

# Research Status and Development Trends of Sustainable Competitive Advantage in Enterprises

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**Abstract:** This study draws on 556 articles and reviews on sustainable competitive advantage indexed in the Web of Science Core Collection from 2020 to 2024. CiteSpace visualization software was employed to conduct a bibliometric analysis, aiming to map the research landscape of sustainable competitive advantage and to identify research hotspots and emerging trends through keyword co-occurrence and burst analysis. The results indicate that research on sustainable competitive advantage is primarily concentrated in the fields of management, business, environmental sciences, and green and sustainable science and technology. Most scholars tend to conduct independent research, with limited sustained collaboration. Although several small collaborative groups exist, the overall intensity of cooperation remains relatively weak. Current research hotspots focus on management, the resource-based view, green innovation, strategy, and dynamic capabilities. Future research should broaden disciplinary integration, strengthen collaboration among authors and institutions, and further explore emerging research themes in this field.

**Keywords:** CiteSpace; Competitive Advantage; Bibliometric Review; Sustainability

## 1. Introduction

In the context of deepening global economic integration and increasingly intense competition, the acquisition and maintenance of sustainable competitive advantage have become critical determinants of firms' long-term development [1,2]. Beyond innovation in products and services, firms must also achieve excellence in strategic planning, resource allocation, and managerial practices in order to sustain competitive advantage over time [3]. In recent years, scholarly interest in sustainable

competitive advantage has grown substantially, both domestically and internationally. However, interpretations and conceptualizations of sustainable competitive advantage vary across studies.

From a strategic management perspective, sustainable competitive advantage is defined as a firm's ability to implement value-creating strategies that cannot be simultaneously imitated or replicated by competitors, thereby enabling the firm to sustain superior performance over an extended period [4,5], thereby enabling the firm to sustain profits at a certain level over an extended period.

In addition, recent research has examined sustainable competitive advantage, dynamic competitiveness, and sustainable competitiveness from multiple perspectives. While a number of studies have reviewed and synthesized domestic research on sustainable competitive advantage, relatively little attention has been paid to the recent development and evolving trends of international research over the past five years. Consequently, several key questions remain insufficiently explored: What are the current research hotspots in international studies on sustainable competitive advantage? Which disciplinary fields do they concentrate on? Where are the core research clusters located, and what directions are likely to shape future research agendas?

To address these gaps, this study employs CiteSpace visualization techniques to conduct a systematic analysis of research outputs related to firms' sustainable competitive advantage published in the Web of Science database over the past five years. By mapping research focuses, disciplinary distributions, and emerging trends, this study aims to provide a comprehensive overview of the current international research landscape and offer insights into future research directions.

## 2. Research Methods



8	44	0	2020	Knowledge Management
9	38	0.04	2020	Absorption Capacity
10	36	0.08	2020	Market-driven

However, not all high-frequency keywords exhibit high centrality, and relying solely on keyword frequency is insufficient for accurately identifying research hotspots. In the CiteSpace software system, a node with a centrality value greater than 0.1 is generally considered to have higher relative importance and is more likely to serve as a turning point in the keyword knowledge map. In this sense, such keywords can also be regarded as representing current research hotspots.

Based on the analytical results, the keywords with centrality values exceeding 0.1 include: green innovation; business model innovation; artificial intelligence; opportunity; dynamics; organization; work; adoption; business model; intellectual capital; environmental protection; behavior; customer satisfaction; innovation; product innovation; supply chain; commitment; future; customer centricity; financial performance; key success factors; environmental sustainability; and identification.

#### 4. Keyword Cluster Analysis

Keyword clustering refers to the identification of interconnected network clusters within a specific research domain based on high-frequency topic terms appearing in the relevant literature. In CiteSpace, all nodes within the same cluster are either enclosed by a convex hull or represented by a single boundary. Clusters are numbered sequentially starting from zero, with Cluster #0 representing the largest cluster, followed by Cluster #1, and so on.

