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Information Technology In Logistics 2018-2023: Bibliometric Analysis

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ABSTRACT

The purpose of this study is to assess the applicability and development of the "Country of Origin" concept on literature found in the Scopus database. By searching for the keywords "Country of origin" in the Title, Keywords, and Abstract fields, we were able to locate 247 articles from the time period (2018–2023). Based on bibliometric analyses, 658 writers were found for this work, with Santangelo G.D. being the most well-known of them all. There are the most publications in 2018 overall. The United States, the United Kingdom, and Australia were the three most productive nations. Journal of International Business Studies was the journal with the most current content. VOS Viewer software is used to perform analysis and visualisation. The comprehensive review of country of origin as a cutting-edge instrument for consumer interaction provided by this bibliometric study aids scholars, practitioners, and marketers in understanding the significance of country of origin and its implications. The concept of "Country of Origin" is new and is still in its infancy. As a result, Indian research on Country of Origin is somewhat underrepresented in the global perspective.

INTRODUCTION:

We go into more detail about how open standards and data platforms fit into this comprehensive strategy. We examine top ideas that we now see in the logistics area using these three components. We then combine all of the components into a model to show how we see logistics and Technology operating together in the future. We go into more detail about how open standards and data platforms fit into this comprehensive strategy. (Norton, 2000)

Over the past two decades, the logistics services sector has seen tremendous expansion, and in recent years, both the importance of healthy supply connections and the work done by LSPs has gained recognition. For particular clients, LSPs do standard warehousing tasks such receipts, shipping, inspections, and packing; they then charge the client for these services. Leading supply chains' need for connectivity and communication have given LSPs a more sophisticated role. This study adds to the scant body of work that has looked at how the performance of logistic service providers in Hungary relates to major success criteria (IT innovations). Unfortunately, there hasn't been much focus on the function of LSP's IT competence up to this point. (Judit Oláh, 2018)

Industry-specific IT investments include the development of integrated corporate governance systems, the use of fleet management systems, the use of information technologies to support warehouse operations, the introduction of IT systems (interfaces, VMIs) to meet client expectations, and the development of hardware and software for storage and backup. (Alexandra Lagorio, 2022) Modern security tools (cameras, alarms, and access control systems) and other contemporary hardware gadgets.

As it is a crucial step in the development of the companies involved, identifying the management success elements supporting the fundamental competitiveness of logistics organisations is required to accomplish these goals. (Yu, 2017) Information technology (IT) is the creation, processing, storage, secure transmission, and exchange of all forms of electronic data. IT includes the use of computers, networking, storage, and other physical devices.

LITRATURE REVIEW

(Judit Oláh, 2018)There are currently a huge number of adequate measurements available, hence there is no urgent need to generate new performance metrics. Instead, a technique for assessing current measures is required. The final user, the organisational structure, the present business environment, and several other factors all have a role in the specific choice of performance measures. Yet, a few common traits can be found to help in the creation of "excellent" performance measures. (: Alexandra Lagorio, 2022)

Transportation and logistics operations under supply chain management are organised using information technology solutions while taking into account the full logical chain, which encompasses all firms. A considerable potential can be increased by expanding the concept of market trends. The rate of change in a particular sector of the economy, including transportation, is the driving force. To complete the transportation

activities, several flows need to be regulated (Lumsden, 2007). One flow is the flow of resources, which includes both internal and external resources like forklifts, pallets, and other load units.

Information on all chain-related actions, from predicting customer demands to distributing orders to shipping, is contained in the union of all enterprises in the logical chain. This makes it easier for all the major logistical issues, including the supply-production-distribution-transportation issues, to interact.

The expansion of information networks is the primary metric for measuring SCM development. Concentrated on logistics procedures are needed for the effective use of logistics information to locate in the chain of communication networks. The integration of long-distance freight information and commodities flows is based on information and communication networks. In this case, for instance, using Internet technology has a significant impact on accelerating delivery times. Take firm A, a maker of DLC equipment, as an example.

