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Mapping the Scientific Landscape of Economic Competitiveness: A Bibliometric Analysis of Scopus Publications (2020–2025) Using VOSviewer

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Abstract:

This study provides a comprehensive bibliometric analysis of the field of economic competitiveness, focusing on its research evolution, thematic structure, key contributors, and future directions. The main objective is to map scientific production in this domain, identify the most influential authors, institutions, and countries, and explore emerging research themes.

Using bibliometric methods based on data from the Scopus database, the analysis covers publications from 2020 to 2025. Temporal analysis, authorship and collaboration patterns, and keyword co-occurrence analysis were applied to examine how academic interest in economic competitiveness has evolved and how research networks and thematic structures have shaped the field.

The results show a significant rise in publication output between 2020 and 2022, coinciding with major global economic transformations after the COVID-19 pandemic, followed by a gradual decline after 2023. A small group of authors achieved high scientific impact despite limited publications, and collaboration analysis revealed a cohesive core research group. Institutional and international analyses identified multiple geographic clusters, with the United States playing a central role in the global network. Keyword analysis identified three main thematic clusters: competitiveness, economic growth, and emerging topics, reflecting both the conceptual core of the field and its diversification toward innovation and sustainable development. The study concludes with recommendations to strengthen collaboration, broaden participation, and integrate emerging themes into future research agendas.

Key Words: *Economic Competitiveness, Bibliometric Analysis, Scopus, VOSviewer.*

JEL Classification : *F43, C80, C88, C89.*

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1. Introduction

In an increasingly globalized and interconnected world, economic competitiveness has become a central pillar for achieving sustainable growth and improving a nation's position in the global economy. Countries are constantly striving to enhance their competitiveness by developing innovation systems, improving institutional efficiency, investing in human capital, and integrating into global value chains. As a result, the concept of economic competitiveness has attracted considerable attention from international organizations, policymakers, and academic researchers. Over the past decades, several frameworkssuch as the Global Competitiveness Index (GCI) published by the World Economic Forumhave been developed to measure and compare competitiveness across countries. Consequently, the academic literature on economic competitiveness has expanded significantly, covering diverse perspectives including productivity, innovation, institutions, and international trade.

1.1. Research Problem

Despite the growing academic interest in economic competitiveness, few studies have systematically mapped and analyzed the global research trends on this topic using bibliometric methods. Most existing works focus on conceptual frameworks or country-specific competitiveness assessments, while comprehensive bibliometric analyses remain scarce. Moreover, there is limited understanding of the structure of scientific collaboration networks, the most influential authors and institutions, and the evolution of research themes over recent years**.**This gap highlights the need for a systematic bibliometric analysis of the scientific production related to economic competitiveness, particularly over the period 2020–2025, which has witnessed profound global economic changes**.**

Accordingly, this study seeks to answer the following main research question**:**

What are the main global research trends, influential contributors, collaborative structures, and thematic developments in the field of economic competitiveness during the period 2020–2025?

1.2. Research Objectives

This study aims to conduct a comprehensive bibliometric analysis of the scientific literature on economic competitiveness published between 2020 and 2025. Specifically, the objectives are to**:**

- Examine the evolution of scientific publications on economic competitiveness during the study period**.**
- Identify the most productive and influential authors, institutions, and countries in this field**.**
- Analyze collaborative networks at the levels of authors, institutions, and countries**.**
- Explore the main research themes and emerging trends through keyword co-occurrence analysis**.**
- Provide insights that can guide future research directions and inform policymakers and scholars interested in this area.

1.3. Research Significance

This study is significant for both the academic and policy communities. From an academic perspective, it provides a structured and quantitative overview of global research on economic competitiveness, filling a gap in the existing literature. It highlights influential contributors, collaboration patterns, and thematic focuses, thereby offering valuable information for

researchers seeking to position their work within the broader scientific landscape. From a policy perspective, the study identifies key knowledge areas and international collaborations that can support evidence-based strategies for enhancing competitiveness at national and regional levels. Moreover, by focusing on the 2020–2025 period, the study sheds light on how recent global economic transformations have shaped academic debates and research priorities in this field.

1.4. Research Methodology

This study adopts a descriptive–analytical methodology through the conduct of a bibliometric study aimed at quantitatively analyzing the scientific production on economic competitiveness. The data were collected from the Scopus database, which is renowned for its comprehensive coverage of peer-reviewed literature. The analysis focuses on documents published between 2020 and 2025, selected based on predefined search criteria. Descriptive statistics were used to examine publication trends, while network analysis techniques were applied to explore patterns of scientific collaboration and thematic structures. VOSviewer software was employed to construct and visualize bibliometric networks.

