

Bibliometric Analysis of Competitive Advantage

Loso Judijanto
IPOSS Jakarta, Indonesia

Article Info	ABSTRACT
Article history: Received Jul, 2026 Revised Jul, 2026 Accepted Jul, 2026 Keywords: Competitive Advantage Strategic Management Bibliometric Analysis Dynamic Capabilities VOSViewer Scopus	Competitive advantage has emerged as an essential aspect of strategic management that helps firms build their capabilities and sustain themselves in volatile market conditions. In this study, an attempt is made to conduct a bibliometric analysis to investigate the intellectual structure, trends in research, key contributors, and emerging themes in competitive advantage research. The data was collected from Scopus database using the keywords "competitive advantage" and analyzed using VOS viewer to conduct co-occurrence analysis, citation analysis, co-authorship analysis, institutional collaboration analysis, and country collaboration mapping. The results show that competitive advantage and competition are the two core themes that have close linkages with innovation, knowledge management, sustainability, supply chain management, marketing, and organizational performance. Based on citation analysis, some of the key theories such as dynamic capabilities, absorptive capacity, corporate social responsibility, sustainable business model, and strategic positioning are found to significantly influence the field of competitive advantage. The collaboration analysis demonstrates that the United States, the United Kingdom, China, Australia, and other countries serve as major contributors to the global research network, supported by influential scholars and academic institutions. Furthermore, the thematic evolution indicates a transition from traditional strategic management perspectives toward contemporary approaches emphasizing digital transformation, sustainability, organizational agility, and capability development. This study contributes to the literature by providing a comprehensive mapping of competitive advantage research development and identifying potential future directions for scholars, particularly in integrating technological innovation, sustainable practices, and dynamic organizational capabilities to achieve long-term competitiveness. <i>This is an open access article under the CC BY-SA license.</i> 
Corresponding Author: Name: Loso Judijanto Institution: IPOSS Jakarta, Indonesia Email: losojudijantobumn@gmail.com	

1. INTRODUCTION In the modern complex and competitive business world, the notion of competitive advantage has gained prominence in strategic management research	and practice. Competitive advantage is the ability of an organization to outperform other organizations by virtue of having certain unique resources, competencies, and strategic position [1], [2]. Competitive advantage
---	---

allows organizations to establish themselves uniquely in the market place, to maximize their efficiency, and generate sustainable value for their stakeholders. In view of globalizing business and fast-changing technology, competitive advantages can be achieved through diverse means ranging from tangible to intangible resources, including knowledge and innovation ability [3]–[5].

Competitive advantage, as a concept, has played a very critical role within strategy that has created quite an extensive academic literature across various domains such as management, economics, marketing, and information system. In the last 20 years, there has been increasing interest among researchers who have examined the concept of competitive advantage through various dimensions, such as cost leadership, differentiation, dynamic capability, and relational network [6]–[8]. It has now become challenging for scholars and practitioners to analyze literature related to competitive advantage and understand the development of theoretical framework in this area. Bibliometrics provide a structured way to understand the intellectual structure of research areas [9].

Bibliometric studies have increasingly become a useful approach to knowledge discovery in management studies. They make it possible to find out key authors, journals, and countries, and even show cooperation patterns and areas of research [9]. As regards competitive advantage, bibliometric study allows consolidating fragmented research by studying citation patterns, cooperation patterns, and occurrence of keywords. Bibliometric study provides some facts about theoretical views change over time showing that such concepts as dynamic capabilities, knowledge management, and sustainability became an integral part of competitive advantage discussions [10], [11]. Thus, using bibliometric studies one can identify research gaps and develop research agenda.

The importance of competitive advantage has been extended from conventional production and service

industries to digital companies and developing nations. The new factors like digitalization, analytics, and innovation ecosystems have become key sources of competitive advantage and have affected organizational performance and strategies [12]. Additionally, the COVID-19 pandemic has highlighted the significance of resilience, flexibility, and technological ability as the determining factors of competitive advantage [13]. This calls for an extensive review of literature on competitive advantage.

Although many studies have been carried out, there is still no systematic analysis of the development of research on competitive advantage in different fields, regions, and methods. In general, research tends to be more concentrated on certain industries and strategies rather than the overall structure of knowledge. The use of bibliometric mapping makes it possible for scientists to measure the output of science, to detect influential research clusters and research hot spots. Thus, it becomes possible to get a comprehensive understanding of knowledge production and distribution from a macro level of research.