Using information technology tools in conjunction with a consideration of the complete logical chain, which encompasses all enterprises, supply chain management processes for transportation and logistics are organised. A considerable potential can be increased by expanding the concept of market trends. The rate of change in a particular sector of the economy, such as transportation, is the motivating factor. To complete the transportation activities, several flows need to be regulated (Lumsden, 2007). One flow is the flow of resources, which includes both internal and external resources like forklifts, pallets, and other load units. Information on all chain-related actions, from predicting customer demands to distributing orders to shipping, is contained in the union of all enterprises in the logical chain. This makes it easier for all the major logistical issues, including the supply-production-distribution-transportation issues, to interact.

The expansion of information networks is the primary metric for measuring SCM development. Concentrated on logistics procedures are needed for the effective use of logistics information to locate in the chain of communication networks. The integration of long-distance freight information and commodities flows is based on information and communication networks. In this case, for instance, using Internet technology has a significant impact on accelerating delivery times. Think about the producer of DLC equipment Company A, which might cut the restocking period from 60 to 8 days and the shipping time by a few days. Using integrated information systems can result in substantial economic advantages.

BIBLIOMETRIC ANALYSIS

Bibliometric analysis evaluates and projects present and future research paths using statistical and other quantitative techniques (Yu, 2017). Hence, the study of employee turnover can be used to uncover trends using bibliometrics. To analyse published data in terms of the text and information about the author, affiliation, co-citation, citations, and keywords utilised, a group of techniques known as "bibliometrics" is used. (2000) Norton By using bibliometric analysis as a method of evaluation, one can assess the impact of technology on an author's output and follow the development of research activity over time. Bibliometric maps can be made and viewed using a computer programme called VOSviewer. The scientific community can use Vosviewer without charge. Using this programme, users can create authors and journals.

METHODOLOGY

Although ethnocentrism and the idea of a person's place of technology are hot subjects in the literature, the bibliometric perspective of this approach is not adequately explored. In order to close the gap identified by the literature evaluation, exploratory research was therefore carried out. Also, this research will help to update our understanding of this idea aims of the study.

By giving the new information, the study attempted to add knowledge to the subject of Information & Technology in logistics and associated themes.

- To be aware of the yearly research papers on " Information & Technology in logistics " that are published in Scopus.
- To list the top journals in Scopus according to " Information & Technology in logistics."
- To locate the most pertinent Scopus authors under " Information & Technology in logistics."
- To pinpoint a nation's contribution in Scopus

DATA COLLECTION

The published Scopus database was used in the study. The best database for high-quality research articles in the discipline of management is Scopus. The study makes use of the Scopus database because it was discovered that several well-known sources, like Google Scholar, lacked its high-quality research. When the keyword "Information & technology in logistics" was entered in the Scopus database, 13 articles were discovered in the article title, abstract, and Keywords. We further limited our research to the years 2018 through 2023 and discovered 45 publications. Also, the investigation discovered 145 articles after excluding the language, source, document, and subject areas.

A total of 13 articles written by 1463 authors from 2018 to 2023 were used for the final analysis. Out of 244 documents 201 documents were cited at least once. The average citation per document is 20.52 per course.

Particulars	Result
Total Articles	13
Total Authors	1463
Time Frame	11 Years
Organisations	1095
Countries	73
Total Journals	45
Reference	25371
Cited Sources	10544
Cited Authors	34592

Table 1 Overview of the Data

Year wise Publication

Publication growth remains popular amongst researchers during the last five years. A few ups and downs have been observed but not at a drastic level. Information & Technology in logistics is still popular in the marketing and international business research field. The majority of the authors are either from, transportation or supply chain management. The research was basically conducted in Developed nations mostly.