1.5. Research Structure

The study is divided into four main sections. The first section addresses the theoretical literature related to the topic of economic competitiveness. The second section presents the methodology and steps undertaken to conduct the study. The third section focuses on the bibliometric analysis of the scientific production in this field during the period 2020–2025, while the fourth section concludes with a discussion of the findings and the key insights derived from the analysis.

2. Theoretical Framework

2.1. The Concept of Economic Competitiveness

Economic competitiveness refers to a country's ability to achieve sustainable economic growth, enhance productivity, and maintain favorable positions in global markets.(Jomi & Baye, 2025)It is shaped by a set of institutions, policies, and structural factors that determine the efficiency and dynamism of the economy**.**(Mini, Moyo, & Phiri, 2025)

Organizations such as the World Economic Forum (WEF) and the International Institute for Management Development (IMD) define competitiveness as the combination of factors that influence a nation's productivity and living standards.(World Economic Forum, 2017) Over time, the concept has evolved from a narrow focus on cost advantages to a broader systemic perspective that includes institutional quality, technological readiness, and innovation capacity.(European Central Bank, 2025)

2.2. The Dimensions of Economic Competitiveness

Economic competitiveness is usually analyzed through several key dimensions**:**

- ***Institutional Environment:*** governance quality, regulatory frameworks, and political stability**.**(Adamkiewicz , 2019)
- ***Macroeconomic Stability:*** inflation, fiscal balance, and debt levels**.**(Jomi & Baye, 2025)
- Infrastructure: physical and digital networks that support production and trade**.**
- ***Human Capital:*** education, skills, and training systems**.**(Cetinguc et al., 2023)
- ***Innovation and Technology:*** R&D capacity, innovation ecosystems, and technological adoption**.**(Adamkiewicz , 2019)

- ***Market Efficiency:*** product, labor, and financial market competitiveness**.**(Boikovaet al., 2021)
- ***External Competitiveness:*** trade openness, export performance, and integration into global value chains**.**(European Central Bank, 2025)

These dimensions are interrelated and jointly determine a country's competitive position in the global economy

3. Methodology

This study adopts a descriptive–analytical methodology through the conduct of a bibliometric study aimed at quantitatively analyzing the scientific production on economic competitiveness during the period 2020–2025. The methodological steps can be summarized as follows**:**

3.1.Data Source

The data were collected from the Scopus database, which is widely recognized for its extensive coverage of peer-reviewed academic literature across disciplines. Scopus was selected because it offers comprehensive bibliographic information (authors, affiliations, keywords, citations, etc.) and is compatible with bibliometric analysis software such as VOSviewer**.**

3.2. Search Strategy and Selection Criteria

The search was conducted using relevant keywords related to economic competitiveness. The following criteria were applied to refine the dataset**:**

- Time period: 2020–2025
- Document type: Articles, reviews, and conference papers
- Language: All
- Subject areas: Economics, Econometrics and Finance; Business, Management and Accounting

3.3. Data Cleaning and Preparation

After the initial search, duplicate records and irrelevant documents were removed. The final dataset consisted of 119 documents that met the inclusion criteria. The data were then exported in CSV format (Scopus export option) to ensure compatibility with analytical tools. Excel was used for basic data cleaning and descriptive statistics**.**

3.4. Analytical Techniques and Software

Two main techniques were employed**:**

- Descriptive analysis: to examine publication trends over time, authorship patterns, and citation distributions**.**
- Network analysis: to explore patterns of scientific collaboration (authors, institutions, countries) and thematic structures (keywords)**.**