In this study, the log-likelihood ratio (LLR) method was employed to cluster the keyword network. Terms with higher weight coefficients in the LLR operator were used to label the clusters. The resulting clustering structure is illustrated in Figure 2.

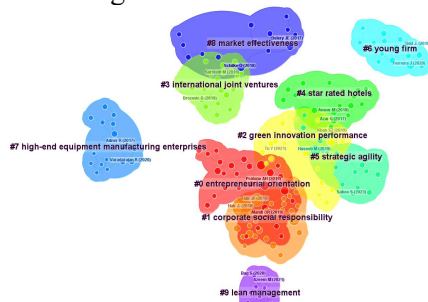


Figure 2. Clustering Map

As shown in Figure 2, a total of 10 clusters were obtained. The Q value for this clustering is 0.8112, exceeding 0.7, indicating a high degree of cluster reliability. Furthermore, the cluster network achieves a value of 0.9536, suggesting that the clustering results are convincing. The contents of each cluster will now be analysed separately.

#0 Key terms extracted from the entrepreneurial orientation cluster include market orientation, innovation capability, business model innovation, and learning orientation. Olazo (2023) employed a sequential explanatory mixed-methods approach, emphasising the importance of marketing capability and marketing innovation in achieving sustainable competitive advantage [7]. The study found that marketing capability significantly influenced marketing innovation, which in turn significantly predicted sustainable competitive advantage. Riaz et al. (2023) based on natural resource allocation theory, this study employs a least squares structural equation model to examine how green shared visions and green knowledge sharing influence the types of ecological innovation among small and medium-sized enterprises (SMEs) in food manufacturing and processing. The impact on sustainable competitive advantage and sustainable business performance revealed significant positive correlations between both factors and the types of eco-innovation, sustainable competitive advantage, and sustainable business performance [8].

#1 Key terms extracted from the corporate social responsibility cluster include big data, estrategia, and dynamic capabilities. Environmental corporate social responsibility provides deeper theoretical support for fostering technological innovation, demonstrating that nurturing green entrepreneurship can drive process and product innovation, thereby enhancing firms' environmental responsibility awareness [9]. Odugbesan et al. (2023) examined the impact of green talent management on employees' innovative work behaviour within higher education institutions [10]. They found that both green hard and soft talent management significantly influence such behaviour, with transformational leadership and artificial intelligence acting as moderating factors in this relationship. This research offers management insights for university leaders, aiding in the attainment of sustainable competitive advantage.

#2 Green innovation performance Key terms

extracted from the clustering include green intellectual capital, human capital, and green organisational identity. In the face of increasingly severe environmental challenges and growing ecological demands, green entrepreneurship is regarded as a pivotal strategy for guiding environmental practices. Organisational resilience plays a significant role in enhancing green entrepreneurship within manufacturing start-ups, while the absence of environmental factors is equally crucial for developing non-high-level green entrepreneurship.

#3 Key terms extracted from the international joint venture cluster include system-based, digitalisation, intangible IT resources, and dynamic capability theory. Senior executives should focus on enhancing strategic agility and innovation capabilities, prioritising flexible resource allocation and adopting innovative business models to drive organisational performance.

The feature words extracted from the #4 Star rated hotels cluster include open innovation, dematell-based analytic network process, and marketing journey. Different forms of marketing collaboration exert a significant influence on knowledge-intensive activities such as new product development and marketing innovation, as well as on firms' sustainable competitive advantage.

#5 Strategic agility Key terms extracted from the clustering include sustainable development goals, social customer relationship management, electronic human resource management systems, and Small and medium-sized enterprises (SMEs) need to enhance their internal capacities and refine business models in a proactive, forward-looking, and transformative manner, so as to seize opportunities in regional and global markets and thereby strengthen organizational agility.

#6 Key terms extracted from the "Young firm" cluster include innovation, positive organisational outcomes, management science, and value co-creation. Adaptive dynamic capabilities depend on local legitimacy and trust mechanisms, while formative dynamic capabilities are influenced by heterogeneous information and cost advantages, which help SMEs maintain competitive advantage in changing environments.