Year	Articles
2018	46
2019	63
2020	56
2021	84
2022	54
2023	3

Table 2 Year wise Publication and Average

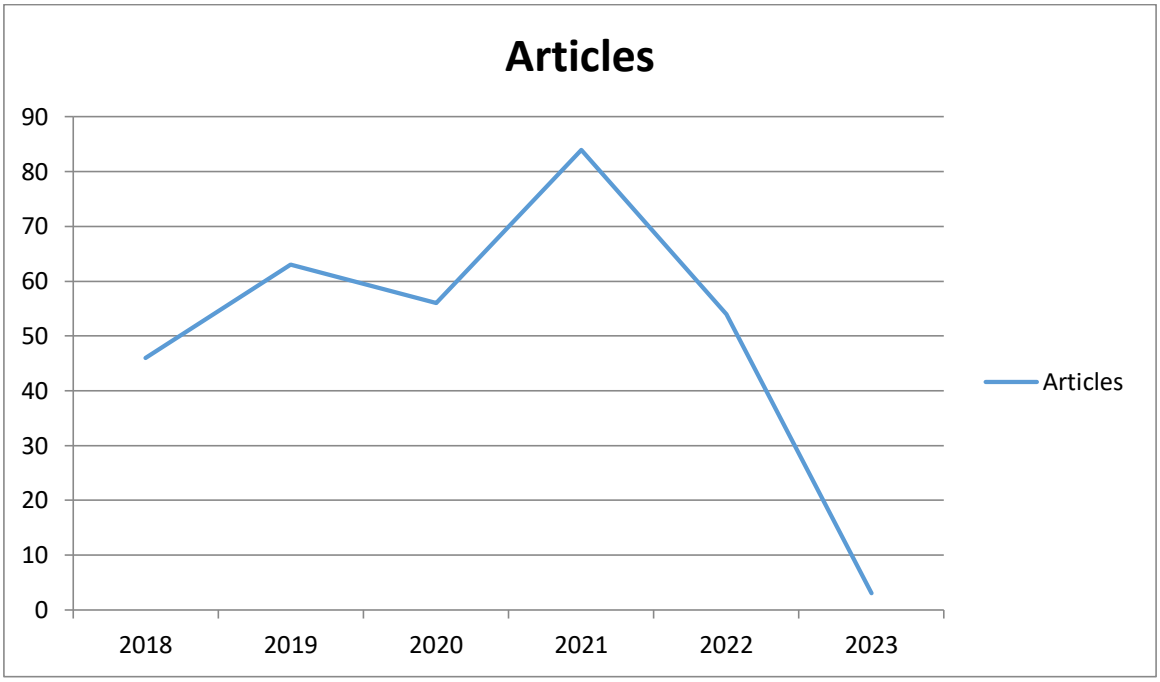

Figure 1 Publication Details

Author Analysis

Table 3 represents the having more than 20 citations for their research focusing on the "Information & Technology in logistics" during the years 2018 to 2023. The leading authors for research in the domain are bouzon m. (2018), de campos e.a.r. (2018), de paula i.c.. (2019), gunasekaran a. (2019), hazen b.t. (2020), kumar n.. (2018), lai p.-l.. (2018),Antonetti p. (2019),Li p. (2018), lai p.-l.. (2018) He x. (2018), menachemi n. (2018). The articles focusing on the supply chain, RFID, adoption of the new marketers in the local market, transportation, and effect of the IT are majorly discussed by the authors. The articles for the year 2018 and 2019 got higher citations due to long time span compare to the recent publications. Table 3 identified that the leading authors with higher citation while table 4 with authors having higher articles.

Authors	Citation
bouzon m.	25
de campos e.a.r.	12
de paula i.c.	12
fan y.	0
gunasekaran a.	267
hazen b.t.	132
kumar n.	3
kusi-sarpong s.	39
lai p.-l.	25
li x.	83
li y.	0
liu b.	20

liu l.	1
liu x.	1
menachemi n.	29
singh r.k.	353
wang l.	3
wang x.	55
wang y.	10
zhang j.	61
zhang y.	9
bouzon m.	25
de campos e.a.r.	12
de paula i.c.	12
fan y.	0
gunasekaran a.	267
hazen b.t.	132
kumar n.	3
kusi-sarpong s.	39
lai p.-l.	25
li x.	83
li y.	0
liu b.	20

Table 3 Top Authors based on Citation

Table 4 represented the number of articles published by the individual authors concentrating on "Information & Technology in logistics". Authors such as bag s.f.m.,Diamantopoulos ivanov d m gupta s., gunasekaran a. are having more publication in the field of "information & technology in logistics. gutierrez a. and holmström j. published highest 5 articles focusing on the "Information & Technology in logistics". handley s.m is the associate professor having research orientation for the subject of global strategy, innovation, and sustainability while chua c.e.h is the chaired Professor having the research orientation for the Information tehnology.