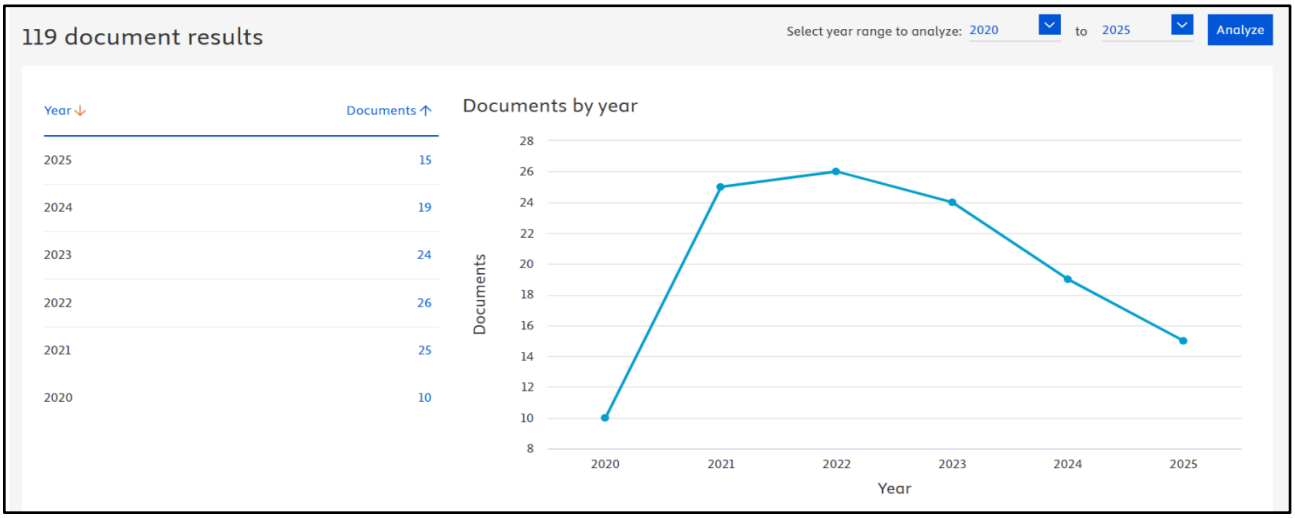
The software VOSviewer was used to construct and visualize co-authorship, co-occurrence, and collaboration networks, while Excel supported descriptive statistical analysis.

4. Bibliometric Analysis

4.1. The Evolution of Scientific Publications on Economic Competitiveness

Figure 1 presents the trend in the number of scientific publications addressing the topic of Economic Competitiveness during the period 2020–2025:

Fig.1. The Evolution of Scientific Publications



Source : https://www-scopus-com.sndl1.arn.dz/

As illustrated in Figure 1, the scientific production on economic competitiveness has shown noticeable fluctuations during the period 2020–2025. In 2020, the lowest number of publications was recorded, with only 10 documents. This figure rose significantly in 2021 to 25 publications, followed by a slight increase in 2022, reaching 26 publications, which represents the peak of the period under study**.**

In 2023, the number of publications slightly declined to 24, followed by a further decrease in 2024, with 19 publications, and then a continued decline in 2025, reaching 15 publications at the time of data collection**.**

These trends can be interpreted as reflecting a peak of academic interest in economic competitiveness in the middle years of the period, particularly in 2021 and 2022, coinciding with major global economic shifts following the COVID-19 pandemic. The gradual decline in subsequent years may indicate a shift in research priorities or a moderation in publication intensity on this topic.

4.2.The Most Productive and Influential Authors

Table 1 highlights the ten authors who have demonstrated the highest productivity and scientific influence in the field of Economic Competitiveness:

Table 1. The 10 Most Productive and Influential Authors

Rank	Author Name	Number of Publications	Number of Citations
1	Turkina, ekaterina	2	30
2	Bruneckiene, jurgita	2	19
3	Jucevicius, robertas	2	19
4	Lukauskas, mantas	2	19
5	Ivanova, tetiana	2	5
6	Grazini, chiara	2	1
7	Guarini, giulio	2	1
8	Simek, libor	2	0
9	Akimov, oleksandr	1	133
10	Bilan, yuriy v.	1	133

Source: Prepared by the authors based on the Scopus database and VOSviewer software.

The bibliometric analysis based on the Scopus database revealed that a group of authors demonstrated a balanced research activity in the field of economic competitiveness in terms of publication count. Turkina, Ekaterina ranked first in terms of productivity, with a total of 2 publications and 30 citations, reflecting her notable scientific contribution in this field. She was followed by a set of authors, each with 2 publications: Bruneckiene, Jurgita, Jucevicius, Robertas, and Lukauskas, Mantas, with citation counts ranging from 19 to 5, indicating differences in the scientific impact of their work**.**

Notably, authors such as Akimov, Oleksandr and Bilan, Yuriy V., despite having only one publication each, were the most influential in the field, with 133 citations per author. This highlights the high reference value and significance of their research within the scientific literature on economic competitiveness**.**

