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Bibliometric Analysis of Supply Chain Finance: A Systematic Review and Trend Analysis

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Abstract
Supply chain finance (SCF) is critical for streamlining financial flows and increasing efficiency within complex supply chains. This study presents a comprehensive bibliometric analysis of the existing supply chain finance literature to identify key themes, influential authors, and emerging trends in the field. We examined various scholarly publications using bibliometric techniques, including document analysis, citation analysis, and co-author analysis. Our analysis shows that the field of supply chain finance has experienced steady growth in research output over the last decade, indicating its increasing importance in both academic and practical settings. The findings highlight several key research themes, including supplier finance, buyer-led finance, risk management, information technology applications, and sustainability issues within supply chain finance.
In addition, our study identifies key influential authors and research institutions that have made significant contributions to the field. Analysis of citation patterns reveals the most influential publications and journals in the field of supply chain finance. It reveals intellectual underpinnings and knowledge dissemination channels within the field. In addition, the co-author networks shed light on joint research efforts and new research clusters. Based on bibliometric analysis, we provide insights into the evolving trends and possible future directions of supply chain finance research. The results provide valuable guidance for researchers, practitioners, and policymakers seeking to deepen their understanding of supply chain finance dynamics, foster collaboration, and address critical challenges in this field. Overall, this bibliometric analysis contributes to the existing body of knowledge on supply chain finance by providing a comprehensive overview of the research landscape and by highlighting key areas. This study serves as a basis for future research efforts and facilitates the development of sound strategies to advance supply chain finance theory and practice.
Keywords: [Supply Chain Finance, Buyer-Led Finance, Risk Management, Biblometric Analysis]

Introduction

Supply Chain Finance (SCF) is a financial solution that allows suppliers to access funding based on their buyers' creditworthiness. The goal of SCF is to improve the efficiency of the supply chain funding, which is needed because suppliers often give their customers payment terms.(Hofmann &Zumsteg, 2015)

Supply chain finance, also known as supplier finance or reverse factoring, is a monetary strategy that optimizes the flow of capital within supply chains. It addresses the timing mismatch between payments to suppliers and receipt of client funds(Li & Fu 2022). By facilitating early supplier payments, supply chain finance enhances working capital management, improves cash flow predictability, and reduces reliance on costly, short-term financing. This reduces the risk of late payments or disruptions in the supply chain, fostering collaboration and trust between buyers and suppliers(Obaid et al. 2022). SCF can help suppliers access financing at lower costs and improve their cash flow, whereas buyers can extend their payment terms and improve their working capital management. (Camerinelli, 2009).Buyers need help to persuade suppliers to adopt SCF. One of the primary challenges is the successful onboarding of suppliers on an SCF platform. Even if buyers estimate substantial reductions in financing costs, this does not necessarily lead to supplier adoption. Additionally, buyers should only sometimes offer SCF to their largest supplier first because smaller suppliers are generally quicker to adopt (Wuttke, D et al 2019,Li, L et al 2023).

Supply chain finance involves various stakeholders and activities that work together to optimize financial operations within the supply chain. Suppliers, manufacturers, logistics providers, and financial institutions play significant roles in this process (Olan et al 2021,Li, X., Yan, J., Cheng, J., Li, J. 2023).

Suppliers benefit from supply chain finance by accessing primary payment options, improving cash flows, and reducing financial strain. Manufacturers or buyers leverage their creditworthiness to offer initial payment arrangements to suppliers, resulting in improved relationships and reduced supply chain disruptions (Olan et al. 2021).

By collaborating effectively, these stakeholders can enhance working capital, improve cash flow predictability, mitigate risks, and strengthen relationships within the supply chain. Their collective efforts contribute to the overall optimization and success of supply chain finance operations (Chen et al. (2013).

Supply chain finance is crucial for improving work-

ing capital management for businesses by providing liquidity and optimizing cash flows. By offering early payment options to suppliers, businesses can access liquidity and address cash-flow constraints. This allows them to invest in growth opportunities and manage their working capital effectively (Wen et al. (2022). Supply chain finance also helps optimize cash flows by aligning payment terms between buyers and suppliers, allowing businesses to balance cash outflows and inflows efficiently. This leads to improved cash conversion cycles and enhanced working capital efficiency. In addition, supply chain finance mitigates financial risks by ensuring timely supplier payments and fostering trust and collaboration within the supply chain. Supply chain finance helps businesses enhance their financial positions, strategically allocate funds, and strengthen their overall fiscal health(Hofmann & Kotzab 2010).

Supply chain finance is the key to fostering stronger relationships between buyers and suppliers by enhancing financial collaboration and trust. It provides enhanced cash flow visibility, improves payment terms, reduces financial risk, and promotes collaborative problem-solving.

