

# UNDERSTANDING RESEARCH TRENDS AND EMERGING DIRECTIONS IN SUSTAINABLE COMPETITIVENESS THROUGH BIBLIOMETRIC ANALYSIS

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## Abstract

*The economic, technological, and environmental transformations of recent decades have spurred research in the field of sustainable competitiveness, reflecting the need to integrate competitive performance with sustainable development goals. The aim of this research is to identify and systematize the main trends, directions, and thematic structures identified in studies on sustainable competitiveness, using methods specific to bibliometric analysis. The study is descriptive and retrospective in nature and is based on a bibliometric analysis of publications indexed in the Scopus database from 2000 to 2026. The final dataset comprises 534 publications, processed using the Biblioshiny application through an analysis of scientific productivity, term dynamics, keyword co-occurrence, and thematic structure. The results reveal an annual publication growth rate of 14.12% and a shift from approaches centered on resource-based theory toward integrated perspectives that include the relationship between competitiveness and sustainable development; the role of intangible resources, innovation, and organizational capabilities; and the integration of green, digital, and ESG dimensions. Emerging themes include digital transformation, green innovation, the circular economy, and dynamic organizational capabilities.*

**Keywords:** sustainable competitiveness, bibliometric analysis, sustainable competitive advantage, green innovation, sustainable development, research trends.

**JEL Classification:** O56, Q55, O31, M21

## I. INTRODUCTION

In recent years, the economic landscape has been characterized by a number of phenomena, such as: intensifying global competition, the gradual depletion of natural resources, the acceleration of technological change, and increasing demands for economic, social, and environmental responsibility. These processes have led to a reevaluation of the traditional concept of competitiveness, integrating the dimension of sustainability into the approach to competitiveness. Whereas competitive advantage was previously defined by an organization's ability to leverage valuable, rare, and difficult-to-imitate resources (Barney, 1991), broadening the perspective to include the relationship between organizations and the environment has highlighted the potential to strengthen competitive advantage through the development of strategies focused on environmental protection (Hart, 1995).

On this basis, the concept of sustainable competitiveness has gradually taken shape, which involves integrating competitive performance with long-term economic, social, and environmental objectives. At the European level, researchers Herciu and Ogorean (2014) approached sustainable competitiveness as the result of balancing economic prosperity with social and environmental dimensions, emphasizing the need to integrate these components into development strategies to ensure sustainable competitive performance in the long term. In this regard, sustainable competitive advantage is characterized not only by organizational efficiency and performance but also by adaptability to social and environmental demands, as well as the responsible use of resources. Thus, sustainable competitiveness can be considered a complex concept, geared toward maintaining performance and creating long-term value.

The diversification of theoretical and practical approaches to the field of sustainable competitiveness has led to the creation of a broad and multidisciplinary scientific foundation, which confirms the need to apply specific bibliometric analysis methods to systematize and structure knowledge in this field. Bibliometric analysis offers the opportunity to investigate thematic evolution and development, to identify authors with relevant contributions and sources considered authoritative, and to analyze the conceptual structure of the field (Donthu et al., 2021). In this context, the present study aims to examine the evolution of research on sustainable competitiveness, identify the main thematic structures of the field, and outline emerging research directions.

## II. LITERATURE REVIEW

As fields such as strategic management, development economics, and sustainability have evolved, the concept of sustainable competitiveness has gained increasing prominence, highlighting the shift from a focus on

economic performance to an approach that takes into account long-term value creation without wasting social and environmental resources. The origin of this perspective stems from resource-based theory, which posits that competitive advantage becomes sustainable when it is based on resources and capabilities that are difficult to imitate and substitute. In this context, researchers Lado et al. (1992) highlighted the important role of managerial, organizational, and transformational competencies, and Oliver (1997) expanded on this perspective, demonstrating that the value of resources also depends on the institutional context in which entities operate. Building on this premise, researcher Fahy (2002) noted both the potential and the limitations of resource-based theory within a global framework of sustainability. Furthermore, Pacheco-de-Almeida and Zemsky (2007) argue that sustainable competitive advantages do not depend exclusively on the existence of valuable resources, but also on the time it takes for competitors to replicate them.