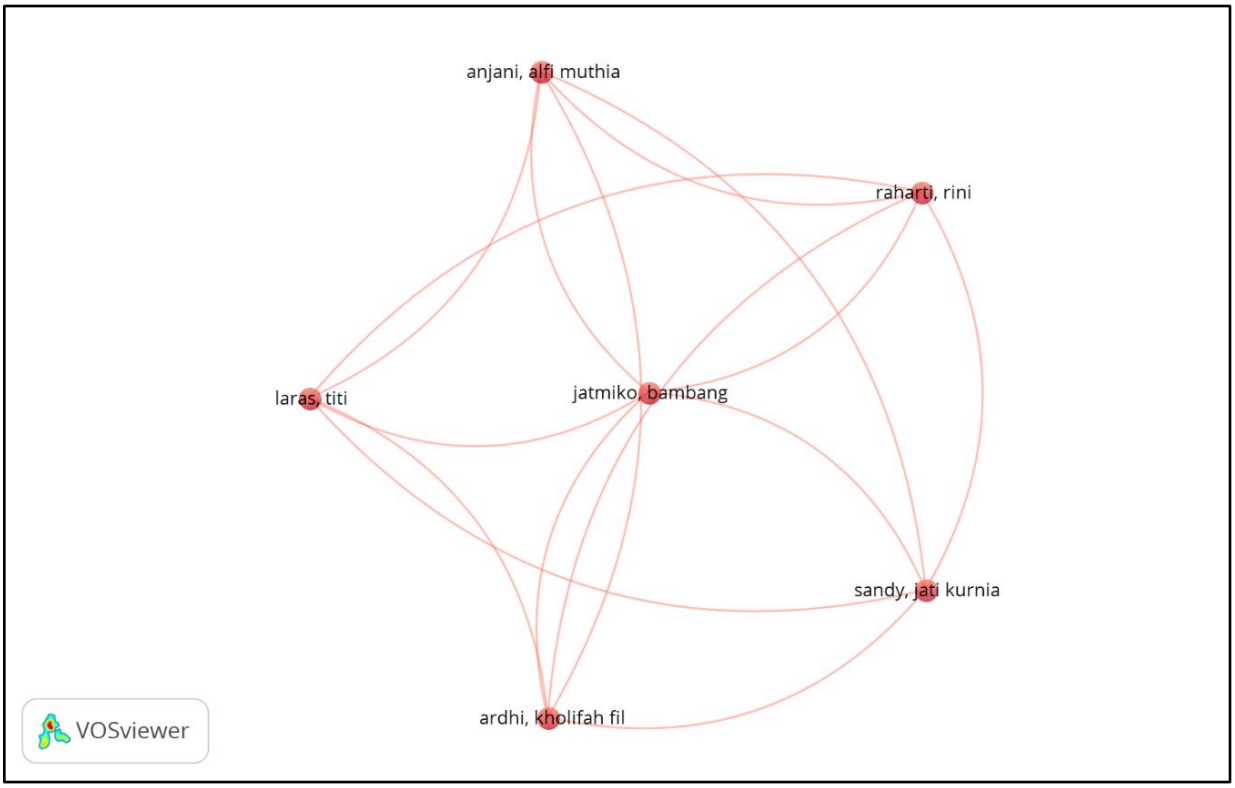
Other authors, although contributing to the scientific output, showed relatively limited research impact in terms of citations, which may reflect the novelty of their publications or their focus on more specialized subfields.

4.3. Collaborative Network Analysis

4.3.1Collaboration among Authors(Co-authorship – Authors)

Figure 2 illustrates the scientific collaboration network among authors in the field of Economic Competitiveness. A total of 332 authors who contributed at least one publication in this field were identified. The network consists of a single collaborative cluster, comprising 6 authors who are connected through co-authorship relationships.

Fig.2. Authors' Collaboration Network on Economic Competitiveness



Source: Prepared by the researcher based on VOSviewer.

The author Jatmiko, Bambang is positioned at the center of the collaboration network, reflecting the intensity of his research connections with a considerable number of other authors, as he is linked through five collaborative ties. Sandy, Jati Kurnia, Ardhi, Kholifah

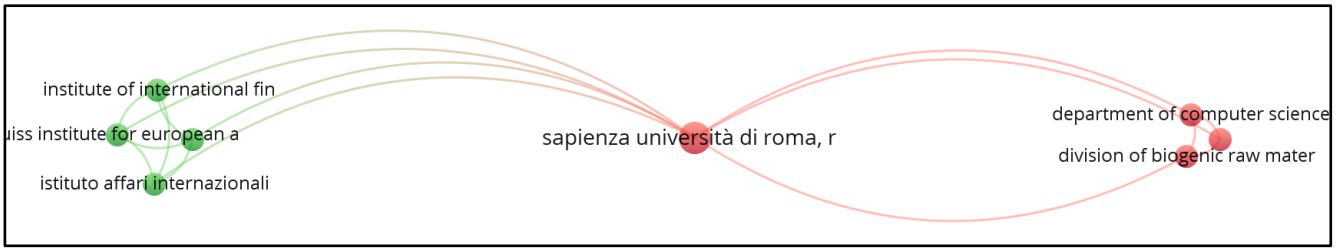
Fil, Iaras, Titi, and Anjani, Alfi Muthia also stand out among the most collaborative researchers, due to their involvement in co-authorship relationships within their research group.The map reveals a single main cluster (the red cluster), which represents an active research nucleus characterized by strong internal collaboration and a high degree of interconnectedness among researchers.

