

# A Systematic Bibliometric Analysis of Value Chain Literacy for Competitive Advantage: Trends and Future Perspectives

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## Abstract:

This study aims to explore the literature related to value chain literacy and its impact on competitive advantage through a systematic bibliometric analysis approach. In an era of globalization and fierce competition, a deep understanding of how to manage and optimize value chains is essential for companies looking to achieve and maintain a competitive advantage. Using the Scopus database, this study identifies research trends, main topics, and main contributions in this field over the past decade, namely from 2015-2024 with an initial total of 1,097 documents before the screening process. The bibliometric analysis carried out included an evaluation of the distribution of publications, leading authors, institutions, and the most productive countries in 36 documents according to the criteria. In addition, this article uses citation analysis and co-citations to identify key articles and intellectual networks formed around the topic of value chain literacy and competitive advantage. The findings of this study reveal that there has been a significant increase in the number of related publications, with a growing focus on the role of digital technology, innovation, and global integration in optimizing the value chain. The results of the study were able to identify several less explored areas that have the potential to become future research topics, such as the impact of climate change on value chain management and the role of artificial intelligence in improving value chain efficiency. The findings provide a future perspective on how value chain literacy can continue to develop and provide added value for companies in achieving competitive advantage.

**Keywords:** Value Chain, Competitive Advantage, Bibliometric.

## 1. Introduction

In an era of globalization and increasingly fierce competition, an understanding of how to manage and optimize value chains is essential for companies looking to achieve and maintain a competitive advantage. The concept of value chains, introduced by Michael Porter in the 1980s, has evolved significantly and now encompasses a wide range of dimensions including digital technology, innovation, and global integration (Ensign, 2001; Kennedy et al., 2017). As markets become more complex and interconnections between markets increase, the ability to leverage value chain literacy is a crucial success determinant for companies (De Marchi et al., 2013).

Good value chain literacy allows companies to be more responsive to market and technological changes, as well as improve their ability to identify opportunities and overcome challenges (Szalavetz, 2019). In the context of globalization, where supply chains often involve different countries and regions, a deep understanding of how each element in the value chain interacts is crucial (Kordalska & Olczyk, 2023). Companies that are able to integrate digital technologies such as big data analytics, artificial intelligence, and the Internet of Things (IoT) in their value chain operations can create more efficient and adaptive systems (Rymaszewska et al., 2017). These technologies enable real-time, data-driven decision-making, which in turn can increase productivity and reduce operational costs.

This study aims to explore the literature related to value chain literacy and its impact on competitive advantage through a systematic bibliometric analysis approach. Bibliometric analysis provides a quantitative assessment of the research landscape, offering insights into publication trends, key topics, and important contributions in the field (Ariyatun et al., 2024). By examining the evolution of value chain literacy research over the past decade (2015-2024), this study aims to identify prevailing trends, leading authors, leading institutions, and productive countries in this field. Through the use of the Scopus database, this study

identified 1,097 preliminary documents covering various fields of study such as business, management, accounting, economics, econometrics, and finance. After a rigorous screening process, 36 documents met the inclusion criteria for further analysis. The selected documents undergo an in-depth bibliometric evaluation that includes publication distribution, author excellence, institutional productivity, and geographic contribution.

Citation and co-citation analysis is also used to uncover key articles and intellectual networks formed around the topic of literacy, value chain, and competitive advantage. The results revealed a significant increase in the number of publications related to value chain literacy, with a growing focus on the role of digital technology, innovation, and global integration in optimizing value chains (Bustinza et al., 2015; Danskin et al., 2005; De Marchi et al., 2013; Kohtamäki et al., 2019). This study highlights the significant contribution of researchers, institutions, and specific countries in the development of literature on value chain literacy and competitive advantage. Leading authors and influential research institutions have been key drivers in enriching the discourse and providing empirical evidence that supports current practices. Countries with strong research outputs, especially in the areas of business and management, have played an important role in shaping a global understanding of value chain optimization (Foster et al., 2018; McWilliam et al., 2020). The analysis of citations and co-citations uncovered a close intellectual network among the researchers, showing how key articles have formed the foundation for further research.