Even though competitive advantage is thoroughly researched, the ever-increasing number of papers, as well as the way they become fragmented, poses certain challenges to the researcher that needs to synthesize knowledge and find the latest tendencies. In this regard, traditional literature review based on the narrative approach has some limitations related to the inability to reveal the overall structure and dynamics of the topic under discussion, resulting in partial and biased representation of the field under research. At the same time, the lack of comprehensive bibliometric analysis limits the possibilities of the scholar to identify the most important theoretical approaches, methods used, and topics worth researching in the future. The need for conducting bibliometric analysis of the topic becomes especially urgent considering the increasing use of evidence-based approach by companies in order to achieve competitive advantage.

2. METHODS

In this research, the design of bibliometric study is used to analyze the scientific literature related to competitive advantage. The use of bibliometric analysis helps scholars to study the intellectual architecture of the research domain, discover important papers in that domain, and spot new trends [9]. The technique is especially useful in synthesizing a huge number of publications as well as in giving an overview of knowledge creation. In this study, some of the bibliometric methods like citation analysis, co-citation analysis, and mapping of co-occurrence of keywords are used to find trends of competitive advantage research.

The main source of the data for this research will be the Scopus database, which has been chosen on account of its wide coverage of peer-reviewed journals, proceedings of conferences, and book chapters in the field of management and business and social sciences. A systematic search for the papers in Scopus has been conducted by the use of the search term “competitive advantage” in the titles,

abstracts, and keywords of the documents. The search was restricted to the period of 2000-2026 to capture the trends in modern-day business environment. Metadata from Scopus has been extracted to conduct a bibliometric analysis.

The data analysis and visualization was performed with the use of VOSviewer software which is specifically designed for the construction and visualization of bibliometric networks [14]. Co-authorship, co-citation, and keyword co-occurrence networks were created with the use of VOSviewer, enabling the recognition of key authors, core journals, and topic clusters in the literature on competitive advantage. The size of the node demonstrates the weight of publications or citations, while the link thickness reflects the strength of links between the objects. Cluster analysis helped to identify the major research trends and new topics in the field.

3. RESULTS AND DISCUSSION

3.1 Keyword Co-Occurrence Network

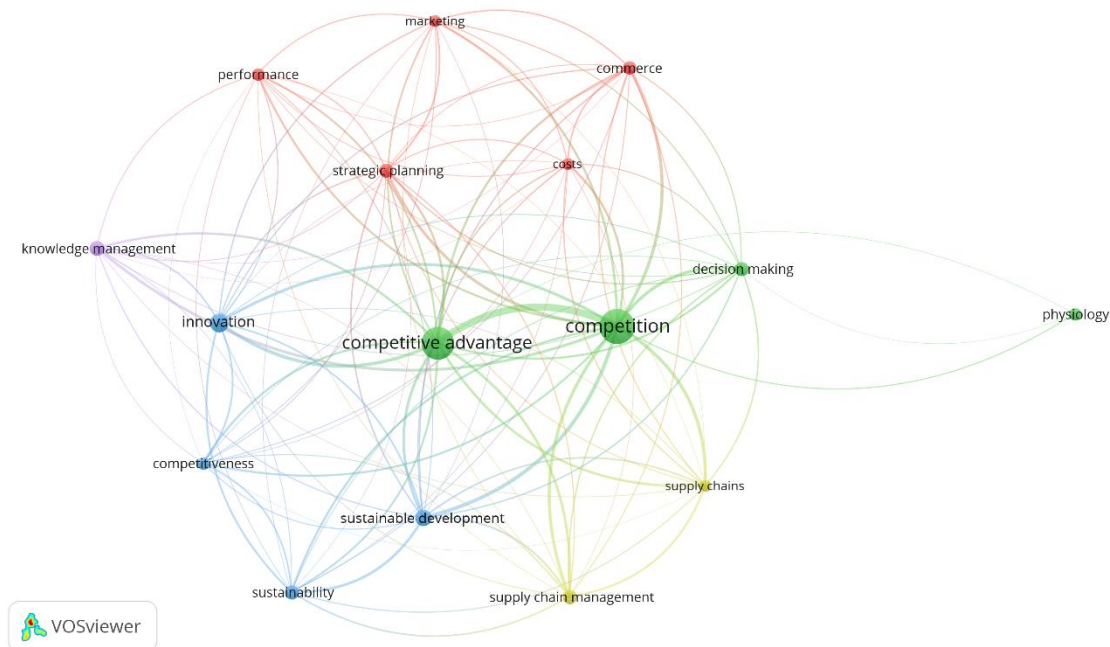


Figure 1. Network Visualization

Source: Data Analysis Result, 2026

The Co-occurrence network of competitive advantage research is shown in Figure 1. This shows the relations between the major concepts, research themes and the intellectual links between them. The size of the nodes depicts the frequency of keyword occurrences, and the lines depict the relationships between the keywords. From the co-occurrence network shown above, it can be observed that "competitive advantage" and "competition" are the two central concepts and have the most connectivity, meaning that these themes form the foundation for research in this area.