Supply chain finance gives buyers and suppliers better visibility into cash flow dynamics, allowing for more informed decision making. By aligning payment terms and offering early payment options, buyers demonstrate their commitment to timely payments, whereas suppliers gain greater monetary stability and planning capabilities. This transparency builds trust and promotes collaboration between parties(Dong et al. (2022).

Through supply chain finance, buyers can negotiate favorable payment terms and extend payment terms, while still providing suppliers with the option of immediate payment. This fairness in payment terms strengthens the buyer-supplier relationship and fosters trust, as suppliers have greater control over their cash flow and financial stability.

Supply chain finance also mitigates financial risk by reducing the likelihood of payment delays or defaults. Suppliers are confident in receiving timely payments, enhancing their financial stability, and decreasing liquidity concerns. This reduction in financial risk fosters trust and strengthens partnerships between the buyers and suppliers (Huo 2023).

Moreover, supply chain finance encourages collaborative problem solving between buyers and suppliers. They can work together to solve financial challenges such as exploring alternative financing options or providing prompt payment arrangements. This cooperative approach builds a sense of shared responsibility and long-term partnerships (Deng et al. 2018).

There is a research gap in bibliographic studies focusing on supply chain finance. Although studies have explored various aspects of supply chain finance, a comprehensive bibliographic analysis that captures the breadth and depth of research in this domain is lacking. Conducting a bibliographic study of supply chain finance would provide insights into publication patterns, authorship, citation networks, and research trends. It identifies key contributors to the field, analyzes publication trends, and highlights emerging research themes and gaps in existing literature. Such a study would contribute to a deeper understanding of supply chain finance, guide future research, and facilitate knowledge dissemination within the scholarly community.

A study covering 2018 to 2023 would fill this gap by providing an up-to-date analysis of advancements, emerging trends, and research directions in supply chain finance.

This specific timeframe has a research gap that needs to be addressed. This would help researchers and practitioners to learn the latest developments in supply chain finance, determine the limitations of existing studies, and inspire more research and innovation.

This would enhance the understanding of the difficulties and prospects in supply chain finance and promote progress in the field.

Objectives of the Study

The study offers the opportunity to answer the following research objectives.

1. To identify the key authors and institutions contributing to the field of supply chain finance through a bibliographic analysis.
2. To analyze the publication trends and patterns in supply chain finance research, including the growth rate of publications over time.
3. To identify the most cited articles and influential journals in supply chain finance.
4. To examine the collaboration networks among researchers and institutions in supply chain finance research.
5. To provide insights and recommendations for future research directions and areas of further investigation in supply chain finance.

These research objectives aim to conduct a comprehensive bibliographic study on supply chain finance, providing a detailed analysis of publication trends, influential authors and journals, collaboration networks,

research themes, and emerging trends. The study would help to better understand the current state of supply chain finance research, identify research gaps, and guide future research efforts within the field.

Research Methodology

Bibliometric analysis uses statistical methods to examine and identify publication patterns in research products (Bui et al. 2020).Pritchard (1969) introduced this concept. Bibliometric analysis can provide a comprehensive overview of a research area, reveal connections between research studies, identify the most influential authors and collaborations between countries in a research field, and suggest future research directions. Bibexcel, CiteSpace, Gephi, GraphPad Prism, Netdraw,Pajek, Sci2, SciMAT, SITKIS, VOSviewer, and UCInet are tools that can support bibliometric analyses. This study used VOSviewer (Godzien et al., 2018) to perform a supply chain finance bibliometric analysis. Bibliometric mapping allows the visualization and identification of relationships between articles, authors,organizations, countries, citations, and keywords. (Van Eck et al.,2010)

This study investigates the supply chain finance research field using quantitative methods to analyze publications, citations, and collaborations. This will help to reveal research patterns, influential authors, and fundamental research topics in the field. The main source of literature for this study is the dimensions database, which covers a broad range of disciplines associated with supply chain finance. This study focuses on publications from 2020 to 2023.

Data Collection

Dimensions are a comprehensive research database that includes scholarly articles, conference papers, reprints, and other research outputs from various disciplines, such as business, finance, economics, and related areas. Its comprehensive coverage makes it suitable for conducting quantitative analyses of the literature in the field of supply chain finance.

Criteria for Inclusion

The criteria for selecting articles from the Dimensions database were as follows.

The articles were published between 2020 and 2023and considering only articles in English were considered.

Search Strategy

The search strategy utilized relevant keywords and phrases related to supply chain finance. Search terms are “supply chain finance” and “Logistics,” logistics’. Boolean operators (AND, OR) combined the keywords and refined the search results.

Data Analysis

The selected articles were analyzed using appropriate software or tools to measure the following aspects:

Authorship analysis: Identifying the most productive authors, their affiliations, and their contributions to the field of supply chain finance (Misini & Kadriu (2022)).

Publication analysis: Examining publication patterns, including the most active journals, conference proceedings, and publishing countries.