As sustainability has become a strategic priority for organizations, the academic literature has focused on integrating corporate social responsibility and ESG practices into efforts to strengthen competitiveness. Researchers McWilliams and Siegel (2011) emphasize the role of integrating corporate social responsibility into organizations' strategic plans to generate and sustain long-term value. On the other hand, Khan et al. (2019) found that investments in intangible assets, intellectual capital, and social responsibility can enhance an organization's competitive advantage and performance, which is inextricably linked to the environment, society, and governance (Bhandari et al., 2022).

This convergence is also supported by recent bibliometric research on corporate social responsibility, which identifies digital transformation and ESG performance as emerging themes with the potential to influence responsible organizational practices and long-term value creation (Cojocaru Bărbieru et al., 2025).

Changes in the economic environment have influenced shifting perceptions of sustainability, which is now viewed more as a potential opportunity than as a constraint. In the context of the green economy, an organization's competitive position depends largely on the transformation of its products and processes through eco-innovation (Fankhauser et al., 2013). Researchers Guimarães et al. (2018) demonstrated that, at the organizational level, entrepreneurial orientation, market orientation, and knowledge management promote more efficient production and a sustainable competitive advantage. Furthermore, Zameer et al. (2020) highlight the role of green production, creativity, and green brand image in enhancing organizations' environmental and sustainable performance.

However, green innovation can generate tangible benefits only if it is supported by appropriate organizational capabilities, such as identifying changes, capitalizing on opportunities, and reallocating resources. Pratono et al. (2019) argue that interorganizational learning is a plausible mechanism through which green entrepreneurial orientation and market orientation can be transformed into a sustainable competitive advantage. In the same vein, researchers Arsawan et al. (2022) highlight the importance of knowledge and a culture of innovation for the sustainable performance of SMEs.

An important trend emerging in research on sustainable competitiveness is digitalization and technological change. In this context, Haseeb et al. (2019) demonstrate that social and technological challenges are altering the way entities achieve competitive advantage and sustainable performance. Researchers Dabbous et al. (2023), analyzing the contribution of digitalization to entrepreneurial activity and sustainable competitiveness, found that the digital and green transitions are complementary. Thus, technological development becomes valuable through its integration with continuous learning, innovation, and organizational adaptability.

At the macroeconomic and regional levels, sustainable competitiveness takes on a broader meaning, requiring that it be reconsidered beyond the scope of productivity and economic growth (Balkyte and Tvaronavičiene, 2010). Although there are challenges in creating a universal model (Popescu et al., 2017), coordination between economic development, social progress, and the proper use of resources can enhance regional sustainable competitiveness (Cheng et al., 2019). At the sectoral level, an analysis of companies in Western Europe confirms that sustainability and competitiveness are associated with investments in research and development, capital efficiency, and the ability of entities to maintain their performance amid economic crises and uncertainty (Mihaila et al., 2024)

### III.METHODOLOGY

#### *a. Type of Study*

This is a descriptive, retrospective, bibliometric study based on a quantitative analysis of scientific publications indexed in the Scopus database. The analysis covered a 26-year period, from 2000 to 2026, with the aim of examining the evolution of scientific output and future trends and directions regarding sustainable competitiveness.

*b. Search Strategy*

To identify studies relevant to the research topic, it was necessary to establish search criteria that would enable an effective search of the Scopus database. Table 1 describes both the search criteria and the search strategy applied in this study.