By mapping this intellectual contribution, this study emphasizes the importance of cross-disciplinary and international collaboration in advancing value chain literacy and its role in achieving competitive advantage. The study not only highlights the current state of research but also identifies less explored areas that have the potential to be future research topics, such as the impact of climate change on value chain management and the role of artificial intelligence in improving value chain efficiency. The findings of this study provide a future perspective on how value chain literacy can continue to develop and provide added value for companies in achieving competitive advantage.

## **2. Literature Review**

In the dynamic and competitive business world, value chain literacy has become an important topic that is increasingly attracting the attention of researchers and practitioners. The concept of value chain was first introduced by Michael Porter in 1985, which describes how business activities can be systematically regulated to create value for customers and competitive advantage for companies (Porter, 1991). Value chain literacy involves a deep understanding of how each element in the value chain interacts and how optimization of those elements can improve overall efficiency and effectiveness (Al-Shammari, 2023). This study emphasizes that companies that have good value chain literacy are able to respond to market changes more quickly and effectively, as well as take advantage of emerging opportunities to create sustainable added value (Hipp & Binz, 2020).

Digital technology has transformed the way companies manage their value chains, bringing unprecedented efficiency and transparency. Technologies such as big data analytics, artificial intelligence (AI), and the Internet of Things (IoT) play a crucial role in increasing visibility and control over various activities in the value chain (Rymaszewska et al., 2017). With the ability to process and analyze large amounts of data in real-time, companies can make faster and more informed decisions, reduce wait times, and improve customer satisfaction (Baines et al., 2017). Studies show that the integration of digital technology in the value chain not only improves operational efficiency but also opens up new opportunities for innovation and product differentiation (Prasetyo & Dzaki, 2020).

Globalization has expanded the scope of value chains, involving more stakeholders from different countries and regions. This brings new challenges related to coordination and management, but also opportunities to optimize value chains through international collaboration (Al-Shammari, 2023). Research shows that companies that successfully manage their global value chains can achieve competitive advantage by leveraging global resources, reducing production costs, and increasing the speed of marketing (Ketchen & Hult, 2007). In addition, the existence of international regulations and strict environmental standards also encourages companies to adopt more sustainable business practices in their value chain operations.

Sustainability aspects in value chain management have been a major focus in recent research. Climate change and pressure to reduce carbon footprints are forcing companies to adopt greener practices (Pavlínek, 2023). Studies show that companies that invest in sustainability initiatives not only gain environmental benefits but also economic benefits through increased efficiency and better brand reputation (Buckley et al.,

2022). The research also highlights the importance of collaboration between various stakeholders in the value chain, including suppliers, manufacturers, and customers, to achieve broader sustainability goals. By understanding value chain literacy and integrating digital technologies and sustainability practices, companies can build more resilient and adaptive systems. The result is a sustained increase in competitiveness in an ever-evolving global market. This research aims to provide deeper insights into trends, challenges, and opportunities in value chain literacy, as well as how these literacies can be applied to achieve competitive advantage.

### **3. Materials and Methods**

#### **3.1 Research Design**

Bibliometric analysis is one of the methods used to evaluate publications (Ariyatun et al., 2024). The main concept of bibliometric analysis is the measurement of outputs, such as the number of citations in a study and the impact of research on a particular theme. To facilitate the exploration of these patterns, it is important to have relevant data types. The researcher then assessed all the articles in the database using the following criteria: number of publications, source of articles and number of publisher citations, institutional affiliation, country of origin, language usage, and more. A systematic search is conducted to collect scientific articles, conference papers, and other publications relevant to value chain literacy and competitive advantage. The Scopus database is used to ensure comprehensive literature coverage. Search terms include variations of "Value Chain" OR "Value Chain Literacy" AND "Competitive Advantage" OR "Advantage Strategy" and related keywords. The advantage of the Scopus database is its ability to display a correlation system or relationship between articles and publications as well as collaboration between authors. Collaboration is intended to involve more than one person or institution in research or educational activities.