Citation Analysis

Analyzing citation patterns to identify the most cited articles and influential authors.

Co-authorship network analysis: Mapping collaborative networks among authors and institutions to identify strategic collaborations in the field(Osareh et al. (2022).

Interpretation and Reporting

Quantitative and content analysis findings were interpreted to draw meaningful insights and conclusions. The results are presented clearly and concisely using visualizations, such as charts, graphs, and network diagrams, to present the findings effectively. The research methodology, including the search strategy and analysis techniques, is detailed to ensure transparency and reproducibility.

It is important to recognize the potential limitations of this research methodology. Limitations may include language bias owing to the exclusion of non-English publications and any limitations inherent to the Dimensions database. These limitations should be considered when interpreting the findings and generalizing the results.

This research methodology provides a comprehensive understanding of the current state of research in supply chain finance, identifies research patterns, and highlights the influential authors and institutions in the field.

Results and Discussions

Citations based on Document

To ensure a reliable evaluation, a minimum document set of 100 is essential. In the case of the total of 533 documents examined, it was found that only 47 of them met the specified thresholds.

Table 1: Top documents with 150 citations.

Sl No.	Document	Citations	Links
1	Geissdoerfer (2018)	547	2
2	Pieroni (2019)	456	1
3	Rosati (2019)	285	1
4	chan (2018)	262	0
5	Jia (2020)	218	0
6	Chen (2018)	215	0
7	Upadhyay (2021)	202	0
8	Khan (2021)	201	0
9	Ruiz (2020)	199	0
10	Aboelmaged (2019)	191	0
11	Heyes (2018)	189	0
12	Gandhi (2018)	183	0
13	Kazancoglu (2018)	180	0
14	Kumar (2020)	179	0
15	Mavi (2018)	178	0
16	Caldera (2019)	173	0
1	Hossain (2020)	170	0
7	Ikram (2019)	158	0
18	Bórawski (2019)	156	0
19	Wang (2021)	153	0
19	Ranta (2018)	153	0
20	Yazdani (2021)	153	0
21	Niaki (2019)	150	0

The dataset in Table 1 contains a list of documents with their citation and link counts. The main findings are:

"Geissdoerfer (2018)" is the most cited and linked document, showing its high relevance and influence in the research field.
"Pieroni (2019)" is the second most cited document, reflecting its popularity among researchers.
"Rosati (2019)" has fewer citations than the top-ranked papers, indicating a lower impact or awareness.
Some documents have no citations or links, suggesting a lack of interest or novelty, or are new in the research area.
The number of citations decreases as we go down the list, implying that older papers have more citations or cover more interesting topics.
Some recent papers are in the dataset, with low citation and link counts, indicating they may need more time to gain recognition.
The summary shows different documents' citation and link counts, revealing the differences in impact, visibility, and attention in the research community.

Citations in term of Authors

To determine citations based on authors, a Minimum number of documents is set as three.
Furthermore, it was found that out of 853 authors, only 25 meet the criteria.
Table 2 and Figure 1 show that there are four clusters.
Cluster 1 Consist Of Garza-Reyes, Jose Arturo, Govindan, Kannan, Kazancoglu, Yigit, Mangla, Sachin Kumar, Mardani, Abbas

The data analysis for Cluster 1 reveals the following:
All authors in this cluster have published three documents each, showing a similar research output.
The citation counts for these authors vary from 399 to 593. Garza-Reyes, Jose Arturo, Pigosso, and Daniela C.A. are the most cited (593), while Mardani Abbas is the least cited (413). These authors have a high citation impact.
The total link strength for this cluster is 12, indicating

the combined influence of their citations.

The data suggest Cluster 1 includes authors with moderate to high research productivity and citation impact. They have comparable numbers of publications and a reasonable link strength through their citations. They may be researching related or similar fields, engaging with the scholarly community, and possibly collaborating or citing each other's work.

Cluster 2 Consist Of Jugend, Daniel,Mcaloone, Tim C.,Pigosso, Daniela C.A.,Salvador, Rodrigo

The data analysis for Cluster 2 reveals the following:

All authors in this cluster have published three documents each, showing a similar research output.

The citation counts for these authors vary from 106 to 150. Mcaloone, Tim C., Pigosso, Daniela C.A., Goni, FeybiAriani, and Salvador, Rodrigo is the most cited (150), while Jugend, Daniel is the least cited (106). These authors have a moderate citation impact.

The total link strength for this cluster is 12, indicating the combined influence of their citations.

The data suggest Cluster 2 includes authors with moderate research productivity and citation impact. They have comparable numbers of publications and a reasonable link strength through their citations. They may be researching related or similar fields, engaging with the scholarly community, and possibly collaborating or citing each other's work.