**Table 1.** Search criteria and strategy used in the Scopus database

| Search Criterion                                      | Search Specification                                                                                                                                   | Purpose                                                                                                                                |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Database                                              | Scopus                                                                                                                                                 | Identifying scientific publications relevant to bibliometric analysis                                                                  |
| Search fields                                         | I. Title<br>II. Title, Abstract, Keywords                                                                                                              | Search for terms in the title, abstract, and keywords of publications                                                                  |
| Concept I                                             | Sustainable Competitiveness                                                                                                                            | Identifying Research Focused on the Relationship Between Sustainability and Competitiveness                                            |
| Search Terms for Concept I                            | "sustainable competitive*" OR<br>"green competitive*" OR<br>"environmental competitive*"                                                               | Expanding the scope of the search by including related terms associated with sustainable competitiveness                               |
| Concept II                                            | Economic and Territorial Dimensions                                                                                                                    | The scope of studies on the economy, countries, regions, and competitiveness at the national or regional level                         |
| Search Terms for Concept II                           | econom* OR nation* OR countr*<br>OR region*                                                                                                            | Identifying publications with an economic, national, or regional focus                                                                 |
| Operator between synonyms/terms with similar meanings | OR                                                                                                                                                     | Inclusion of publications that use at least one of the alternative terms                                                               |
| Operator between conceptual blocks                    | AND                                                                                                                                                    | Selection of publications that simultaneously meet the criteria for sustainable competitiveness and the economic/territorial dimension |
| Truncation operator                                   | *                                                                                                                                                      | Including various lexical forms of terms, such as econom*, competitive*, sustainab*                                                    |
| Final Query                                           | TITLE ("sustainable competitiv*" OR "green competitiv*" OR "environmental competitiv*") AND<br>TITLE-ABS-KEY(econom* OR nation* OR countr* OR region*) | Creating the Database for Bibliometric Analysis                                                                                        |

Source: Author's own elaboration based on the search strategy applied in Scopus

As shown in Table 1, the search strategy was designed to capture the two main concepts: sustainable competitiveness and the economic and territorial dimension. Each word block included alternative terms, linked by the OR operator, to cover all possible variations of the terms. The two conceptual groups were linked by the AND operator, so that the results would simultaneously reflect the theme of sustainable competitiveness and the economic perspective—whether national or regional.

*c. Bibliometric Analysis of the Data*

The processing and analysis of bibliometric data was carried out using the Biblioshiny application, the web interface of the Bibliometrix software package. This process identified bibliometric metrics and relationships, such as scientific productivity over time, the frequency and dynamics of terms, the thematic structure of the field, the co-occurrence of keywords, and the main research themes. This analysis highlights research trends in the scientific literature and the dominant thematic directions in the field of sustainable competitiveness.

## IV.RESULTS

Of the 544 articles identified, only those published from 2000 to the present were selected. Thus, following this filtering of the results, 534 publications were identified as eligible for inclusion in the final database for bibliometric analysis, representing a broad selection of studies to highlight research trends and

emerging directions for the future. These works were published in 334 sources, thus underscoring the interdisciplinary and emerging nature of the field (Figure 1).



**Figure 1. General Information on the Database on Sustainable Competitiveness**

*Source: created by the author with Biblioshiny tool*

In terms of researcher productivity, there is an annual growth rate of 14.12%, indicating a dynamic field of growing interest. The highest number of papers (75) was published in 2025, among which the study by Kahveci (2025) stands out; it found that digital transformation contributes to achieving a sustainable competitive advantage for SMEs when approached as an integrated and continuous process based on digital awareness and skills, strategy, technology adoption, and continuous improvement. Furthermore, the published studies are characterized by high research quality, a fact confirmed by the average number of citations, which stands at 24.65 citations per document, suggesting that the publications are frequently cited by other researchers.

To confirm the finding regarding the quality of the works, an analysis of scientific contributions in the field of sustainable competitiveness was conducted. Table 2 provides a summary of representative studies that have explored the dimensions of sustainable competitiveness, presenting the authors, the phenomenon investigated, the research objective, and the main findings.