The first key cluster revolves around competitive advantage, competition, decision-making, and strategic planning. This cluster denotes the traditional strategic management theory wherein competitive advantage is perceived as a result of proper strategic decisions made by managers through market positioning and managerial decision-making. Competitive advantage and competition are closely interrelated; thus, there are numerous research papers on how firms gain superiority in performance by reacting to competition, developing strategic capabilities, and utilizing their resources efficiently. Also, the link to decision-making implies the role of managerial skills in recognizing opportunities and reacting to the changing market conditions.

The second cluster stresses innovation, knowledge management, competitiveness, and sustainability, which are mostly captured through the blue network. These clusters show how the study of competitive advantage has transformed from being oriented to a resource-based and capability-oriented one. Innovation becomes the mechanism whereby organizations differentiate themselves and achieve

competitiveness in the long run. In the same way, knowledge management is related to innovation since knowledge of the organization is what gives them the ability to come up with ideas and capabilities which are hard for competitors to duplicate.

The third cluster focuses on supply chain management, supply chains, cost, marketing, commerce, and performance, which are depicted by yellow and red networks. The third cluster is a result of researches on competitive advantage from the perspective of operation and markets. In recent years, the capability of supply chain management has been viewed as a strategic resource because of its potential to cut down cost and improve the response time to customers, while the linkage of marketing, commerce, and performance indicates that competitive advantage is obtained not only through internal efficiencies but also through external market strategies.

The results of bibliometric visualization show that studies on competitive advantage have shifted from the classical approach of studying competition and strategic positioning to a more multidisciplinary approach which encompasses innovation, sustainability, digitalization, knowledge management, and supply chain management. From the network analysis, there are areas for potential future research where these approaches can be combined, specifically, how firms use technology and sustainable practices and strategic flexibility to gain a competitive advantage. Interconnected topics suggest that competitive advantage is not perceived in terms of a singular strategy but rather a multidimensional capability arising from interactions between the firm's resources and the environment.