Cluster 3 comprises three authors: Elisa Arrigo, Lujie Chen, and Fu Jia. This cluster demonstrates varying levels of research productivity and citation impact among its members. Each author in Cluster 3 has published three documents, suggesting a similar research output within the cluster. However, the citation counts for these authors range from 142 to 288. Fu Jia has the highest number of citations, with 288, while Elisa Arrigo has the lowest, with 38.

Consequently, there are notable differences in their research's citation recognition and impact. The total link strength for all authors in this cluster is 14, representing the combined influence of the citations received by their published documents. In summary, authors within Cluster 3 exhibit varying levels of research productivity and citation impact, despite publishing the same number of documents. Although their research may be related or similar, their contributions and citation recognition differ significantly.

Cluster 4 is comprised of a single author, Julian Kirchherr. This author has a relatively higher research output within the cluster, as indicated by the publication of five documents. However, Kirchherr has received a moderate number of citations, with a count of 182. The total link strength for Kirchherr is 0, suggesting a lower level of influence than other clusters. Despite their relatively higher research output, Kirchherr's research has not garnered significant recognition or impact within their field. Further analysis is required to delve into the specific research focus and potential reasons behind the limited influence of Kirchherr's work within Cluster 4.

Table 2: Top Author with 3 Documents.

Sl No.	Author	Documents	Citations	Total Link Strength
1	Mcaloone, Tim C.	3	593	12
2	Pigosso, Daniela C.A.	3	593	12
3	Mardani, Abbas	3	413	2
4	Kazancoglu, Yigit	3	399	1
5	Jia, Fu	4	318	1
6	Govindan, Kannan	5	290	3
7	Chen, Lujie	3	288	1
8	Tseng, Ming-Lang	5	222	5
9	Kirchherr, Julian	3	194	8
10	Klemeš, Jiří Jaromír	5	182	0
11	Mangla, Sachin Kumar	4	174	2
12	Wu, Kuo-Jui	3	159	4
13	Chofreh, AbdoulmohammadGholamzadeh	3	150	0
14	Goni, FeybiAriani	3	150	0
15	Kang, Kai	3	142	0

16	Liu, Yang	5	136	0
17	Sarkar, Biswajit	4	135	1
18	Huisingh, Donald	3	116	0
19	Salvador, Rodrigo	3	106	6
20	Garza-Reyes, Jose Arturo	4	104	2
21	Dawkins, Elena	4	102	0
22	Sadiq, Rehan	3	89	0
23	Arrigo, Elisa	3	38	3
24	Fernández, Roberto Álvarez	3	21	0
25	Jugend, Daniel	3	6	5