**Table 2. Summary of Key Scientific Research on Sustainable Competitiveness**

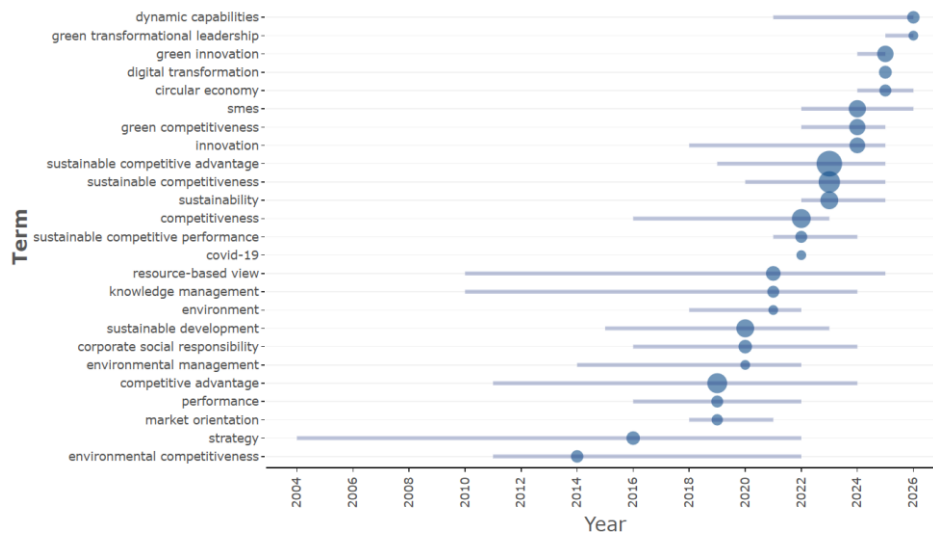
| Authors                                  | Studied phenomenon                                                                                          | Purpose                                                                                                                                                                           | Results/Effects                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| McWilliams, A., and Siegel, D. S. (2011) | Strategic Corporate Social Responsibility (CSR), Value Creation, and Sustainable Competitive Advantage      | An analysis of the impact of CSR Strategies on value creation and capture, and the integration of resource-based theory with economic tools to explain the strategic Value of CSR | Integrating CSR with resource-based theory provides an effective framework for determining the strategic value of responsible initiatives. CSR serves as a source of value creation and sustainable competitive advantage when it is implemented and tailored to an organization's strategy and resources.                             |
| Zameer H., et al., (2020)                | Green competitive advantage, green production, green creativity, and green brand image                      | Identifying the factors that can strengthen the green competitive advantage of Chinese equipment manufacturers and highlighting the role of a brand's green image                 | Pressure from customers and regulatory agencies, as well as green creativity, have a positive impact on green production. Green production and green creativity significantly enhance the green competitive advantage, an effect that is further amplified by the brand's green image, which plays a partial mediating role.           |
| Haseeb M., et al., (2019)                | Social and Technological Challenges, Sustainable Competitive Advantage, and Sustainable Performance of SMEs | An investigation into the role of social and technological factors in achieving sustainable competitive advantage and sustainable performance among SMEs in Malaysia              | Social and technological factors have a positive impact on sustainable competitive advantage and sustainable performance. Social responsibility, corporate values, IT managerial resources, and the success of IT implementation have favorable effects, while strategic alignment facilitates their transformation into a competitive |