Author	Documents	Citations	Average Citation
bag s. (2021)	3	110	0.07
ivanov d. (2021)	3	158	0.018
divisekera s. (2018)	3	125	0.024
li x. (2018)	3	79	0.03
lai y. (2018)	4	140	0.02
gupta s. (2018)	3	82	0.036
heilig l. (2017)	3	87	0.034
gunasekaran a. (2017)	3	157	0.019
gutierrez a. (2015)	3	180	0.016
tachizawa e.m. (2015)	3	78	0.038
ab talib m.s. (2015)	3	94	0.031
agrawal s. (2015)	3	350	0
holmström j. (2014)	4	170	0.02
wang f. (2012)	3	151	0.019
hazen b.t. (2012)	3	100	0.03
chua c.e.h. (2012)	3	149	0.02
rai a. (2012)	3	226	0.01
handley s.m. (2012)	6	169	0.03
prajogo d. (2012)	4	755	0
bag s. (2021)	3	110	0.02

Table 4 Authors with Publications

Journal Analysis

Table 5 represents the information related to journals that published maximum articles focusing on the "Information & Technology in logistics". The journals from the logistics service, competitveness, and International logistics published the research papers. The Highest publication made by the blockchain technology Review, ISSN : 0265 – 1335, Published by Emerald publication. Journal of business research, Print ISSN: 0148-2963, Online ISSN: 1873-7978, published by Elsevier Publications. All these journals are managed by top-class publication houses like emerald, Elsevier, Willey etc.

Source	Documents	Citations	Average citation
Benchmarking	3	4	1.333
e3s web of conferences	3	8	2.667
environmental science and pollution research	3	5	1.667
international journal of environmental research and public health	3	9	3
international journal of logistics management	4	20	5
international journal of logistics research and applications	3	6	2
international journal of logistics systems and management	3	8	2.667
international journal of physical distribution and logistics management	3	5	1.667
international journal of production economics	3	5	1.667
international journal of supply chain management	3	15	5
Benchmarking	3	4	1333
e3s web of conferences	3	8	2.667
environmental science and pollution research	3	5	1.667
international journal of environmental research and public health	3	9	3
international journal of logistics management	3	20	6.667
international journal of logistics research and applications	4	6	1.5
international journal of logistics systems and management	3	8	2.667

Table 5 Journals with number of Documents

Table 6 represents the total citation of the journals. The leading journals with citations are journal of blockchain facility, information technology, journal of RFID, journal of sustainability, journal of consumer research, and journal of supply chain management research published by leading publishers like emerald willey, etc.

Source	Citations
Benchmarking	4
e3s web of conferences	8
environmental science and pollution research	5
international journal of environmental research and public health	9
international journal of logistics management	20
international journal of logistics research and applications	6
international journal of logistics systems and management	8
international journal of physical distribution and logistics management	5
international journal of production economics	5
international journal of supply chain management	15
iop conference series: earth and environmental science	13
journal of cleaner production	5
journal of enterprise information management	4
journal of modelling in management	4
proceedings of 2013 6th international conference on information management, innovation management and industrial engineering, iciii 2013	4
proceedings of the international conference on industrial engineering and operations management	10
springer proceedings in business and economics	7
supply chain management	6
sustainability (switzerland)	21
technological forecasting and social change	4
uncertain supply chain management	7
wit transactions on information and communication technologies	25
Benchmarking	4

Table 6 Journals with highest citation

Table 7 represents the organizations which promoted the research in the field of "Information & Technology in logistics". college of business and public management, university of la verne, la verne, ca 91750, university of turku, turun yliopisto, fi-20014, finland, Perth, department of transport and supply chain management, school of management, college of business and economics, school of business, worcester polytechnic institute,

100 institute road, worcester, ma 01609-2280, united state are leading supporter for the research in the domain of Information & Technology in logistics.