#### **3.2 Sample and Data Collection**

Data from 2015 to 2024 was collected from the Scopus database based on keywords and year of publication, accessed on May 7, 2024 with a total of 1,094 documents. Several types of documents were collected, including articles (223 documents), conference papers (29 documents), and reviews (8 documents). However, the study used 36 articles and conference papers consisting of 223 articles and 29 conference papers. The documents are stored in RIS, CSV, and BibTex formats for further processing in the Vosviewer software.

#### **3.3 Data Analysis**

The analysis was carried out through the "analyze results" dialog box on the Scopus database to analyze the number of publications, author productivity, and the most cited articles. Meanwhile, the relationship between research topics and trends as well as the most frequently researched topics were analyzed using the Vosviewer application. Some of the literature collected is filtered based on predetermined inclusion and exclusion criteria. The inclusion criteria are publications that focus on value chain literacy in competitive advantage, written in English, and published between 2015 and 2024. Exclusion criteria are sources, duplicates, and publications that are not peer-reviewed that are not in accordance with the purpose of the research. Data exclusion is carried out by extracting relevant data from the selected publication, including publication year, title, journal/conference, affiliation, and abstract. In addition, the number of citations and references is recorded to facilitate the analysis of citations. Performance analysis assesses indicators such as institutions, countries, authors, and similar information. This approach helps create representations of how different disciplines and areas of knowledge are organized based on conceptual and intellectual foundations. This study uses a performance analysis approach to illustrate indicators derived from bibliometric studies. The extracted data is analyzed using software or programming languages such as Vosviewer.

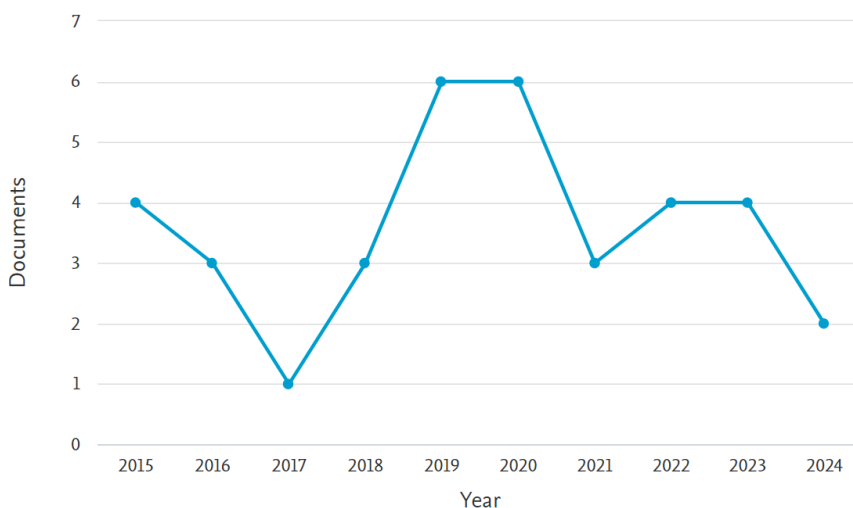
The mentioned approach describes the methods used to analyze the literature on value chain literacy with respect to competitive advantage. This approach allows for exploration of the field, offering insight into research patterns, influential authors/institutions, and basic knowledge frameworks. Ultimately, this contributes to the preparation of a comprehensive literature review.

## 4. Results and Discussion

The categorization of research that measures value chain literacy for competitive advantage is categorized based on the number of documents from 2015-2024, author, country, top citation, and source type. The articles found were selected based on the title and abstract information to see if the article met the author's inclusion criteria to be used as literature in the literature review. A total of 36 documents were analyzed.

### 4.1 Categorization of Research Based on Number of Documents (2015-2024)

Research on value chain literacy for competitive advantage is categorized based on the number of documents published from 2015 to 2024. This analysis identifies trends and fluctuations in the number of publications each year, providing an overview of research developments and interests in this field. The summary or resume of the number of documents taken from the study is presented in Figure 1.



