship by negative circumstances, and opportunity entrepreneurs, those who go into entrepreneurship as a choice [40–42]. Nevertheless, in Russia, studies on this phenomenon are few. While these research gaps are by no means exhaustive, future studies should consider them.

This paper provides a synthesis of studies on regional entrepreneurship in Russia. We used a bibliometric system of analysis to quantitatively review the development of the field. Our analysis was composed of a performance review which included an investigation of the most productive authors and research organisations. Furthermore, we used a scientific mapping system to analyse the leading and trending themes within regional entrepreneurship research. To keep a quality threshold for the study, this research only includes studies from the Scopus citation database. Therefore, a limitation of this research is that it does not include studies in other bibliometric sources such as the Web of Sciences, eLibrary.ru and Google Scholar. The results should be carefully interpreted to reflect this.

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