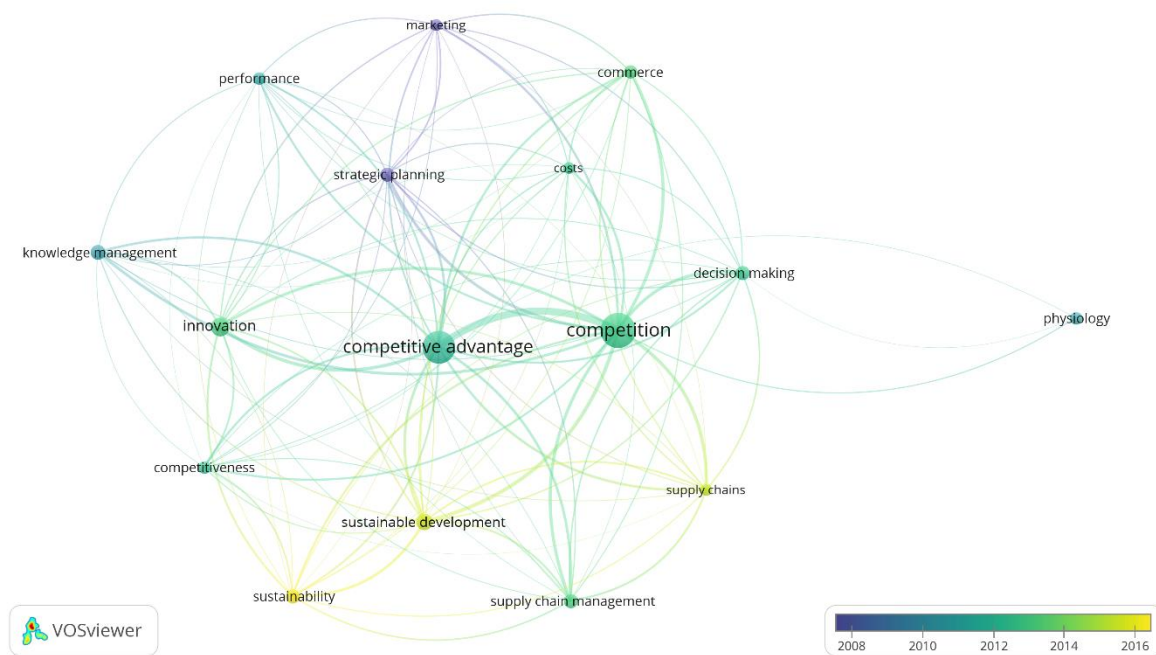


Figure 2. Overlay Visualization

Source: Data Analysis Result, 2026

Figure 2 depicts the temporal evolution of keywords used in research on competitive advantage. Colors show the average year of publication of each keyword usage (blue stands for old research themes, while green and yellow stand for new research themes). It can be seen from the network that the keywords "competitive advantage" and "competition" have stayed the key concepts connected with many other research themes. The keywords stay at the center of the network because of the importance of these keywords in the development of the research area. The link between the competitive advantage and such concepts as "decision making," "strategic planning," and "competitiveness" shows the primary direction of early research.

The themes from previous researches, which are shown in blue and light green colors, consist of knowledge management, innovation, marketing, performance, and strategic planning. Such themes demonstrate the fundamental period of competitive advantage researches, during which researchers concentrated on such aspects as internal resources, knowledge of

organizations, innovating ability, and market as a way of creating competitive advantage. The themes of knowledge management and innovation are mentioned as supporting ones due to the fact that businesses started to receive competitive advantages through managing valuable knowledge assets and innovations.

The more contemporary topics are depicted in the form of green and yellow shades and include sustainability, sustainable development, supply chain management, and supply chains. Such development signifies the tendency of competitive advantage research shifting towards the sustainability-focused and operational directions. Modern researches focus on the ways organizations can gain competitiveness via environmentally friendly activities, effective systems of supply chains, and sustainable business strategies. The use of the terms related to sustainability means that the concept of competitive advantage is now not considered merely as a financial success or market position but as the organization's ability to create sustainable value.