#7 High-end equipment manufacturing enterprises the feature words extracted from the

clustering include service dominant logic, hypercompetition, technology innovation performance, and adaptability to technology embedding. Digital resources can create and sustain competitive advantage, but the sustainable competitive advantage of digital service companies depends on physical resources that provide the dynamic capabilities for innovation and the continuous development of digital resources.

#8 Market effectiveness the key terms extracted from the clustering include exploitative learning, business, leader-member exchange, and analytics. Shops play a role in facilitating various other tangible or intangible benefits within the operation of e-grocery, thereby laying the foundation for sustainable competitive advantage. Financial resources also exert a moderating influence on the relationship between the knowledge capital dimension and organisational efficiency. Owners and managers of small and medium-sized enterprises should deploy financial resources judiciously to amplify the impact of structural capital and customer capital on organisational efficiency.

#9 Key terms extracted from the lean management cluster include sustainable business performance, technological proactive climate, and big data utilisation. Enterprises can maintain a sustained focus on innovation at the organisational level by fostering a technology-positive environment and a data-driven culture, thereby helping them gain a sustainable competitive advantage over rivals.

## **5. Conclusion**

Through an analysis of the annual publication volume, disciplinary distribution, author and institutional collaboration, research hotspots, and literature clustering of studies on sustainable competitive advantage indexed in the Web of Science database over the past five years, several key findings emerge. First, the number of publications on sustainable competitive advantage has increased steadily in recent years. Research in this field is mainly concentrated in Management and Business, with supplementary contributions from Engineering, Multidisciplinary and Computer Science. From the perspective of publication output by countries and regions, China ranks first in research on sustainable competitive advantage, followed by the United Kingdom and Malaysia. In addition, collaboration among researchers is

relatively loose, and most research institutions and scholars lack continuity in their engagement with this topic.

Furthermore, analysis of keyword co-occurrence distributions and clustering results indicates that research on sustainable competitive advantage is primarily concentrated in areas such as corporate social responsibility, entrepreneurial orientation, green innovation performance, international joint ventures, star-rated hotels, strategic agility, young firms, high-end equipment manufacturing enterprises, market effectiveness, and lean management. These findings demonstrate that research hotspots are diverse and themes are broad, reflecting sustained scholarly interest in sustainable competitive advantage.

Based on these findings, future research on sustainable competitive advantage should expand its disciplinary scope in order to examine the applicability of sustainable competitive advantage across different fields. Strengthening interdisciplinary linkages may also facilitate deeper exploration and discovery of sustainable competitive advantage. In addition, enhanced collaboration and communication among authors and institutions are needed to promote more detailed and sustained research, thereby improving the validity of studies in this field. Building on existing research hotspots, future studies should also explore emerging topics and broaden research themes to further deepen and diversify sustainable competitive advantage research.

For example, integrating theories and methods from different disciplines may help to better elucidate the formation mechanisms of sustainable competitive advantage. At the same time, greater attention should be paid to its long-term effects, including its development and evolution across different stages, as well as its relationships with organizational performance and sustainable development goals. In terms of emerging areas, future research should focus on sustainable competitive advantage in domains such as digital transformation, artificial intelligence, and biotechnology, thereby providing new perspectives and approaches for organizational competitiveness. Moreover, combining sustainable development theory with competitive advantage theory may offer insights into how organizations can achieve social and environmental sustainability while pursuing economic benefits, thereby supporting the realization of the triple bottom line. Finally,

cross-national comparative studies should be emphasized to examine similarities and differences in sustainable competitive advantage across countries and regions, offering strategic implications and policy guidance for organizations operating in a globalized context. Through these research directions, a more comprehensive understanding of the nature and mechanisms of sustainable competitive advantage can be achieved, providing both theoretical support and practical guidance for organizations seeking to maintain competitiveness in increasingly dynamic business environments.

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