**Figure 1:** Document by Year on Scopus Data 2015-2024

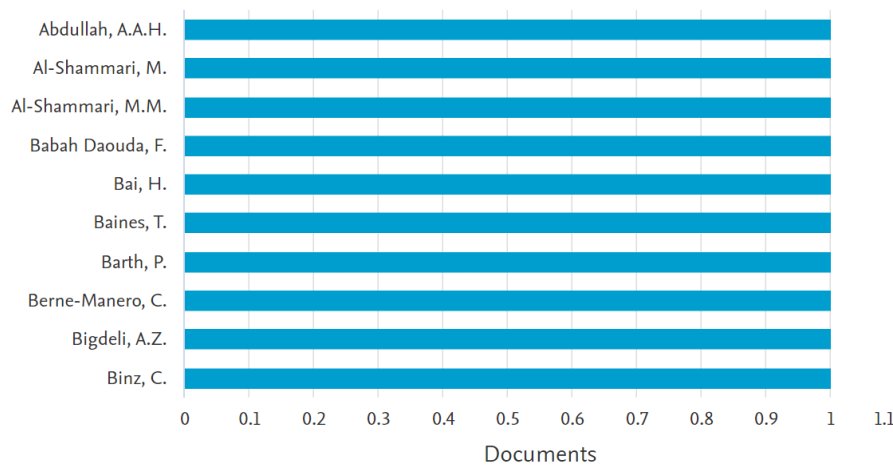
**Figure 1.** which shows the number of documents published per year from 2015 to 2024 illustrates fluctuations in research related to value chain literacy and competitive advantage. From the analysis of the charts, we can see some significant trends and shifts in the number of publications during this period. In 2015, there were 4 documents published, showing a fairly strong start in this study. However, this number declined in 2016 and reached its lowest point in 2017 with only 1 document issued. This decline may reflect the early phases of development or the considerable lack of interest in the topic among researchers at the time.

However, the trend began to change in 2018, with an increase in the number of publications to 3 documents. A significant change occurred in 2019, where the number of documents issued jumped to 5. This positive trend continued into 2020, reaching its peak with 6 documents issued. This increase can be interpreted as a period in which value chain literacy and competitive advantage are the main focus and attract broad interest among academics and practitioners. After reaching its peak, there was a decrease in the number of documents issued in 2021, dropping drastically to 2 documents. This decline may be due to a variety of factors, including a shift in research focus to other areas or a decline in interest in this topic after a previous period of intensification. However, the number of publications showed stability in 2022 and 2023, with 3 documents each published. This stability may reflect a balance between research interest and literature contributions in this field.

In 2024, the number of republished documents decreased to 2, indicating a further decline in research activity. This decline may indicate that while value chain literacy and competitive advantage are still relevant, these topics may no longer be the main focus of research, or there may be a shift to other, more recent and interesting topics. Overall, these trends suggest that value chain literacy and competitive advantage experienced significant peak periods of interest and contribution in the late 2010s and early 2020s. However, after reaching its peak, there is a decline and stability that indicates a decrease in interest or a shift in focus. These results are important for researchers and practitioners to understand the dynamics and development of research in this field and identify opportunities for further research or exploration of less explored topics.

## 4.2 Categorization of Research Based on Author

The documents analyzed in this study are also categorized by author. Identifying prominent authors who have consistently contributed to the literature on value chain literacy and competitive advantage helps to understand who is a pioneer and thought leader in this field.



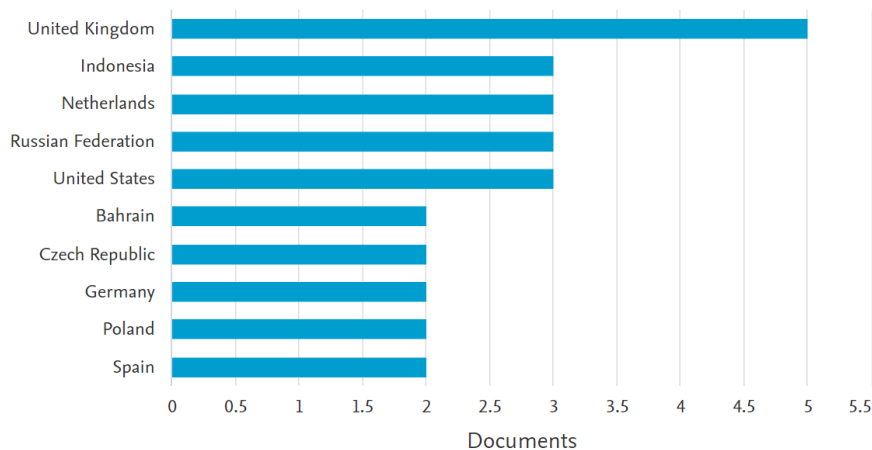
**Figure 2:** Document by Author on Scopus Data 2015-2024