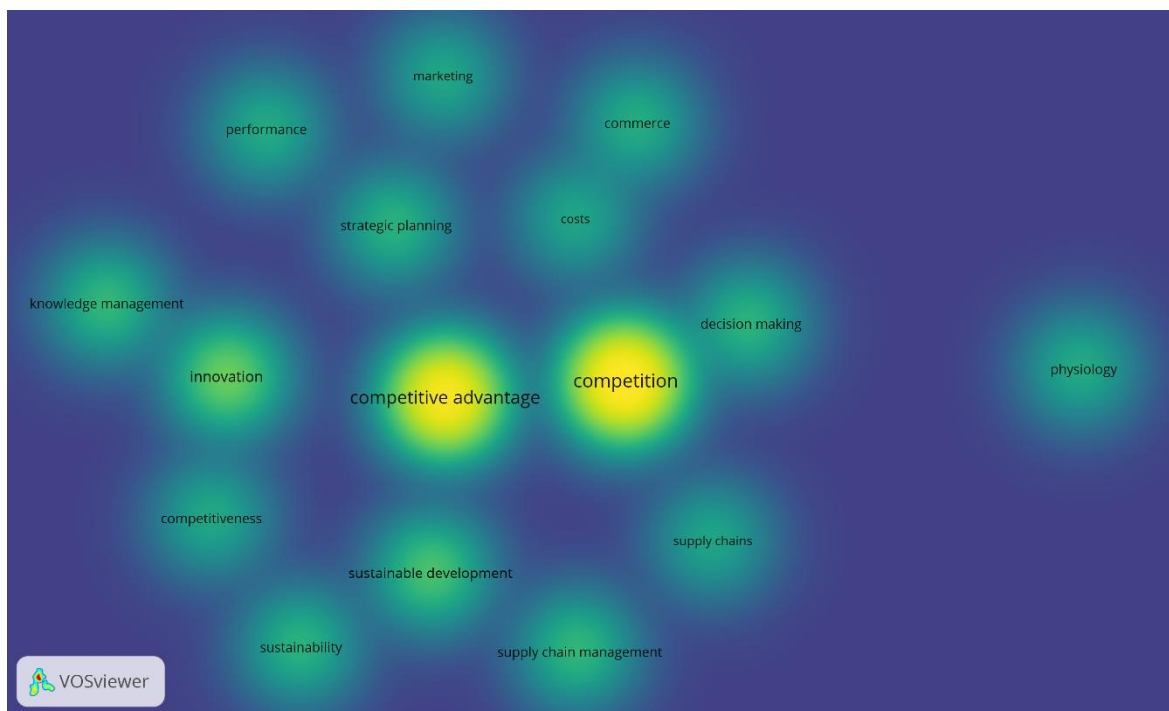


Figure 3. Density Visualization

Source: Data Analysis Result, 2026

Figure 3 demonstrates the clustering and intensities of the research themes that relate to competitive advantage. Herein, the yellow regions represent high research density keywords along with high frequencies of appearance whereas green and blue regions symbolize low concentrations of keywords. The maximum research density can be observed near the keywords “competitive advantage” and “competition,” thus implying that these are the core concepts of the literature under consideration. Their positioning signifies that the research in competitive advantage has always been based on how organizations acquire a better standing through competition,

differentiation, resource usage, and strategic decisions.

Besides the main topics, some other research areas which have been included in the visual presentation include innovation, knowledge management, sustainability, supply chain management, marketing, and organizational performance. These research areas show medium density, reflecting their increasing significance as complementary variables for competitive advantage. Innovation and knowledge management refer to internal capabilities that help organizations create unique resources, whereas sustainability and supply chain management refer to extended scope of research on competitive advantage.

3.2 Co-Authorship Analysis

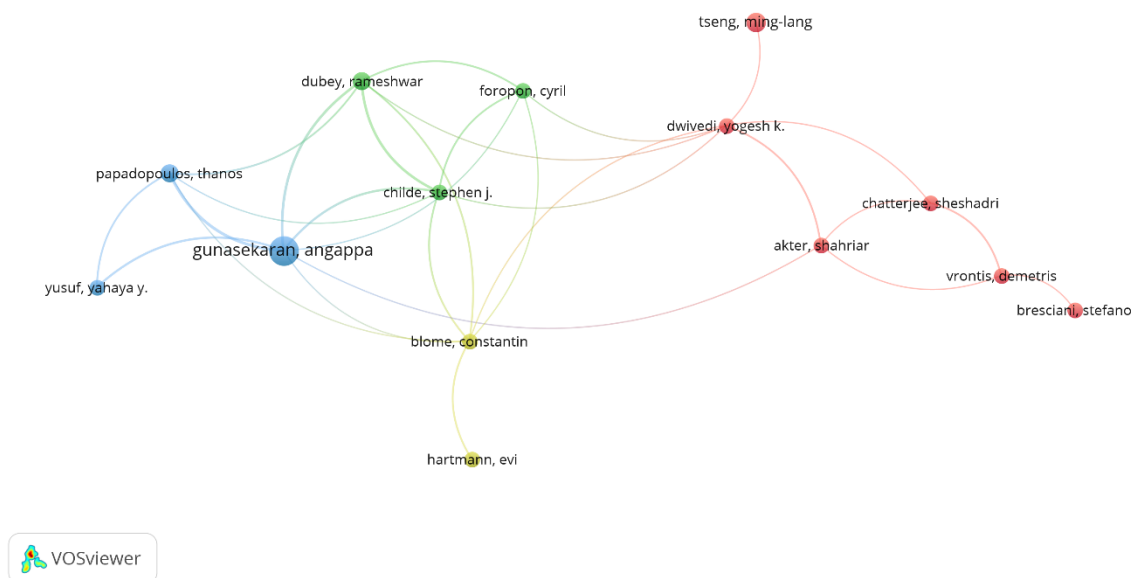


Figure 4. Author Visualization

Source: Data Analysis Result, 2026

Figure 4 demonstrates the patterns of intellectual cooperation among researchers in the domain of competitive advantage research. The network has many different clusters of authors, which reflects the groups of researchers who cooperate often or publish in the same streams. The most prominent and highly-connected nodes, for example, Gunasekaran, Angappa, Akter, Shahriar, and Yogesh K. Dwivedi, denote influential authors who have made great contributions and who have many links within the research network. The existence of various interrelated clusters shows that competitive advantage research has been formed due to cooperation of researchers with various disciplinary backgrounds, such as strategic management,

digital transformation, information systems, and supply chain management.

Moreover, it becomes apparent from the network that there are certain authors, including Gunasekaran, Angappa, who serve as significant intermediaries between various research communities, connecting works concerning the capabilities of the supply chain, performance, and competitiveness. Clusters associated with researchers like Akter, Shahriar, Chatterjee, Sheshadri, and Yogesh K. Dwivedi show an emerging research stream concerned with competitiveness enabled by technology and digital capabilities.