| Authors                                 | Studied phenomenon                                                                                                    | Purpose                                                                                                                                                                           | Results/Effects                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Arsawan I. W. E., et al., (2022)</i> | Knowledge sharing, a culture of innovation, business performance, and the sustainable competitive advantage of SMEs   | Research on the role of knowledge sharing in developing a culture of innovation, Improving Performance, and Enhancing Sustainable Competitive Advantage in Exporting SMEs in Bali | advantage. Knowledge transfer has a significant impact on innovation culture, organizational performance, and sustainable competitive advantage. The research findings highlight the importance of innovation culture and organizational performance in the mechanism through which knowledge sharing contributes to sustainable competitiveness. |
| <i>Vanpoucke E., et al., (2014)</i>     | The ability to integrate suppliers and sustainable competitive advantage from the perspective of dynamic capabilities | Identifying how supplier integration enables organizations to adapt to change and improve their operational performance                                                           | Detecting changes, capitalizing on opportunities, and transforming processes together form the dynamic capability for supplier integration. Their complementary nature simultaneously improves process flexibility and cost efficiency.                                                                                                           |
| <i>Khan S. Z., et al., (2019)</i>       | Organizational resources and capabilities, sustainable competitive Advantage, and the performance of SMEs             | An examination of the influence of intellectual capital, financial capacity, and CSR on sustainable competitive advantage and the performance of organizations in Pakistan        | Intellectual capital, financial capacity, and CSR significantly influence performance. Sustainable competitive advantage mediates the relationships between financial capacity and performance, and between CSR and performance, and partially mediates the relationship between intellectual capital and performance.                            |
| <i>Bhandari K. R., et al., (2022)</i>   | The relationship between ESG, resource-based theory, and sustainable competitive advantage                            | Analysis of the effect of an entity's integration into the environmental, social, and governance context on sustainable competitive advantage                                     | The authors note that the traditional resource-based perspective is incomplete if it does not include the compatibility of resources with ESG criteria, and they emphasize the need to integrate sustainability into the rationale for competitive advantage.                                                                                     |
| <i>Waheed A. and Zhang Q., (2022)</i>   | CSR practices, ethical culture, and the sustainable Competitive performance of SMEs                                   | Determining the impact of CSR practices on sustainable competitive performance and the mediating role of ethical culture in SMEs in China and Pakistan                            | Responsibility toward the environment, the community, customers, suppliers, employees, and regulations is positively associated with sustainable competitive performance. CSR practices foster an ethical culture, which in turn has a positive impact on sustainable performance.                                                                |
| <i>Cheng X., et al., (2019)</i>         | Regional green competitiveness and coordination among the economic, social, and resource-environment subsystems       | Assessment of the degree of coordination in the green competitiveness system and analysis of spatial distribution and dynamic evolution in 30 provinces of China                  | Coordination between the economic and social subsystems has improved, while the links between the economy and environmental resources, as well as between society and environmental resources, have deteriorated.                                                                                                                                 |
| <i>Fahy J., (2000)</i>                  | The Resource-Based View (RBV) of the firm and the sources of sustainable competitive advantage                        | Clarifying conceptual and terminological ambiguities regarding the RBV and assessing the contribution of this theory to explaining sustainable competitive advantage              | The study confirms the logic of the RBV and its contribution to explaining competitive advantage, while also highlighting the conceptual and empirical issues associated with this approach. It systematizes the existing limitations and proposes directions for the further development of the RBV.                                             |

Source: Author's own elaboration

The research presented in Table 2 outlines the evolution of sustainable competitiveness, from approaches focused on entities' internal resources to broader perspectives that include social, technological, and environmental dimensions. Early publications focused on studying sustainable competitive advantage through the lens of resource-based view (RBV) theory, highlighting the role of valuable and hard-to-imitate resources (Fahy, 2000), followed by research that expands this perspective by integrating corporate social responsibility into the value creation mechanism (McWilliams & Siegel, 2011), as well as intellectual capital and financial capabilities (Khan et al., 2019). Thus, a research trend is emerging that focuses on identifying the organizational resources and capabilities that enable entities to transform changes in the external environment into sustainable competitive advantages.

An analysis of the literature reveals that green production and creativity can strengthen competitive advantage through a brand's green image (Zameer et al., 2020), while social and technological factors (Haseeb et al., 2019), knowledge sharing, and a culture of innovation (Arsawan et al., 2022) directly contribute to the sustainable performance of organizations. Furthermore, research is increasingly shifting toward an integrated approach to social responsibility, where ESG criteria, ethical culture, and relationships with multiple stakeholder groups are emerging as integral components of sustainable competitive advantage (Bhandari et al., 2022; Waheed & Zhang, 2022).