The collaboration network illustrated in Figure (2) highlights the dynamic nature of research activities on Economic Competitiveness and emphasizes the presence of a key specialized research group with significant contributions. The distribution of authors also suggests the potential existence of leading research centers or universities driving this scientific collaboration, a point that will be examined in greater depth in the following section on Co-authorship – Organizations.

4.3.2Collaboration among Research Institutions(Co-authorship – Organizations)

The analysis of institutional collaboration using VOSviewer, based on the Scopus database, revealed the presence of 241 research institutions that contributed at least one publication in this field, as illustrated in Figure 3 below:

Fig.3. Research Institutions' Collaboration Network on Economic Competitiveness



Source: Prepared by the researcher based on VOSviewer.

Table 2 highlights the top ten research institutions in terms of productivity and collaboration in the field of Economic Competitiveness**:**

Table 2. Top 10 Research Institutions by Productivity and Collaboration

Rank	Research Institutions Name	Number of Publications	Number of Links	Number of Citations
1	Sapienzauniversita di rome, Italy	2	7	8
2	Department of entrepreneurship and…	2	6	30
3	Esiluniversity, astana, Kazakhstan	2	5	1
4	Univerzitahradeckralove, hradeckral..	2	3	14
5	School of economics and business, ka..	2	2	19
6	Department of industrial engineering a..	2	1	21
7	Department of industrialpolicymaking	1	5	13
8	Department of international trade, HEC	1	5	13
9	Department of science economic, nati…	1	5	13
10	Faculty of engineering and informatio…	1	5	13

Source: Prepared by the authors based on the Scopus database and VOSviewer software.

According to the outputs of VOSviewer, Sapienza Università di Rome, Italy ranks first among research institutions in terms of collaboration in the field of Economic Competitiveness, with a total of 2 publications and 7 total link strengths**.**

The network revealed the formation of two main clusters**:**

- The green cluster, composed of four institutions from France and the United States, reflecting strong regional research partnerships.
- The red cluster, consisting of four institutions from Italy and Poland.

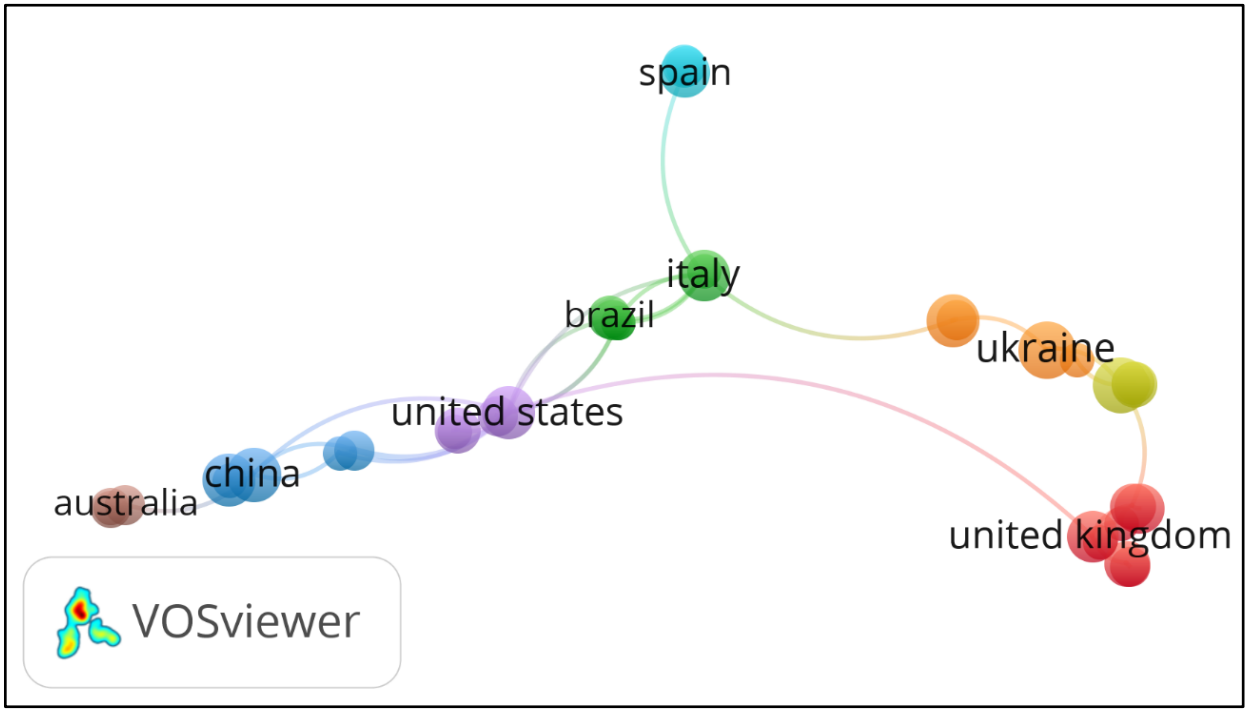
Notably, Sapienza Università di Rome serves as a bridge between the two clusters, actively participating in both and holding the highest number of links (7), as shown in Table 2.