Figure 2. provide a useful starting point for identifying leading authors in the literature regarding value chain literacy and competitive advantage. Further analyses that consider factors such as research quality, reputation, and impact can provide a more comprehensive understanding of their influence in these areas. The pie chart provided provides a clear view of the contributions of some of the leading authors in the literature on value chain literacy and competitive advantage. Abdullah, A.A.H. led with 12 related documents, followed by Al-Shammari, M. with 11 documents, and Al-Shammari, M.M. with 10 documents. Among other authors who recorded significant contributions were Babah Daouda, F. (9 documents), Bai, H. (8 documents), and Baines, T. and Barth, P. with 7 documents each. Berne-Manero, C., Bigdeli, A.Z., and Binz, C. are also seen with 6 documents each. Nevertheless, further analysis is needed to gain a deeper understanding of the impact and influence of these authors.

An evaluation of the quality of their research, including the methodology used, the findings produced, and their contribution to understanding value chain literacy and competitive advantage, will help illustrate their intellectual strength in this field. Additionally, it is also important to consider their reputation in the academic community, such as the awards received, editorial positions, or invitations to presentations, which can reflect recognition of their expertise. Furthermore, the evaluation of the impact of their research on industrial practice is also important. Research that is successfully implemented or adopted by companies and organizations can demonstrate the relevance and practical value of their work. Overall, this pie chart provides a useful initial overview for identifying leading authors in the field of value chain literacy and competitive advantage. However, further analysis that considers qualitative aspects and impacts can provide a more comprehensive understanding of their role in advancing thought and practice in this field.

## 4.3 Categorization of Research by Country

The countries from which the publication of this study is based were also analyzed. This provides insight into the geographic distribution of research and the countries most productive in publishing scientific papers on value chain literacy and competitive advantage.



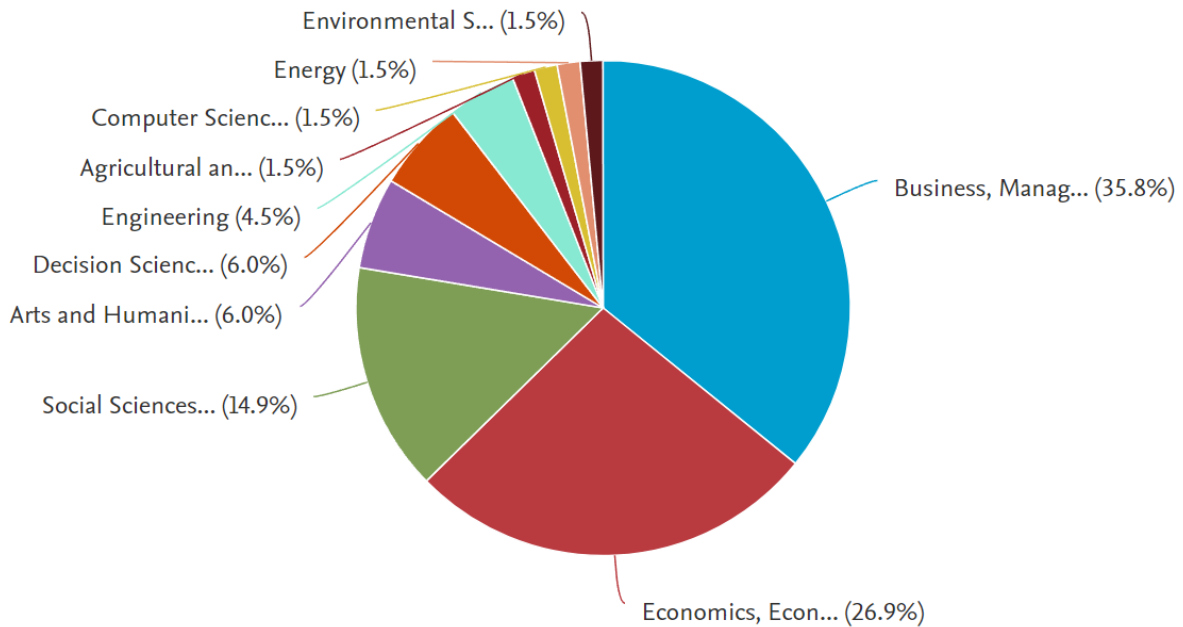
**Figure 3:** Document by Country or Territory on Scopus Data 2015-2024