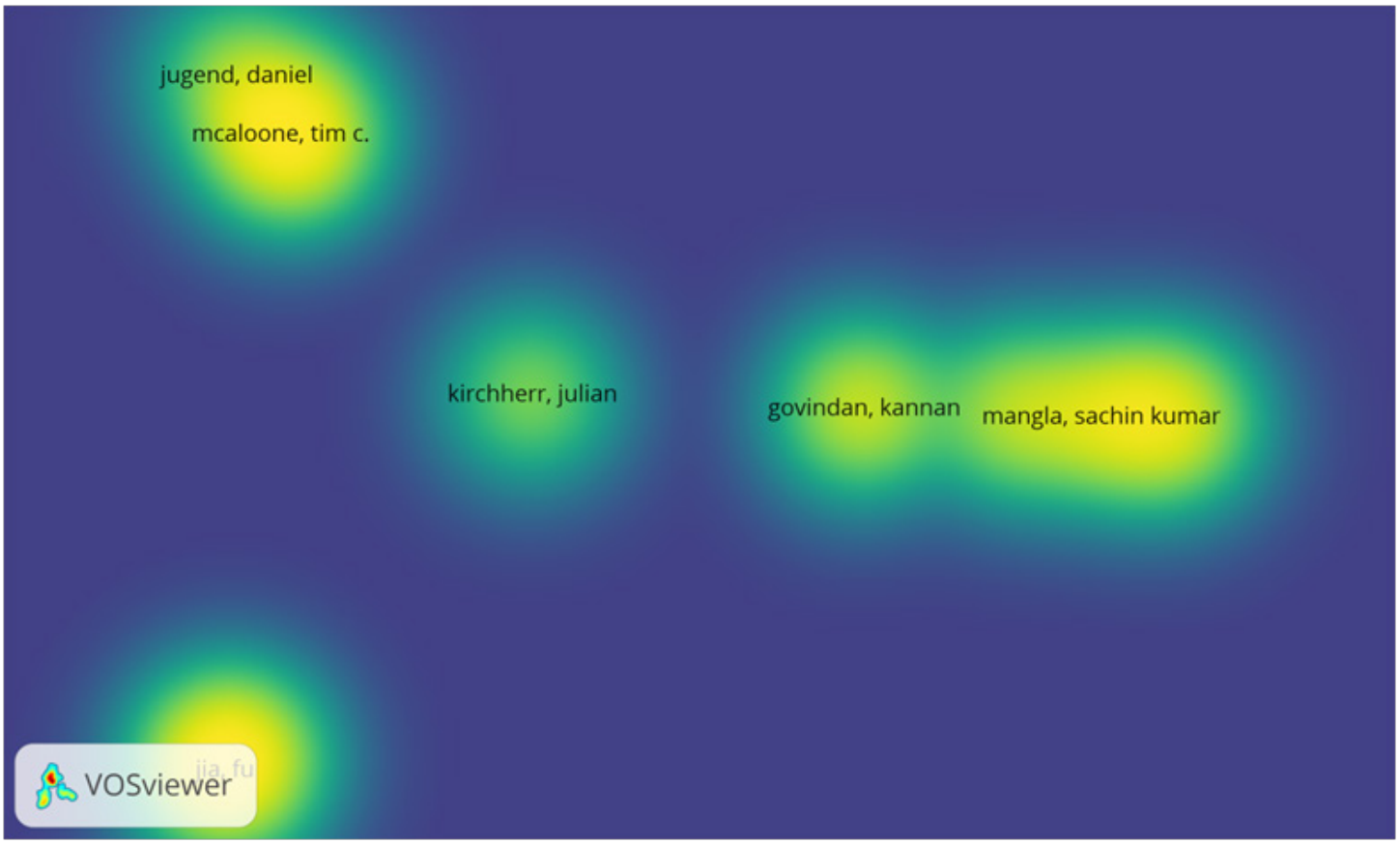

Figure 1: Density Visualization for Citations in term of Authors

Citations based on Organizations

For determining Citations Based OnOrganizations,a minimum number of documents is selected as five, and it was found that out of 733 organizations,34 meet the thresholds.

Figure 2 shows the ranking of organizations by their citations and total link strength values based on the given data. Here are some key points:

The Technical University of Denmark ranks first in citations (882) among the organizations. Utrecht University ranks first in total link strength (20) among the organizations. Universidade de São Paulo ranks second in citations (631) and third in total link strength (7). Hong Kong Polytechnic University ranks third in citations (599) and fourth in total link strength (3). Curtin University ranks fifth in citations (443) and total link strength (9). The University of Southern Denmark ranks sixth in citations (430) and total link strength (12). UNSW Sydney ranks seventh in citations (391) and total link strength (5). University of Technology Sydney ranks eighth in citations (383) and total link strength (6). Shanghai Maritime University ranks ninth in citations (381) and total link strength (9). Chang'an University ranks tenth in citations (331) and total link strength (9).

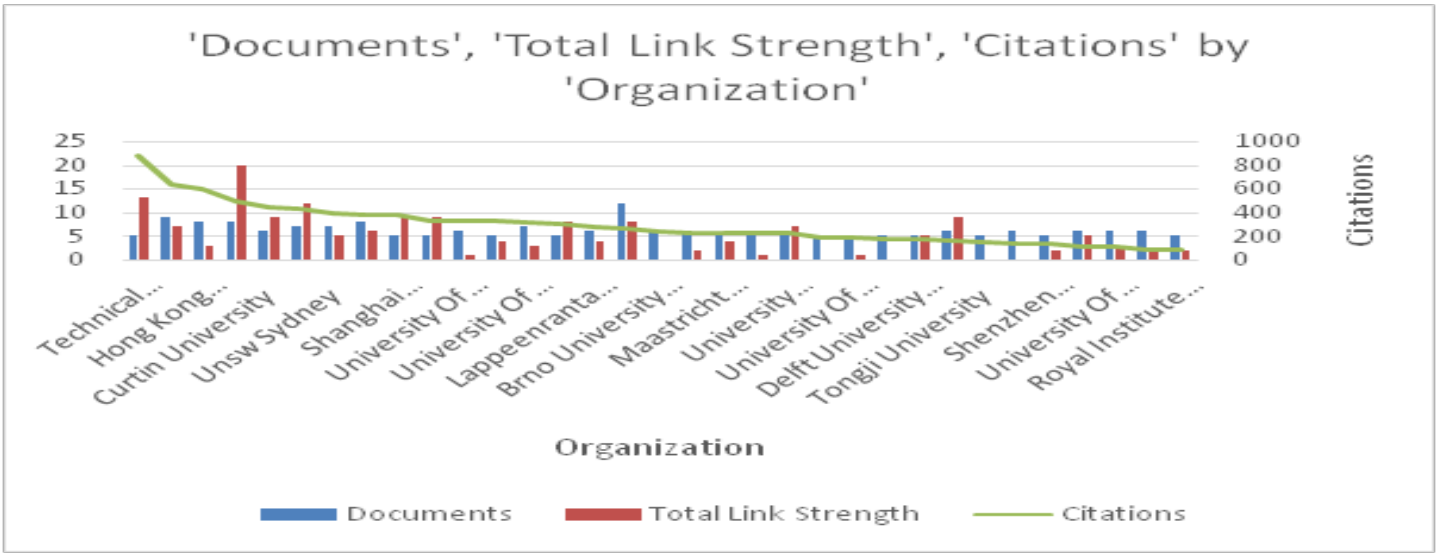

Figure2:Citations based on Organizations

Citations based on Countries.