Figure 5. Institution Visualization

Source: Data Analysis Result, 2026

Figure 5 demonstrates the connections between universities and research organizations that have contributed to the research on competitive advantages. As can be seen from the figure below, the network consists of quite a few interconnected elements, which implies the high concentration of research collaboration in this area at a number of major academic centers. Major universities like Harvard University, University of Minnesota, Harvard Business School, and Michigan State University are identified as the most significant nodes in the network due to their contributions to the creation of competitive advantage theories.

The network pattern indicates that the research on competitive advantage is very solidly grounded at some well-known

business schools and management universities. Some examples of those include Harvard Business School and Michigan State University, which stand out as key contributors to strategic management and supply chain management research. In turn, some universities such as Harvard University and University of Minnesota have made major contributions to the theories of organizational behavior and business strategy. Even though there are only a few noticeable organizations in this network, the fact that there are some very highly connected academic institutions indicates that the research on competitive advantage has been very much influenced by influential universities.

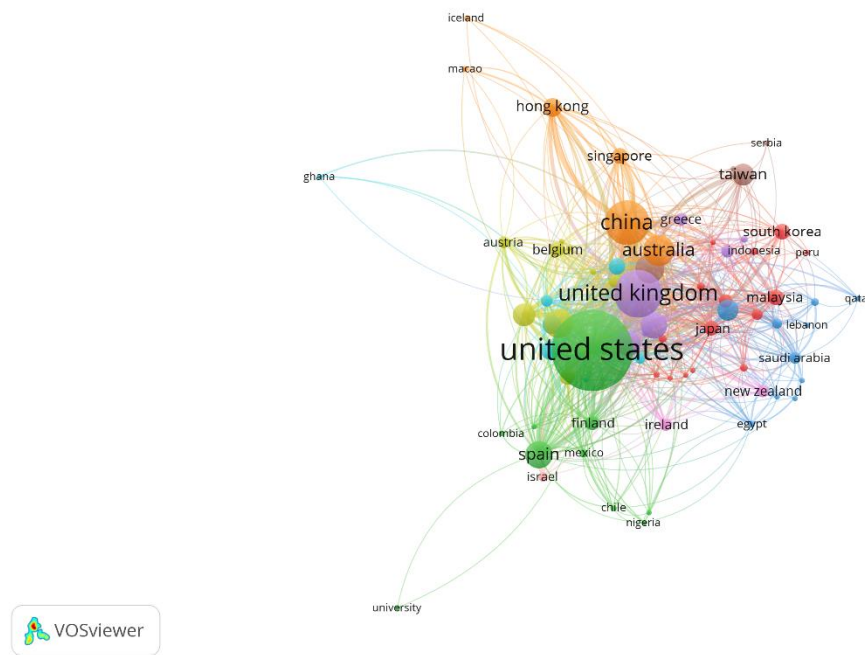


Figure 6. Country Visualization

Source: Data Analysis Result, 2026

Figure 6 depicts the world map of competitive advantage research distribution and cooperation. The sizes of nodes show the level of contribution or publication output to competitive advantage research, whereas the lines between nodes symbolize international cooperation between states. It becomes clear from Figure 6 that the United States is the leading state in terms of contribution to the field, which is reflected in the largest node and dense links. Other well-connected countries, including the United Kingdom, China, Australia, Malaysia, and South Korea, make an important contribution as well, demonstrating the fact that competitive advantage research has been developed with the help of many international collaborations.

Some of the clusters of research that can be seen from the network map are: First are the United States and the United Kingdom, which act as the centers that tie researchers from all over Europe, Asia, and other countries to form a network, due to their considerable influence in the academia for subjects like strategic management, business, and organizational research. Next are the countries of China, Hong Kong, Singapore, Taiwan, and Malaysia, which are part of the Asian research cluster engaged in competitiveness, innovation, supply chain management, and business transformation. Other countries include Australia, Spain, Finland, and Canada.