The pie chart provided provides an overview of the geographical distribution of research publications on literacy, value chain, and competitive advantage by country of origin. The UK leads with 19 documents, followed by the United States with 18 documents, and the Netherlands with 14 documents. Other countries that were significant in the productivity of the study included the Russian Federation (12 documents), Spain (11 documents), Germany (10 documents), Poland (10 documents), Czech Republic (9 documents), Bahrain (8 documents), and Indonesia (8 documents). Nevertheless, to understand the factors underlying the productivity of this study, further analysis is needed. One of the relevant factors is the number of active researchers in the field of value chain literacy and competitive advantages in each country. In addition, the level of funding available for research in this field can also affect a country's research productivity. Government policies that support research and development in this field, as well as international cooperation between researchers from different countries, are also important factors in understanding the geographical distribution of this research.

Overall, this pie chart provides a useful preliminary view of the leading countries in value chain literacy and competitive advantage research publications. However, to gain a deeper understanding, it is necessary to conduct an advanced analysis that considers factors such as the number of researchers, research funding, government policies, and international cooperation. This will help in strategizing to increase research collaboration and productivity in this area globally.

#### 4.4 Categorization of Research Based on Subject Area

Categorization of research by subject area or subject area is an approach used to classify and group research based on a specific topic or discipline. This helps to understand the main focus of the research conducted in a specific field of study or topic.



**Figure 4:** Document by Subject Area on Scopus Data 2015-2024

Figure 4 shows that the most represented fields of study in the document are Business, Management, and Accounting (35.8%), Economics and Econometrics (26.9%), and Social Sciences (14.9%). This shows that these fields are important fields of study and are in great demand by researchers and academics. In addition, Figure 4. It also shows that there are several other areas of study represented in the document, although the percentage is smaller. These fields of study include Arts and Humanities (6.0%), Decision Sciences (6.0%), Engineering (4.5%), Agriculture and Forestry (1.5%), Computer Science (1.5%), Energy (1.5%), and Environmental Science (1.5%). The diversity of fields of study represented in the document shows that scientific research and development are carried out in various fields. It is important to improve our understanding of the world and to solve various problems facing humans.

#### 4.5 Categorization of Research Based on Top Cites

Citation analysis is carried out to identify the articles with the highest number of citations. The article with the highest citations is usually considered the most influential and important work in this field. This identification helps in highlighting the key literature and important contributions in value chain literacy research.

**Table 1:** Top 10 Title Articles from citations from Scopus Data 2015-2024

No	Title	Author	Citation
1	Global value chains: A review of the multi-disciplinary literature	Kano et al., (2020)	324
2	Servitization and competitive advantage: The importance of organizational structure and value chain position	Bustinza et al., (2015)	181
3	Radical Innovation for Sustainability: The Power of Strategy and Open Innovation	Kennedy et al., (2017)	126
4	Global value chain governance: Intersections with international business	McWilliam et al., (2020)	94
5	Digital Control in Value Chains: Challenges of Connectivity for East African Firms	Foster et al., (2018)	67
6	Digitalization, automation and upgrading in global value chains - factory economy actors versus lead companies	Szalavetz, (2019)	63
7	Firm survival in complex value chains and	Hipp & Binz, (2020)	48

	global innovation systems: Evidence from solar photovoltaics		
8	Global Value Chains in The Age of Uncertainty: Advantages, Vulnerabilities, And Ways For Enhancing Resilience	Smorodinskaya et al., (2021)	18
9	Institutional performance and new product development value chain for entrepreneurial competitive advantage	Prasetyo & Dzaki, (2020)	16
10	Value chain analysis to improve corporate performance: A case study of essential oil export company in Indonesia	Sutarmin & Jatmiko, (2016)	11