Organization	Documents	Citations
college of business and public management, university of la verne, la verne, ca 91750, united states	2	2
department of aviation and supply chain management, auburn university, auburn, al, united states	2	2
department of information technology, university of turku, turun yliopisto, fi-20014, finland	2	2
department of international logistics, chung-ang university, seoul, south korea	2	2
department of management studies, indian institute of technology delhi, hauz khas, new delhi, 110016, india	2	2
department of transport and supply chain management, school of management, college of business and economics, university of johannesburg, johannesburg, south Africa	2	2
krannert school of management, purdue university, west lafayette, in 47907, united states	2	2
national institute for transport and logistics, dublin institute of technology, dublin, Ireland	2	2
school of business administration, sichuan university, chengdu, china	2	2
school of business, dalian university of technology, panjin liaoning province, 124221, china	2	2
school of business, worcester polytechnic institute, 100 institute road, worcester, ma 01609-2280, united states	2	2
school of economics and management, beijing jiaotong university, beijing, china	2	2
school of management science and engineering, dalian university of technology, no. 2 linggong road, ganjingzi district, dalian liaoning province, 116023, china	2	2
turku centre for biotechnology, university of turku, turku, fi-20520, finland	2	2
vaal university of technology, south Africa	2	2

Table 7 Organisation wise publications

The following table shows the most active/productive research territory/country in the field of Information & Technology in logistics. The United States of America is the most active country in the field of Information & Technology in logistics with 18 publications accounting for 25% of total research work done on the topic. It is followed by australia with a total of 15% publications and India ranked elventh with a publication count of 11 (0.05%) documents.

Country	Documents	Citations	Average Citation
Australia	18	1225	68.05
Brazil	23	201	8.73
China	107	769	7.186
France	17	412	24.23
Germany	23	704	30.60
India	53	1109	20.92
Malaysia	18	254	14.11
russian federation	26	141	5.42
Spain	16	272	17
Taiwan	18	348	19.33
united kingdom	31	843	27.19
united states	82	2007	24.47

Table 8 Country wise Publication

CO-OCCURANCE ANALYSIS

The co-occurrence network map for the keywords is examined and analysed in this section of the study. Keyword co-occurrence can accurately reflect the research hotspots in the discipline fields. Keyword co-occurrence shows the research hotspots in the field. VOSviewer software is used to build the network of keyword co-occurrence. The construction of nodes as a result of the network analysis of keywords indicates the weight of the nodes; the larger the node, the greater the weight. The distance between the nodes represents the relationship between them. The relationship between two words is greater the closer they are together, and the line drawn between two words indicates this. The frequency of co-occurrence of the keywords is shown by the thickness of the line between the nodes. The same colour is used to represent nodes that are part of the same cluster. The employee turnover keywords were sorted into clusters by VOSviewer. Information & technology in logistics" appears the most frequently in search terms. The terms Logistics service providers; information technology; performance; competitiveness; distribution management " are among those with a high frequency. A keyword's frequency of co-occurrence indicates how strong a link is. The quantitative statistic used to display the relationship between two nodes is the link strength. The 999 words in the keyword network analysis are divided into 12 clusters.