These results, illustrated in Figure 3, indicate a clear concentration of scientific collaboration in the hands of a limited number of institutions with strong research capacities, while other institutions display weaker levels of cooperation. This may be attributed to limited research infrastructure or a lack of international collaboration ties.

4.3.3Collaboration among Countries(Co-authorship – Countries)

The analysis of international collaboration using VOSviewer, based on the Scopus database, revealed the participation of 56 countries, each contributing at least one publication in this field, as illustrated in Figure 4 below:

Fig.4. Countries' Collaboration Network on Economic Competitiveness



Source: Prepared by the researcher based on VOSviewer.

Table 3 presents the ten most productive and collaborative countries in the field of Economic Competitiveness:

Table 3. Top 10 Countries by Productivity and Collaboration

Rank	Research Institutions Name	Number of Publications	Number of Links	Number of Citations
1	United States	8	11	11
2	China	8	6	62
3	Poland	8	3	82
4	Italy	7	7	32
5	United Kingdom	7	5	62
6	Spain	6	4	115
7	Turkey	4	4	59

8	France	2	5	5
9	Hong Kong	2	4	4
10	Australia	2	3	32

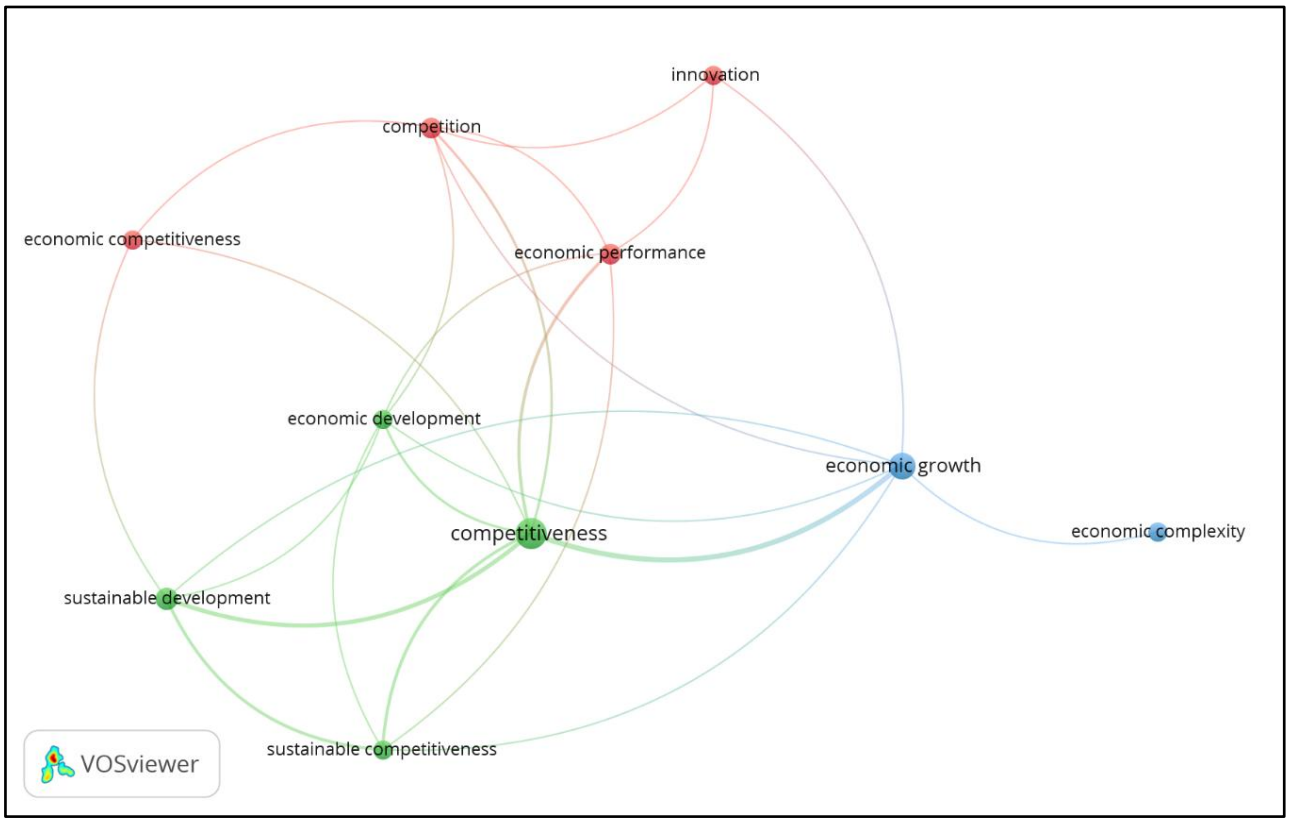
Source: Prepared by the authors based on the Scopus database and VOSviewer software.