**Figure 2. Thematic Trends in the Literature on Sustainable Competitiveness**

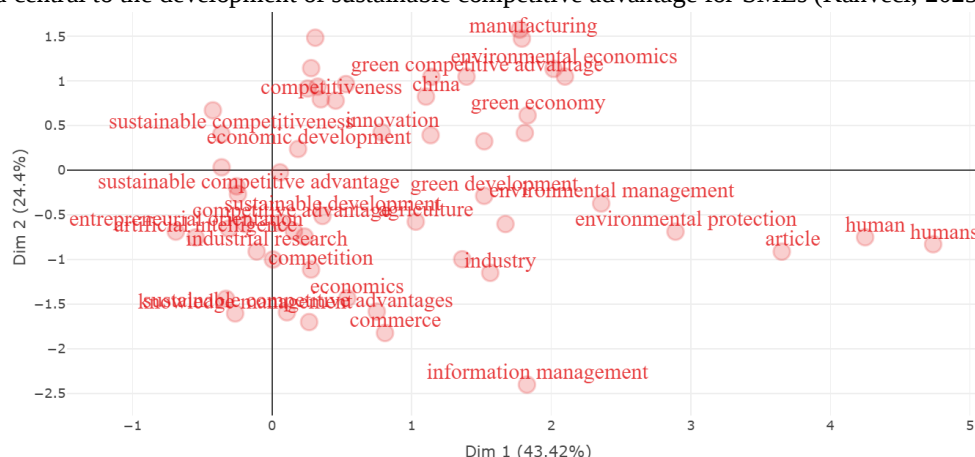
*Source: created by the author with Biblioshiny tool*

The figure above shows the temporal distribution of research topics related to sustainable competitiveness. At the beginning of the period analyzed, the dominant topics are represented by terms such as “strategy,” “competitive advantage,” “performance,” “environmental management,” “corporate social responsibility,” and “resource-based view,” thus highlighting researchers’ focus on identifying the resources and capabilities that can influence the attainment and maintenance of sustainable competitive advantage. In support of this perspective, researchers McWilliams and Siegel (2011) integrate CSR practices into resource-based theory, emphasizing CSR’s potential to create value and sustainable competitive advantage, while Vanpoucke et al. (2014) consider the adaptation and reconfiguration of resources in changing conditions to be important.

In the years that followed, research focused on specific concepts such as “sustainability,” “sustainable competitive advantage,” “sustainable competitiveness,” and “sustainable competitive performance,” reflecting the transition toward an integrated approach to the field. In this vein, Bhandari et al. (2022) propose a more comprehensive perspective by integrating ESG criteria into the explanation of sustainable competitive advantage.

Recent research demonstrates the specialization and diversification of research topics, with an emphasis on “green innovation,” “circular economy,” “green competitiveness,” “digital transformation,” “dynamic capabilities,” and “green transformational leadership.” The role of green innovation is addressed in the study by Demir et al. (2025), who found that it can function as a mechanism through which green transformational leadership contributes to the generation of sustainable competitive advantage. At the same time, the circular

economy is associated with the emergence of new models of sustainable competitiveness (Castro Oliveira et al., 2022), while digitalization is becoming a distinct area of research, with Dabbous et al. (2023) highlighting the relationship between digitalization and sustainable competitiveness. Furthermore, digital transformation is considered central to the development of sustainable competitive advantage for SMEs (Kahveci, 2025).