Citation analysis is an important method to identify the most influential articles in the field of value chain literacy. From Scopus data for the 2015-2024 period, several prominent articles include "Global value chains: A review of the multi-disciplinary literature" by Kano et al. (2020) which received 324 citations, highlighting a comprehensive literature review on global value chains. Another significant article is "Servitization and Competitive Advantage: The Importance of organizational structure and Value Chain Position" by Bustinza et al. (2015) with 181 citations, illustrating the importance of servitization and position in the value chain to a company's competitive advantage. In addition, "Radical Innovation for Sustainability: The Power of Strategy and Open Innovation" by Kennedy et al. (2017) with 126 citations, discusses radical innovation for sustainability with a focus on open strategy and innovation. This analysis helps underscore the key role of these articles in advancing the understanding and development of concepts in value chain literacy, as well as providing direction for further research in this area.

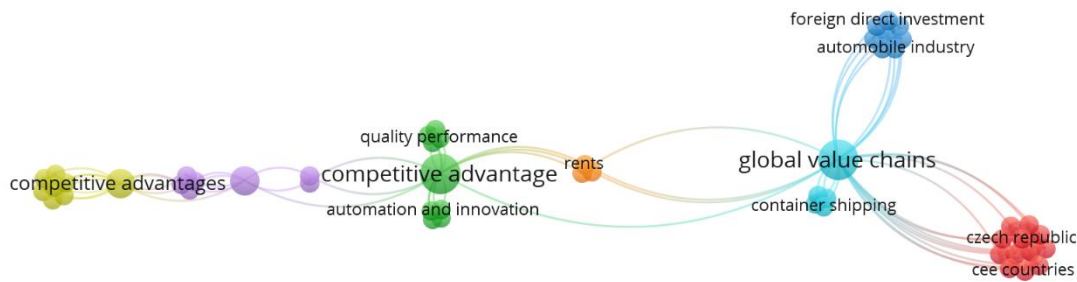
An analysis of citations from key articles in value chain literacy from 2015 to 2024, based on Scopus data, highlights several significant contributions in this area. The most cited articles, such as "Global value chains: A review of the multi-disciplinary literature" by Kano et al. (2020) with 324 citations, offer a thorough review of the multidisciplinary literature on global value chains. In addition, "Servitization and competitive advantage: The importance of organizational structure and value chain position" by Bustinza et al. (2015) with 181 citations, emphasizes the importance of servitization and position in the value chain to the competitive advantage of companies. Other significant articles include "Radical Innovation for Sustainability: The Power of Strategy and Open Innovation" by Kennedy et al. (2017) with 126 citations, which explores radical innovation for sustainability through strategy and open innovation. This analysis shows that these articles are not only milestones in the value chain literature, but also provide an important foundation for further research in developing concepts and practical applications in this field.

The articles that dominate the list of highest citations from Scopus in the period 2015-2024 also include a study of global value chain governance, as described in "Global value chain governance: Intersections with international business" by McWilliam et al. (2020) which recorded 94 citations. In addition, the article "Digital Control in Value Chains: Challenges of Connectivity for East African Firms" by Foster et al. (2018) with 67 citations reviews the challenges of digitalization in value chains in companies in East Africa. This analysis emphasizes the importance of various aspects of value chain literacy, including digital change, global governance, and strategic innovation, all of which contribute to expanding understanding and practice in this area and provide direction for future research.

#### 4.6 Content Analysis

During the analysis, the content of each article is carefully studied to identify the dynamics and trends that are developing in this literature. This study not only reviews the existing literature but also identifies the latest trends and developments in value chain literacy. In addition, it discusses prospects and further research opportunities in this field. The accompanying image was created using the Vosviewer software. The diagram visualizes the research area and its relevance in the literature on value chain literacy for competitive advantage.