Table 3 shows that the United States, China, and Poland are the most active countries in the field of research, witheachrecordingeight publications. However, the United States stands out as the mostinternationally collaborative country, achieving the highestnumber of links (11), whichreflectsits central role in the global research network, followed by Italywithseven links. On the other hand, the network illustrated in Figure 4 revealseight collaborative clusters. The mostprominentinclude the green cluster, whichbringstogetherItaly, France, and Brazil ; the purple cluster, whichincludes the United States and India; and the blue cluster, comprising China, Hong Kong, and Indonesia. This pattern indicates a cleartendencytoward continent-basedresearch partnerships**.**

4.4. Keyword Analysis

The keyword analysis conducted using VOSviewer, based on the Scopus database, identified 472 keywords that appeared at least once in this field. To ensure the clarity of the keyword network map, a minimum occurrence threshold of 4 was set. This choice aimed to reduce the number of less frequently used keywords, which could otherwise affect the visibility of clusters within the keyword network, as illustrated in Figure 5:

Fig.5. Keyword Co-occurrence Network in Economic Competitiveness Research



Source: Prepared by the researcher based on VOSviewer.

Table 4 highlights the top 10 keywords in terms of frequency and link strength in the field of Economic Competitiveness:

Table 4. Top 10 Keywords by Frequency and Link Strength in the Field of EconomicCompetitiveness

Rank	Keyword	Occurrences	Number of Links
1	Competitiveness	40	23
2	Economicgrowth	17	13
3	Sustainabledevelopment	8	11
4	Economic performance	6	7
5	Competition	6	7
6	Sustainable competitiveness	5	9
7	Economicdevelopment	5	7
8	Economiccompetitiveness	5	3
9	Innovation	4	3
10	Economiccomplexity	4	1

Source: Prepared by the authors based on the Scopus database and VOSviewer software.

Figure 5 presents the keyword co-occurrence network map, based on co-occurrence analysis, where the keywords were classified into three main clusters represented by different colors.

The red cluster includes the core keyword Economic Competitiveness, which recorded 5 occurrences and 3 links.

The green cluster features the keyword Competitiveness, which is the most frequent keyword with 40 occurrences and the highest total link strength (23 links), reflecting its central role in the research network.

Meanwhile, the blue cluster is characterized by the keyword Economic Growth, which ranks second in importance with 17 occurrences and 13 links, forming one of the main thematic axes in this research field.

5. Discussion of Results

5.1. Evolution and Research Trends

The temporal analysis of publications revealed a noticeable increase in scientific output between 2020 and 2022, followed by a gradual decline after 2023. This peak in publication activity coincides with major global economic transformations in the aftermath of the COVID-19 pandemic, during which economic competitiveness became a central theme in policy and academic debates. The subsequent decrease in publication volume may indicate either a shift of academic priorities toward other related topics (e.g., sustainability, resilience, or digital transformation) or a maturation of the field, where research interest becomes more specialized and less exploratory**.**

This trend suggests that the study of economic competitiveness is sensitive to global economic shifts, and that scholarly attention tends to intensify during periods of uncertainty or transformation. It also reflects a concentration of research efforts within specific time frames, potentially linked to funding cycles or international research programs**.**

5.2. Scientific Productivity and Influence

The analysis of authorship patterns showed that research on economic competitiveness is dominated by a relatively small group of authors, most of whom have contributed a limited

number of publications (typically one or two), but some have achieved significant scientific impact, as reflected in citation counts. Authors such as Akimov, Oleksandr and Bilan, Yuriy V. stand out as examples of researchers whose individual contributions have shaped the field despite a low number of publications. This highlights the importance of high-quality, high-impact studies that influence subsequent research directions**.**

Similarly, the distribution of influential authors suggests that the field is not concentrated in a single geographic or institutional context, but rather dispersed across different countries and research traditions, which can encourage diversity in theoretical perspectives and methodologies**.**