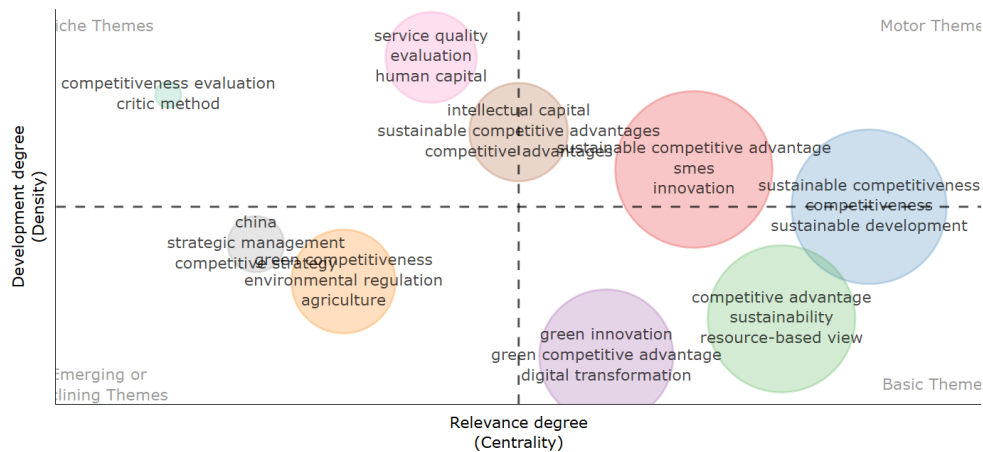
**Figure 3. Factor Analysis of Research on Sustainable Competitiveness**

*Source: created by the author with Biblioshiny tool*

Figure 3 illustrates the conceptual structure of the field of sustainable competitiveness, constructed based on multiple correspondence analysis, with the two dimensions collectively explaining approximately 67.82% of the conceptual variation. The distribution of terms highlights the existence of two major directions: on the right side, concepts associated with the macroeconomic, sectoral, and environmental dimensions predominate, such as “manufacturing,” “environmental economics,” “green economy,” “green development,” and “environmental management,” while the left side and central area encompass concepts related to strategy and competitiveness at the organizational level, such as “sustainable competitive advantage,” “sustainable competitiveness,” “innovation,” “entrepreneurial orientation,” and “artificial intelligence.” However, the clusters should be interpreted as closely related thematic areas, not as completely distinct groups.

An important thematic area is green competitiveness and sustainable industrial development, as it relates to the manufacturing industry and the context of China. This conceptual framework includes several scientific studies with valuable findings, such as that by Fankhauser et al. (2013), who argue that green innovation and comparative advantages are factors influencing sectoral green competitiveness. At the same time, Zameer et al. (2020) highlight in their study that green production, creativity, and a brand’s green image strengthen the green competitive advantage of manufacturing entities in China. Thus, the proximity of the terms “manufacturing,” “China,” “green economy,” “environmental economics,” and “green competitive advantage” indicates a well-defined scientific direction regarding the ecological transformation of industrial systems as a source of sustainable competitiveness.

A second thematic focus is reflected in the strategic, organizational, and technological mechanisms that underpin sustainable competitive advantage. The association between “entrepreneurial orientation,” “innovation,” “artificial intelligence,” “sustainable development,” and “sustainable competitive advantage” demonstrates a shift in the literature toward researching the implications of innovation and learning capabilities, as well as emerging technologies, for enhancing sustainable competitiveness. Researchers Guimarães et al. (2018) identified a positive effect of entrepreneurial orientation, market orientation, and knowledge management on sustainable competitive advantage, while Pratono et al. (2019) expand on this perspective by highlighting the contribution of green entrepreneurial vision and interorganizational learning. Furthermore, recent research has also explored the correlation between green artificial intelligence and green competitive advantage, confirming the expansion of scientific focus toward the integration of emerging technologies into sustainability strategies (Salehzadeh et al. (2024)).



**Figure 4. Thematic Map of Research on Sustainable Competitiveness**

*Source: created by the author with Biblioshiny tool*

The thematic map, illustrated in Figure 4, outlines the conceptual structure of research on sustainable competitiveness by organizing clusters according to two dimensions: centrality, which expresses the relevance and degree of connection of a theme to the rest of the field, and density, which reflects the level of development and internal cohesion of the themes. Thus, research themes are placed in four quadrants: driving themes, core themes, niche themes, and emerging or declining themes.