When investigating citations based on countries, a minimum document selection of 5 was utilized. The findings indicate that out of the 76 countries examined, 35 of them satisfy the established thresholds.

Table 3 and Figure 3 reveal that there are 6 clusters.

Cluster 1, represented in red, consists of nine countries: Belgium, France, Germany, Iran, Japan, Malaysia, Pakistan, Turkey, and Vietnam. This cluster exhibits several notable characteristics. Firstly, it showcases a diverse geographical representation, encompassing countries from Europe (Belgium, France, Germany) and Asia (Iran, Japan, Malaysia, Pakistan, Turkey, and Vietnam). This diversity suggests a range of research perspectives and contributions within the cluster.

Secondly, there is variation in research output among the countries in Cluster 1. Germany and France have higher document counts, indicating more scientific publications than others. In contrast, Japan has a relatively lower document count within this cluster.

Moreover, the citation counts within Cluster 1 reflect variations in research impact. Belgium, France, Germany, and Japan have higher citation counts, indicating that their research has been cited more frequently, thus demonstrating a potentially greater research impact. On the other hand, Iran, Malaysia, Pakistan, Turkey, and Vietnam have lower citation counts, suggesting a potentially smaller research influence on other studies.

The diversity of research strengths and expertise within Cluster 1 presents opportunities for research collaboration and knowledge exchange among the countries involved. Collaborative efforts can leverage the different strengths and contribute to scientific advancements across various disciplines.Lastly, the countries in Cluster 1 exhibit distinct research focus areas. For instance, Japan is renowned for advancements in technology and engineering, while Germany is recognized for its contributions to various scientific fields. Conversely, France has a strong presence in arts, humanities, and social sciences. This diversity in research focus areas adds richness and depth to Cluster 1.

Cluster 1 comprises geographically diverse countries with varying research output, impact, and focus areas. This cluster presents opportunities for collaboration and knowledge sharing while showcasing each country's unique contributions and strengths within the research landscape.

Cluster 2, represented in green, consists of Brazil, Canada, India, Indonesia, Saudi Arabia, South Korea, and Taiwan. This geographically diverse cluster showcases varied research output and impact. Countries like India, Canada, and Saudi Arabia exhibit higher citation counts, indicating significant research influence. India, Indonesia, and South Korea are emerging research hubs, while Brazil and Canada have regional research influence. Collaboration opportunities exist within this cluster, fostering scientific advancements and interdisciplinary research.

Cluster 3, represented in violet colour, comprises six countries: Chile, Colombia, Spain, Switzerland, the United Kingdom, and the United States. This cluster demonstrates geographic diversity, including the representation of South America, Europe, and North America. The countries within Cluster 3 exhibit high research output, with the United States leading in document count, followed by the United Kingdom and

Spain. Moreover, these countries have a strong research impact, particularly the United States and the United Kingdom. The presence of Spain, Switzerland, and the United Kingdom highlights European research excellence. Cluster 3 offers potential collaborative opportunities among these research powerhouses, fostering advancements and knowledge exchange. However, it is important to note that these inferences are based solely on the given data. Further analysis is needed to understand the research activities and collaborations within Cluster 3 fully.

Cluster 4, represented in yellow color, consists of Finland, Italy, the Netherlands, Norway, Portugal, and Sweden. In this cluster, the countries exhibit similar research impact, as indicated by their comparable total link strengths. There is potential for research collaboration and knowledge exchange within Cluster 4, leveraging each country's strengths. These countries represent European research excellence and offer opportunities for interdisciplinary collaborations. Further analysis of document counts and citations would provide more insights into the specific research outputs of each country within the cluster. However, it is important to consider that these inferences are based on the given data and additional domain-specific knowledge is required to fully understand the research activities and collaborations within Cluster 4.

Cluster 5 (Violet Red) comprises four items: Australia, Czechia, Denmark, and Thailand.

The organizations included in this cluster are Curtin University, Technical University of Denmark, Brno University of Technology, and Asian University.

These organizations have varying numbers of documents, citations, and total link strength.

The Technical University of Denmark has the highest number of documents (5) and citations (882) among the organizations in this cluster.

Utrecht University has this cluster's highest total link strength (20).

This cluster represents a diverse group of organizations from different countries.

Cluster 6 (Blue)consists of three items: China, Egypt, and the United Arab Emirates.