3.3 Citation Analysis

Table 1. Top Cited Research

Citations	Authors and year	Title
35749	[15]	Densely connected convolutional networks
11726	[16]	Dynamic capabilities: What are they?
8619	[17]	K-means++: The advantages of careful seeding
8268	[18]	Absorptive capacity: A review, reconceptualization, and extension
7026	[8]	Strategy & society: The link between competitive advantage and corporate social responsibility

Citations	Authors and year	Title
4408	[19]	SOAPdenovo2: An empirically improved memory-efficient short-read de novo assembler
4135	[20]	Towards Smart and Reconfigurable Environment: Intelligent Reflecting Surface Aided Wireless Network
3527	[21]	Metal hydride materials for solid hydrogen storage: A review
3433	[22]	A literature and practice review to develop sustainable business model archetypes
3056	[23]	Location, competition, and economic development: Local clusters in a global economy

Source: Scopus, 2026

Table 1 illustrates the list of top cited publications on competitive advantage research and identifies those publications that have contributed the most to forming the basis of knowledge within this field. It is evident that the highest cited publication is the article entitled "Densely Connected Convolutional Networks" authored by [15], which has 35,749 citations but whose contribution is associated more with artificial intelligence and deep learning and not with competitive advantage per se. Within the core strategic management publications, two publications can be identified as essential for understanding the nature of competitive advantage because they explain the mechanisms through which firms generate competitive advantages – the articles by [16] on dynamic capabilities and by [24] on absorptive capacity.

In addition, important research by [8] and [23] highlights the significance of competitive advantage that can be achieved through corporate social responsibility, industry clusters, and competitive advantage of location. The high citation potential of the mentioned research proves the continued relevance of the theories of Porter on the achievement of competitive advantage. High citations of other research articles like [22] prove the evolution of research on competitive advantage towards sustainability-based competitive advantage.

4. CONCLUSION

The present bibliometric analysis offers a detailed account of the evolution,

intellectual structure, and emerging trends in competitive advantage literature. The results show that competitive advantage is still one of the key issues in strategic management studies, as the evolution in research has shifted from the conventional views on competition, strategic positioning, and firm performance to more holistic approaches that include the use of dynamic capabilities, innovation, sustainability, knowledge management, and supply chain management. The results of keyword analysis show that competitive advantage and competition are still leading topics in this area of literature, while emerging topics of sustainability, sustainable development, and supply chain management signify a transition towards long-term competitiveness. Citation analysis, in turn, proves the significance of the fundamental theories of dynamic capabilities, absorptive capacity, resource-based approach, and Porter's frameworks. Another important fact uncovered by bibliometric mapping is that research on competitive advantage has been carried out by many collaborations between nations with the United States, United Kingdom, China, Australia, among other nations being key contributors in the development of research on competitive advantage. Several notable scholars and organizations have contributed immensely to the theoretical and empirical development of research on competitive advantage, especially in areas such as strategic management, innovation capability, and digitalization.