The most representative themes in this field are grouped into two clusters: “sustainable competitive advantage”—“SMEs”—“innovation” and “sustainable competitiveness”—“competitiveness”—“sustainable development,” indicating an approach to sustainable competitiveness from both an organizational standpoint and a perspective linked to sustainable development. In this context, researchers Dukhaykh and Alangri (2026) highlight the important role that dynamic capabilities, innovation, and organizational learning processes play in increasing the sustainable competitive advantage of SMEs. On the other hand, the cluster “intellectual capital”—“sustainable competitive advantages”—“competitive advantages” confirms the impact of intellectual capital on sustainable competitiveness, with Alshahrani et al. (2024) demonstrating that leveraging intellectual capital contributes to strengthening the sustainable competitive advantage of SMEs by stimulating their capacity for innovation.

The “competitive advantage”—“sustainability”—“resource-based view” cluster, located in the core themes quadrant, confirms the persistence of resource-based theory as the theoretical foundation of the field. Fahy (2002) argues that sustainable competitive advantages stem from the efficient use of resources and the leveraging of organizational capabilities. A more recent but already well-established trend is the convergence of green and digital transformation, reflected by the “green innovation”—“green competitive advantage”—“digital transformation” cluster. The simultaneous consideration of these terms can be seen as a shift in researchers’ focus toward concrete response mechanisms in the context of environmental pressures and accelerated technological change. This perspective is supported by Demir et al. (2025), who highlight the mediating role of green innovation and environmental performance in the relationship between green transformational leadership and sustainable competitive advantage. Furthermore, researchers Xi and Wang (2024) identified a correlation between green transformation, ESG management, and sustainable competitive advantage, while Gloria (2025) argues that green innovation can serve as a connecting mechanism between environmentally oriented organizational practices and sustainable competitiveness.

The themes associated with the terms “green competitiveness,” “environmental regulation,” and “agriculture,” as well as “China,” “strategic management,” and “competitive strategy,” are characterized by low centrality and density, suggesting that they fall into the category of emerging research directions with potential for development and sectoral specialization. Overall, the thematic map organizes three major directions that describe the field of sustainable competitiveness research: the relationship between competitiveness and sustainable development; the role of resources, innovation, and organizational capabilities in strengthening sustainable competitive advantage; and the impact of green, digital, and ESG dimensions on competitive strategies. At the same time, the thematic map highlights the transition from an RBV-based approach to a more

complex framework, in which innovation, intellectual capital, digital transformation, and green transformation are the defining elements of contemporary research on sustainable competitiveness.

## V.CONCLUSION

The research findings highlight the interdisciplinary nature of studies on sustainable competitiveness, as this field brings together areas such as strategic management, green innovation, and technological transformation. The bibliometric analysis identified a shift in publications from approaches focused on resources and competitive advantage toward integrated perspectives that consider green innovation, stakeholder responsibility, digitalization, and ESG dimensions as relevant components of sustainable competitiveness. At the same time, the results outline three major research directions: the relationship between competitiveness and sustainable development; the role of intangible resources, innovation, and organizational capabilities; and the integration of green, digital, and ESG dimensions. Furthermore, emerging research themes were identified, based on terms such as digital transformation, green innovation, the circular economy, and dynamic organizational capabilities.

The research conducted does, however, have some limitations. The results presented are based on the extracted database, which in turn was compiled according to the search strategy and the keywords used to identify publications; this may result in some omissions of works, even though multiple variations of terms associated with sustainable competitiveness were included in the search strategy. At the same time, the bibliometric analysis takes into account the structure and frequency of relationships between publications and keywords, without directly assessing the causal relationships between variables.

In future research, the authors could expand the number of publications analyzed and compare the results obtained from two databases simultaneously—Scopus and Web of Science—as well as compile them to create a comprehensive unified database. Furthermore, researchers could explore the causal relationships between ESG, green innovation, digital transformation, and sustainable competitiveness to determine which variables have a decisive effect on the growth of sustainable competitiveness. It is also recommended that research be expanded to investigate sectoral, regional, and cultural differences regarding sustainable competitiveness, thereby developing an explanatory framework with broad applicability.

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