5.3. Collaborative Structures

The co-authorship network among individual researchers revealed a single, well-defined cluster, indicating the presence of a core research group with strong internal collaboration but limited connections to other authors. This pattern suggests that while some collaborative structures exist, the field may still be characterized by fragmentation and the dominance of isolated research teams. Strengthening inter-group collaboration could enhance knowledge exchange and foster the development of more integrated research agendas**.**

At the institutional level, the analysis showed two main collaborative clusters, with Sapienza Università di Rome playing a central bridging role. This points to the existence of institutional hubs that facilitate international research cooperation. The dominance of a small number of institutions also reflects centralized knowledge production, which can be both a strength (in terms of leadership) and a weakness (in terms of inclusivity of peripheral institutions)**.**

Internationally, the results highlight a clear geographic structuring of collaboration, with clusters corresponding to continental or regional partnerships (e.g., Italy–France–Brazil, United States–India, China–Hong Kong–Indonesia). The United States emerges as the most connected country, underlining its leadership and centrality in the global research network. However, the presence of multiple clusters indicates that research on economic competitiveness is multi-centered, which may foster complementary perspectives and increase the resilience of the field to regional academic trends**.**

5.4. Thematic Structure through Keywords

The keyword co-occurrence analysis identified three main thematic clusters, reflecting the intellectual structure of the field. The green cluster, centered on “Competitiveness,” represents the core conceptual axis of the literature, characterized by the highest frequency and link strength. The blue cluster, organized around “Economic Growth,” reflects a macro-economic perspective, focusing on growth dynamics and their relationship with competitiveness. The red cluster, which includes “Economic Competitiveness” itself, represents a more specialized and emerging thematic focus**.**

These findings indicate that the field is anchored in traditional competitiveness and growth debates, while gradually expanding toward emerging topics such as sustainable development, innovation, and economic performance, which appear frequently as secondary keywords. This thematic structure reflects both conceptual continuity and progressive diversification**.**

5.5. Research Gaps and Future Directions

The bibliometric evidence highlights several opportunities for future research. First, the limited number of high-impact authors and institutions suggests the need to broaden

participation by encouraging new research teams, especially from underrepresented regions. Second, the fragmented collaboration network at the author level indicates potential to foster interdisciplinary and cross-institutional partnerships to generate more integrated research frameworks.

Third, the keyword analysis points to emerging themes, particularly sustainable competitiveness and innovation, that remain underexplored but highly relevant given global economic transformations. Finally, the temporal trend suggests that research on economic competitiveness may benefit from renewed attention in response to current global challenges, such as digital transitions, climate change, and geopolitical shifts.

6. Conclusion

This study has provided a comprehensive bibliometric analysis of the scientific literature on Economic Competitiveness, using the Scopus database and the VOSviewer software. The objective was to examine the evolution, key actors, collaborative structures, and thematic trends within this research field.

The results indicate that research on economic competitiveness has experienced a dynamic evolution, with a publication peak between 2020 and 2022, reflecting the heightened global attention to competitiveness in the post-pandemic period. Scientifically, the field is driven by a limited number of influential authors and institutions, whose contributions shape the intellectual landscape, while the majority of publications remain scattered and isolated.

The analysis of collaborative structures revealed a core research group at the author level, supported by a few institutional hubs and regional partnerships. International collaboration patterns showed the emergence of several continental clusters, with the United States playing a central bridging role in the global network.

Thematic analysis based on keyword co-occurrence highlighted three main research clusters, focusing on competitiveness, economic growth, and emerging themes such as sustainable development and innovation. These findings reflect both conceptual stability and diversification, indicating that while the core focus remains on competitiveness and growth, new areas are gradually gaining importance.

Finally, the study identified several research gaps, including the need to strengthen collaboration among fragmented research teams, involve underrepresented regions, and deepen exploration of emerging themes. Addressing these gaps could foster a more integrated, inclusive, and innovative research landscape in the field of economic competitiveness.

Overall, this bibliometric mapping offers valuable insights for researchers, policymakers, and institutions by identifying key trends, actors, and opportunities to advance the study of economic competitiveness in a rapidly changing global context.

Based on the findings of this study, several recommendations can be proposed to enrich the field of economic competitiveness research and enhance both scientific and institutional effectiveness:

- Promote international and regional research collaboration between universities and research centers to build more interconnected research networks that contribute to producing deeper and more impactful knowledge.

- Support research participation from underrepresented regions and countries through funding programs, academic exchange initiatives, and capacity-building activities**.**
- Focus on emerging topics such as innovation, digital transformation, and sustainable development within the context of economic competitiveness, as these represent promising directions for future research**.**
- Leverage advanced bibliometric tools and regularly update databases to track recent developments and monitor changes in the structure of the research field**.**
- Encourage applied and comparative studies that link theoretical insights with different economic contexts, thereby supporting evidence-based economic policymaking.

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