The organizations included in this cluster are Chang'an University, Shanghai Maritime University, Tianjin University of Finance and Economics, Zhejiang University of Finance and Economics, Shenzhen University, and Tongji University.

These organizations also have varying numbers of documents, citations, and total link strength.

Chang'an University has the highest number of documents (5) and citations (331) among the organizations in this cluster.

Tongji University has this cluster's highest total link strength (5).

This cluster represents organizations from China, Egypt, and the United Arab Emirates, indicating a geographical diversity within the cluster.

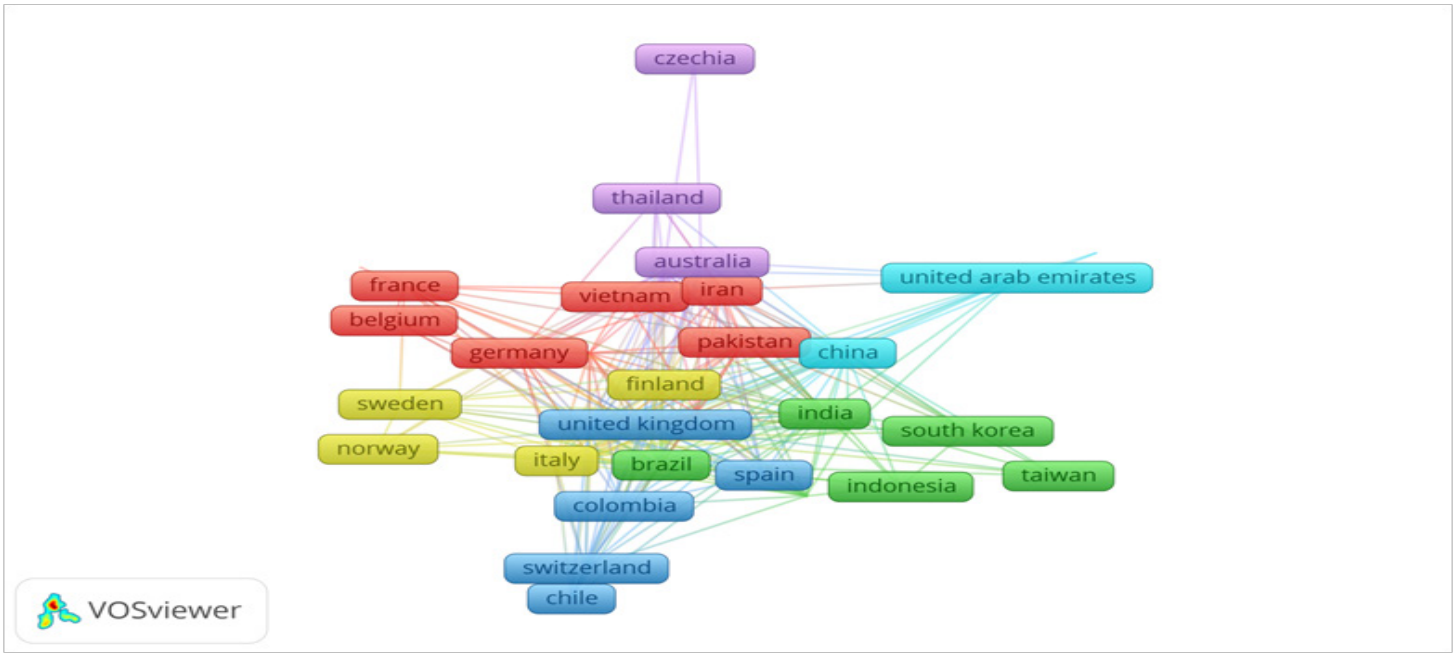

Figure 3: Netework Visualization of Clusters.

Table 3: Top Country with 5 Documents.

Sl No.	Country	Documents	Citations	Total Link Strength
1	China	135	5207	155
2	United Kingdom	73	3634	163
3	Australia	55	2707	105
4	United States	49	2436	100
5	India	47	1750	119
6	Brazil	43	1574	90
7	Denmark	17	1362	105
8	Netherlands	30	1277	85
9	Iran	18	955	28
10	Italy	32	938	67
11	Malaysia	21	859	35
12	Finland	19	822	45
13	Spain	21	816	23
65	Sweden	26	700	33
14	Portugal	14	686	62
15	United Arab Emirates	11	650	24
16	Germany	22	637	32
17	Turkey	10	596	25
18	South Korea	14	538	25
19	Pakistan	16	529	42
20	Vietnam	6	458	10
21	Canada	18	445	34
22	Taiwan	9	364	13
23	Saudi Arabia	6	349	16
24	Egypt	6	307	2
25	Czechia	8	301	2
26	France	12	281	19
27	Colombia	6	234	18
28	Norway	8	222	17
29	Thailand	5	218	11
30	Indonesia	5	213	8
31	Switzerland	9	211	24
32	Japan	5	174	1
33	Belgium	5	116	5
34	Chile	5	17	13

Conclusions

Firstly, the study reveals the existence of collaborative clusters, indicating groups of researchers who frequently work together in supply chain finance. These clusters highlight research communities or teams actively engaging in collaborative research efforts and knowledge sharing.