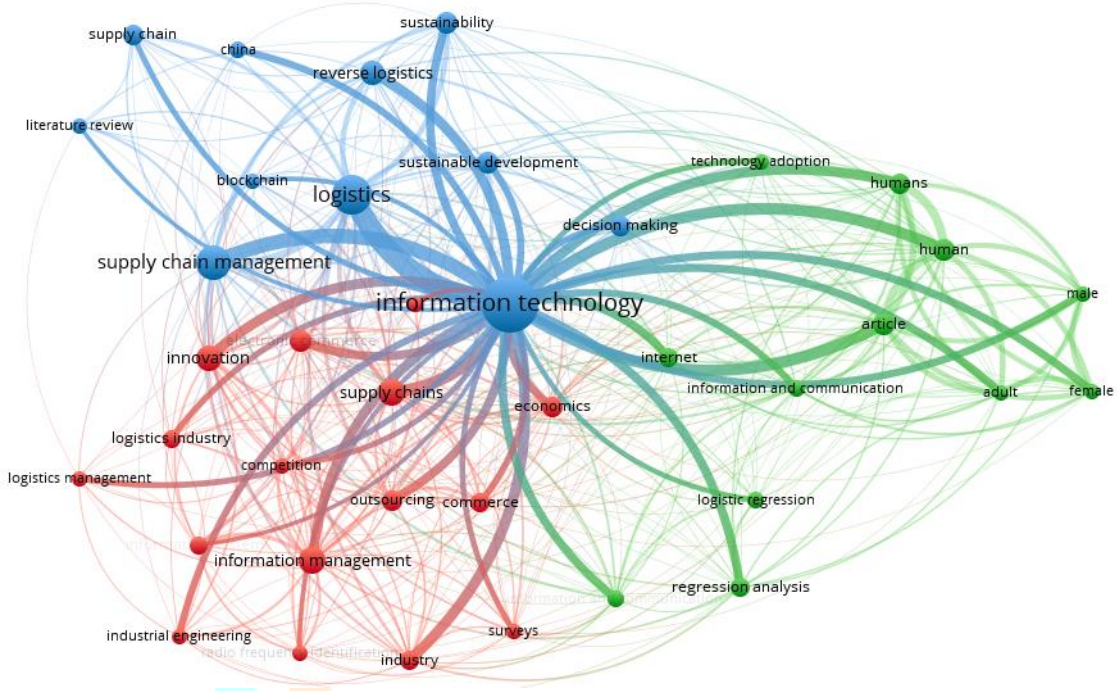

Figure 2 Keywords Co - occurrence network

Without any collaboration, it generally becomes quite challenging for an individual to conduct study on any subject. Therefore, there are numerous projects that need co-authorship and teamwork to complete the research. As a result, co-authorship analysis is crucial when performing bibliometric analysis to evaluate the level of research in a particular topic at the time. The study's analysis of nation co-authorship is presented here. With the use of the software Vosviewer, this co-authorship analysis was completed. The examination of country co-authorship reveals the extent of communication between countries and those that have a significant impact on this field of study. Large nodes are used to represent powerful nations. Without any cooperation, conducting research on any subject becomes typically fairly difficult for an individual. As a result, many initiatives require collaboration and teamwork to finish the research. Therefore, co-authorship analysis is essential when conducting bibliometric analysis to assess the current state of research in a certain field. Here is an analysis of nation co-authorship from the study. This co-authorship analysis was done using the programme Vosviewer. The level of communication between nations and those that significantly influence this field of study is revealed by looking at national co-authorship. Strong nations are represented by large nodes.