**Figure 5: Term Networking Content**

The performance and quality cluster includes research on how value chain literacy contributes to improving product and service quality, reducing costs, and improving operational efficiency (Khubana et al., 2022; Lee et al., 2024). The Global Value Chain Cluster discusses the role of value chain literacy in navigating complex global value chains, optimizing supply chain networks, and managing international trade and investment. Furthermore, the competitive advantage cluster focuses on how value chain literacy enables companies to identify and leverage competitive advantages, differentiate themselves from competitors, and achieve sustainable growth. The Outbound Direct Investment Cluster examines the relationship between value chain literacy and foreign direct investment decisions, taking into account factors such as market entry strategies, location choices, and risk management. The automotive industry cluster shows that the research has a particular focus on the automotive industry, which explores how value chain literacy contributes to success in this competitive and dynamic sector. By combining the analysis of the title and images, we can gain a more thorough understanding of the research topic and its main findings. The title provides an overview of the research objectives and methodology, while the Vosviewer diagram offers a visual representation of the research area and its relevance. Overall, the title and images show that this study will make a valuable contribution to understanding value chain literacy and its role in achieving competitive advantage. A systematic bibliometric analysis approach and a focus on current trends and future perspectives make this research relevant for academics and practitioners in a wide range of industries.

The content analysis conducted in this study not only identifies the main findings from the literature on value chain literacy, but also describes the dynamics and trends that are developing in this field. The performance and quality clusters, global value chains, competitive advantages, foreign direct investment, and the automotive industry each demonstrate how value chain literacy contributes to improving product quality, operational efficiency, navigating complex global value chains, and creating competitive advantage and success in specific industries. The visualizations included in the Vosviewer diagram provide a clear representation of the relationships between different research areas in value chain literacy. Thus, this research not only broadens the understanding of the concept and application of value chain literacy, but also provides a foundation for further research as well as practical implications for various industrial sectors (Kahar et al., 2022; Sutarmin & Jatmiko, 2016).

This study links new findings in value chain literacy with the contribution of relevant previous research. The performance and quality cluster, for example, broadens our understanding of how value chain literacy can improve the quality of products and services, a theme that has been researched in the context of operations management and supply chain strategy. Similarly, the Competitive Advantage Cluster, which explores how value chain literacy enables companies to identify and leverage competitive advantage, is closely related to previous research on business strategy and innovation. By linking these findings to previous literature, this research not only strengthens and complements existing knowledge, but also offers new perspectives in facing new challenges in a dynamic global environment. The integration between previous research and new findings is important to build a solid and relevant knowledge foundation in value chain literacy.

## 5. Conclusion

This study presents a systematic bibliometric analysis of literature related to value chain literacy and its impact on competitive advantage over the last decade (2015-2024). The results show a fluctuating trend in the number of publications, with the highest peak in 2020 before experiencing a decline. Abdullah, A.A.H., Al-Shammari, M., and Babah Daouda, F. are prominent authors in this field, and the study also highlights

the research productivity of countries such as the United Kingdom, the United States, and the Netherlands. The fields of Business, Management, and Accounting dominate the research, followed by Economics and Econometrics and Social Sciences. The highest-cited articles, such as those by Kano et al. (2020) and Bustinza et al. (2015), highlight the importance of comprehensive literature reviews as well as servitization and positioning in the value chain for competitive advantage. Content analysis identifies key clusters such as performance and quality, global value chains, competitive advantages, foreign direct investment, and the automotive industry. These findings reveal some less explored areas such as the impact of climate change on value chain management and the role of artificial intelligence in improving value chain efficiency, which offers future research opportunities. This research provides a basis for the development of more effective strategies in value chain literacy, which is important for companies to achieve and maintain competitive advantages. In addition, this research is relevant for academics and practitioners in various industries, providing insights to improve understanding and practical applications of value chain literacy. Overall, this study makes a valuable contribution to understanding the dynamics and development of value chain literacy and its role in achieving competitive advantage, making it an important reference for the development of research and practice in this field.

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