Furthermore, the analysis identifies influential authors or nodes within the collaboration network. These authors have a higher degree of collaboration, indicating their pivotal role in connecting different research groups and facilitating knowledge exchange. Their con-

tributions play a vital role in fostering collaboration and driving supply chain finance research advancement.

This analysis of citations based on documents shows how citation and link counts of documents reflect their impact and visibility. The most influential document was "Geissdoerfer (2018)", which had the most citations and links. The most popular document was "Pieroni (2019), " ranked second in citations. The least impacting document was "Rosati (2019)", which had fewer citations. Papers with no citations had limited interest. Citations were higher for older papers and lower for fresh ones, which may need more time to be recognized.

The analysis of citations based on authors identifies four clusters of authors based on their research productivity and citation impact.

Cluster 1 has Garza-Reyes, Jose Arturo, Govindan, Kannan, Kazancoglu, Yigit, Mangla, Sachin Kumar, and Mardani Abbas. They have similar numbers of publications and citations and a good link strength among them.

Cluster 2 has Jugend, Daniel, Mcaloone, Tim C., Pigosso, Daniela C.A., and Salvador, Rodrigo. They also have similar numbers of publications and citations and a valuable link strength among them.Cluster 3 has Arrigo, Elisa, Chen, Lujie, and Jia, Fu. They have different levels of publications and citations and degrees of influence and recognition. Cluster 4 has simply Kirchherr, Julian. He has more publications but fewer citations and links than other clusters. His work is analyzed to understand its impact on his field.

Additionally, the study discusses the geographical distribution of collaboration in supply chain finance. It identifies patterns of regional collaboration, highlighting the presence of research collaborations within specific countries or regions. This suggests the existence of localized research communities and the importance of regional networks in advancing knowledge in supply chain finance.

Moreover, the study assesses the interdisciplinary nature of collaboration in supply chain finance. It identifies collaborations between researchers from different disciplinary backgrounds, such as finance, operations management, logistics, and economics. This interdisciplinary collaboration signifies the multidimensional nature of supply chain finance research and its integration with various fields of study.

Overall, this bibliographic study on collaboration in supply chain finance provides insights into the collaborative networks, influential authors, geographical distribution, and interdisciplinary research within this field. These findings increase our understanding of the collaborative dynamics in supply chain finance, facilitating future collaborations, knowledge sharing, and interdisciplinary research efforts.

Limitations

Another limitation of the study is its temporal scope, focusing solely on 2020 to 2023. Consequently, the findings may not capture the broader context or long-term trends in the field under investigation.

Furthermore, it is crucial to acknowledge that the study exclusively employs bibliographic analysis as the evaluation method, potentially overlooking other valuable approaches for assessing research impact or quality. Alternative methods, such as qualitative assessments or expert opinions, could provide additional insights not captured by bibliographic analysis alone.

Moreover, the study's analysis is restricted to publications in the English language, neglecting research published in other languages. This exclusion may result in an incomplete understanding of the research landscape, particularly considering that constructive contributions can emerge from non-English language journals.

These limitations should be considered when interpreting the study's findings, as they may impact the generalizability and comprehensiveness of the results within the scientific community.

Future Research Direction

Using the current web page context, I can rewrite your summary as follows:

The following topics are suggested as possible avenues for future research in the field of supply chain finance using bibliographic methods:

Comparative analysis: Explore the differences and similarities of supply chain finance practices in diverse sectors, regions, or countries and their implications for financial performance and supply chain efficiency.

Emerging research areas: Identify and monitor the development of new topics or subfields within supply chain finance, which is a primary consideration in future research and collaborations.

Integration of qualitative approaches: Complement bibliographic analysis with qualitative research methods to gain more in-depth insights into supply chain finance initiatives' practical implementation and outcomes.

Sustainability focus: Examine the incorporation of environmental, social, and governance (ESG) factors in

supply chain finance practices and their impact on sustainability and sustainable supply chain management.

Network analysis: Use network analysis techniques to understand collaboration patterns among researchers, institutions, and industries in supply chain finance.

Evaluation of program effectiveness: Perform a systematic review and meta-analysis of studies assessing the effectiveness of specific supply chain finance programs, measuring their impact on various outcomes.

Comparative analysis of finance models: Compare diverse supply chain finance models, such as factoring, platforms, or discounting, to understand their advantages, limitations, and adoption trends.

These future research directions will enhance knowledge and provide valuable insights for researchers, practitioners, and policymakers in supply chain finance.

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