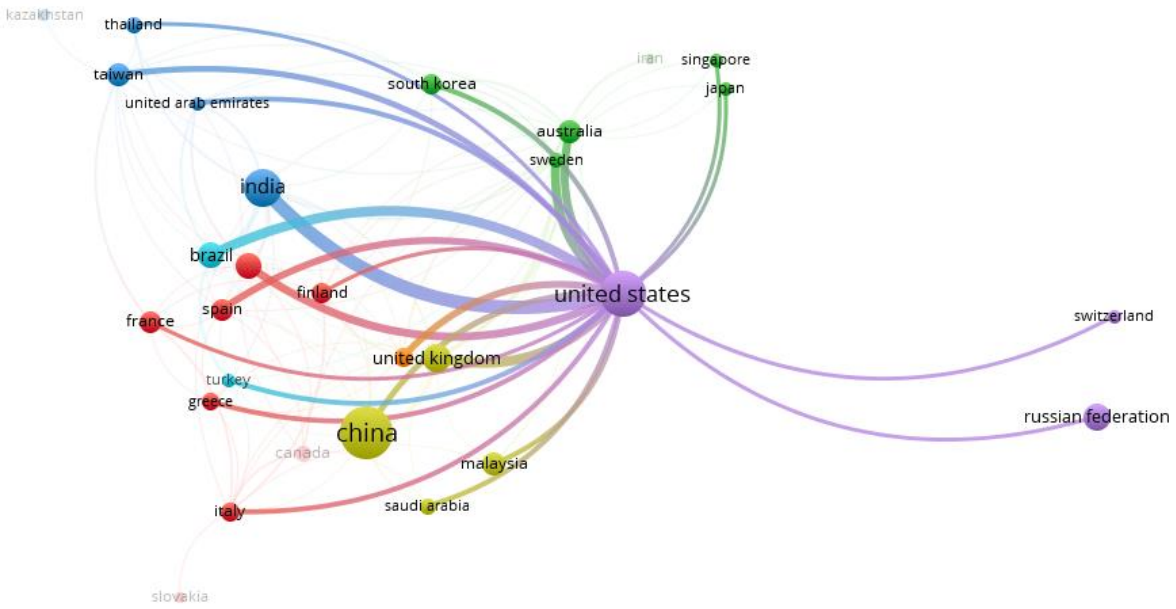

Figure 3 Country wise Co Authorship Network

CONCLUSION

This study presents the results of a bibliometric analysis of articles on Information & technology in logistics,from 2018 to 2023 that were indexed in the Scopus database. Product Information & technology in logistics, RFID, top journals, institutions, and author and institution collaborations have all been looked into. In the paper, the co-occurrence of keywords has also been investigated. Between 2018 and 2023 (till January 7, 2023), there were roughly 244 country-of-origin documents. Over time, there has been a growth in the number of authors and references. The United States of America and the United Kingdom are two of the nations in this region with the fastest economic growth. In terms of Total Publications across time, the United States of America consistently held the top spot. The university with the highest output is WSB University, Poland, and with more than 7 universities has the second highest number. The most fruitful journal in the area of the Information & technology in logistics is the International Journal of information technology. Both the institutions and the authors have fairly high rates of international cooperation. The most popular terms in the research paper are "warehouse management ," "information technology," and "supply chain management." Either the title, abstract, or keywords contain these words. This research paper may be helpful for the researchers to understand information & technology from a large perspective. In the future, we wish to analyze all the publications texts to identify the current trends and development of future trends in this field.

LIMITATION

Although several limitations of this study can be identified, the bibliometric analysis performed in this study to analyse the material on the Information & technology in logistics, can provide information that is beneficial to scholars and practitioners. Future studies can choose a bigger number of alternative journals, as well as conference proceedings and books from various domains, for example, as the top 5 journals mentioned here don't reflect the complete body of the information & technology in logistics research. Both extending and reducing the time range might improve the outcomes. Future research on the information & technology in logistics can look into the authorship of the paper, including the influence the author has on the field, and look into the ramifications of each issue and the theories that have been employed and put to use in those studies.

REFRENCES

Chirstopher Martin, Logistics And Supply Chain Management, Pitman Publishing Co London 2017.

Zhou, Hui. "Application of RFID Information Technology in Logistics Warehouse Management." *2022 IEEE Asia-Pacific Conference on Image Processing, Electronics and Computers (IPEC)*. IEEE, 2022.

Muessigmann, Benjamin, Heiko von der Gracht, and Evi Hartmann. "Blockchain technology in logistics and supply chain management—A bibliometric literature review from 2016 to January 2020." *IEEE transactions on engineering management* 67.4 (2020): 988-1007.

Oláh, Judit, et al. "Information technology developments of logistics service providers in Hungary." *International Journal of Logistics Research and Applications* 21.3 (2018): 332-344.

Introna, Lucas D. "The impact of information technology on logistics." *International Journal of Physical Distribution & Logistics Management* (1991).

Grefen, Paul, et al. "An integrated view on the future of logistics and information technology." *arXiv preprint arXiv:1805.12485* (2018).

Kherbach, Oualid, Rafik Kaboul, and Yasmine Deghir. "Information Technology and Systems in Transport Supply Chains." *European Journal of Formal Sciences and Engineering* 5.1 (2022): 61-72.

Parfenov, Alexander, et al. "Transformation of distribution logistics management in the digitalization of the economy." *Journal of Open Innovation: Technology, Market, and Complexity* 7.1 (2021): 58.

Capuce, Chris, and Yossi Sheffi. "A review and evaluation of logistics metrics." *The International Journal of Logistics Management* 5.2 (1994).

Feng, Bo, and Qiwen Ye. "Operations management of smart logistics: A literature review and future research." *Frontiers of Engineering Management* 8.3 (2021): 344-355.

Mageto, Joash. "Current and Future Trends of Information Technology and Sustainability in Logistics Outsourcing." *Sustainability* 14.13 (2022): 7641.

Werf, Daniel. "Information Technology and Data Use in 1PL-4PL Logistic Companies." (2021).

Popova, Irina, et al. "Application of the RFID technology in logistics." *Transportation Research Procedia* 57 (2021): 452-462.