REFERENCES

- [1] V. Grover, R. H. L. Chiang, T.-P. Liang, and D. Zhang, "Creating Strategic Business Value from Big Data Analytics: A Research Framework," *J. Manag. Inf. Syst.*, vol. 35, no. 2, pp. 388–423, 2018, doi: 10.1080/07421222.2018.1451951.
- [2] B. J. Maron *et al.*, "Recommendations for physical activity and recreational sports participation for young patients with genetic cardiovascular diseases," *Circulation*, vol. 109, no. 22, pp. 2807–2816, 2004, doi: 10.1161/01.CIR.0000128363.85581.E1.
- [3] R. B. Woodruff, "Customer value: The next source for competitive advantage," *J. Acad. Mark. Sci.*, vol. 25, no. 2, pp. 139–153, 1997, doi: 10.1007/BF02894350.
- [4] S. Khanra, P. Kaur, R. P. Joseph, A. Malik, and A. Dhir, "A resource-based view of green innovation as a strategic firm resource: Present status and future directions," *Bus. Strateg. Environ.*, vol. 31, no. 4, pp. 1395–1413, 2022, doi: 10.1002/bse.2961.
- [5] J. Bae and J. J. Lawler, "Organizational and HRM strategies in Korea: Impact on firm performance in an emerging economy," *Acad. Manag. J.*, vol. 43, no. 3, pp. 502–517, 2000, doi: 10.2307/1556407.
- [6] M. V. López, A. García, and L. Rodríguez, "Sustainable development and corporate performance: A study based on the Dow Jones sustainability index," *J. Bus. Ethics*, vol. 75, no. 3, pp. 285–300, 2007, doi: 10.1007/s10551-006-9253-8.
- [7] C. T. Jordan, M. L. Guzman, and M. Noble, "Cancer stem cells," *N. Engl. J. Med.*, vol. 355, no. 12, pp. 1253–1261, 2006, doi: 10.1056/NEJMra061808.
- [8] M. E. Porter and M. R. Kramer, "Strategy & society: The link between competitive advantage and corporate social responsibility," *Harv. Bus. Rev.*, vol. 84, no. 12, pp. 78–92, 2006, [Online]. Available: <https://www.scopus.com/pages/publications/33845336816?origin=resultslist>
- [9] N. Donthu, S. Kumar, D. Mukherjee, N. Pandey, and W. M. Lim, "How to conduct a bibliometric analysis: An overview and guidelines," *J. Bus. Res.*, vol. 133, pp. 285–296, 2021.
- [10] K. A. Eddleston, F. W. Kellermanns, and R. Sarathy, "Resource configuration in family firms: Linking resources, strategic planning and technological opportunities to performance," *J. Manag. Stud.*, vol. 45, no. 1, pp. 26–50, 2008, doi: 10.1111/j.1467-6486.2007.00717.x.
- [11] T. Anderson, L. Peterson, S. Shenker, and J. Turner, "Overcoming the internet impasse through virtualization," *Computer (Long. Beach. Calif.)*, vol. 38, no. 4, pp. 34–41, 2005, doi: 10.1109/MC.2005.136.
- [12] K. Cabrera-Suárez, P. De Saá-Pérez, and D. García-Almeida, "The Succession Process from a Resource- and Knowledge-Based View of the Family Firm," *Fam. Bus. Rev.*, vol. 14, no. 1, pp. 37–46, 2001, doi: 10.1111/j.1741-6248.2001.00037.x.
- [13] Z. Ebrahim and Z. Irani, "E-government adoption: Architecture and barriers," *Bus. Process Manag. J.*, vol. 11, no. 5, pp. 589–611, 2005, doi: 10.1108/14637150510619902.
- [14] N. Van Eck and L. Waltman, "Software survey: VOSviewer, a computer program for bibliometric mapping," *Scientometrics*, vol. 84, no. 2, pp. 523–538, 2010.
- [15] G. Huang, Z. Liu, L. Van Der Maaten, and K. Q. Weinberger, "Densely connected convolutional networks," in *Proceedings - 30th IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2017*, Cornell University, United States: Institute of Electrical and Electronics Engineers Inc., 2017, pp. 2261–2269. doi: 10.1109/CVPR.2017.243.
- [16] K. M. Eisenhardt and J. A. Martin, "Dynamic capabilities: What are they?," *Strateg. Manag. J.*, vol. 21, no. 10–11, pp. 1105–1121, 2000, doi: 10.1002/1097-0266(200010/11)21:10<1105::AID-SMJ133>3.0.CO;2-E.
- [17] D. Arthur and S. Vassilvitskii, "K-means++: The advantages of careful seeding," in *Proceedings of the Annual ACM-SIAM Symposium on Discrete Algorithms*, Stanford University, United States: Association for Computing Machinery, 2007, pp. 1027–1035. [Online]. Available: <https://www.scopus.com/pages/publications/84969135721?origin=resultslist>
- [18] S. A. Zahra and G. George, "Absorptive capacity: A review, reconceptualization, and extension," *Acad. Manag. Rev.*, vol. 27, no. 2, pp. 185–203, 2002, doi: 10.5465/AMR.2002.6587995.
- [19] R. Luo *et al.*, "SOAPdenovo2: An empirically improved memory-efficient short-read de novo assembler," *Gigascience*, vol. 1, no. 1, 2012, doi: 10.1186/2047-217X-1-18.
- [20] Q. Wu and R. Zhang, "Towards Smart and Reconfigurable Environment: Intelligent Reflecting Surface Aided Wireless Network," *IEEE Commun. Mag.*, vol. 58, no. 1, pp. 106–112, 2020, doi: 10.1109/MCOM.001.1900107.
- [21] B. Sakintuna, F. Lamari-Darkrim, and M. Hirscher, "Metal hydride materials for solid hydrogen storage: A review," *Int. J. Hydrogen Energy*, vol. 32, no. 9, pp. 1121–1140, 2007, doi: 10.1016/j.ijhydene.2006.11.022.
- [22] N. M. P. Bocken, S. W. Short, P. Rana, and S. Evans, "A literature and practice review to develop sustainable business model archetypes," *J. Clean. Prod.*, vol. 65, pp. 42–56, 2014.
- [23] M. E. Porter, "Location, competition, and economic development: Local clusters in a global economy," *Econ. Dev. Q.*, vol. 14, no. 1, pp. 15–34, 2000, doi: 10.1177/089124240001400105.
- [24] S. A. Zahra and G. George, "The net-enabled business innovation cycle and the evolution of dynamic capabilities," *Inf. Syst. Res.*, vol. 13, no. 2, pp. 147–150, 2002, doi: 10.1287/isre.13.2.147.90.