

Trends and Research Patterns in Multi-Criteria Decision-Making-based Logistics Performance Evaluation: A Bibliometric Analysis of Web of Science and Scopus Databases

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ABSTRACT

This study aims to identify key trends and research directions in the field of logistics and Multi-Criteria Decision Making (MCDM) through a comprehensive bibliometric analysis. The increasing complexity of logistics operations, combined with the need to consider multiple criteria in decision-making, has made MCDM methods increasingly important in this area. For this purpose, the study employed bibliometric analysis using data from the Web of Science (WoS) and Scopus databases. Trends and research patterns in MCDM-based logistics performance evaluation were examined using Bibliometrix and VOSviewer. The findings indicate that the literature on logistics and MCDM has continuously evolved, reflecting growing academic interest over time. Furthermore, strong connections were identified with key contemporary themes such as sustainability, competitiveness, and performance improvement. These findings suggest that MCDM approaches are increasingly recognized as important tools for addressing complex decision problems in the logistics sector. Finally, the results indicate that future research focusing on sustainability and competitiveness could further contribute to both theoretical development and practical applications in logistics.

1. Introduction

Logistics involves a wide range of activities that necessitate different metrics for effective performance evaluation. Ideally, these performance metrics should be organized and managed as an integrated system, ensuring they complement and enhance each other. This strategy offers decision-makers a thorough understanding of the logistics process [1]. Logistics services are essential for facilitating international trade and play a significant role in fostering the growth and development of the local economy. These services create crucial connections across various sectors within the local economy and link the domestic market with the global marketplace. Efficient transport and logistics systems strengthen interdependencies among sectors such as agriculture, manufacturing, agri-food, and tourism. A key objective for producers is to deliver their goods to consumers safely, cost-effectively, and with minimal delays [2]. Additionally, the effectiveness of logistics is crucial for a nation's economic competitiveness, and its significance for economic development, diversification,

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and poverty alleviation is well acknowledged. The World Bank established the Logistics Performance Index (LPI) through an international survey of freight forwarders and express carriers to assess a country's logistics performance [3].

The LPI provides a comprehensive assessment of logistics performance and serves as a global benchmark for evaluating the efficiency of trade and transport facilitation across nations. This tool helps identify the specific logistics challenges and opportunities that each country faces [4]. The LPI consists of six distinct indicators that highlight the key factors affecting a country's logistics performance: (1) the efficiency of customs and border management processes ("Customs"); (2) the quality of trade and transportation infrastructure ("Infrastructure"); (3) the ease of arranging competitively priced shipments ("Ease of arranging shipments"); (4) the proficiency and quality of logistics services, which includes trucking, forwarding, and customs brokerage ("Quality of logistics services"); (5) the capability to monitor and trace shipments ("Tracking and tracing"); and (6) the reliability of deliveries arriving at their intended destinations within the scheduled or expected timeframes ("Timeliness") [5]. Over the past few decades, the LPI has become a valuable tool for policymakers and researchers in formulating logistics and freight transportation strategies [6, 7].

The complex nature of logistics presents significant challenges for performance evaluation. This complexity has driven the widespread adoption of MCDM methods to assess and compare logistics performance across different countries. MCDM techniques provide a structured framework for incorporating multiple criteria, allowing for reliable rankings of countries based on their overall logistics performance [8–11]. In recent years, a substantial body of literature has emerged that focuses on logistics performance measurement using MCDM frameworks [12–16]. Despite numerous studies employing various MCDM techniques to evaluate and rank countries by logistics performance, the existing literature has predominantly focused on methodological applications and comparative assessments. Conversely, there has been a notable lack of emphasis on investigating the evolution of research, emerging topics, and collaboration patterns within this growing field of study. Only a limited number of studies have reviewed the current literature on LPI assessment using bibliometric approaches [17]. Recently, bibliometric analysis has gained traction as a rigorous method for exploring and analyzing social science literature [18].

To the best of the author's knowledge, this study is the first effort to evaluate research trends in logistics performance using the Bibliometrix and VOSviewer tools, based on data from the WoS and Scopus databases spanning 2007 to 2025. Bibliometrix is recognized as a dependable tool for bibliometric analysis due to its open-source nature, analytical capabilities, and alignment with widely accepted academic methodologies [19, 20]. Furthermore, this research aims to address a significant gap by employing advanced visualization tools, specifically VOSviewer, to systematically explore relevant academic publications from the WoS and Scopus databases within the designated timeframe. Additionally, the current study aims to create visual knowledge maps illustrating key research trends and patterns.

The rest of this paper is structured as follows: The second section outlines the materials and methods, providing a comprehensive overview of the research design, data sources, and methods employed. The third section presents the key findings from the analysis, which are critically assessed in the context of existing literature and theoretical frameworks. The concluding section summarizes the main findings and examines their broader implications, highlights the study's contributions to the field, and offers recommendations for future research.

2. Materials and Methods

This research employs bibliometric analysis to comprehensively investigate the intellectual framework and the evolution of concepts within the specified research domain. Over the years,

bibliometric studies have progressed notably, contributing to various scientific advancements [21]. Bibliometrics encompasses the analysis of published materials, including books, journal articles, datasets, and blogs, and their associated metadata, such as abstracts, keywords, and citations, using statistical methods to illustrate connections among published works [22]. This field leverages mathematical and statistical techniques to scrutinize scholarly publications. The pioneering contributions of Alfred Lotka and Samuel Bradford laid the groundwork for systematic data collection, resulting in the establishment of fundamental laws of bibliometrics. The modern era of bibliometrics began with Eugene Garfield's introduction of citation analysis and the systematic organization of processing. Essential components of bibliometric analysis include the extent of database coverage, the consistency and accuracy of data, the nature of the data fields, search capabilities, and the analysis and application of various metrics [23].

For this study, we selected two highly esteemed scientific databases, namely WoS and Scopus, as our primary data sources. These databases are recognized as leading resources for bibliometric research due to their rigorous journal inclusion criteria and trustworthy citation information [24–26]. To analyze and present the results, we employed Bibliometrix and VOSviewer software. Bibliometrix operates within the R software environment, which functions as both a programming language and a free platform for statistical analysis, backed by the R Core Team and the R Foundation for Statistical Computing. This comprehensive mapping analysis tool facilitates three key stages of the bibliometric analysis process: (i) importing data and converting it into R format; (ii) conducting bibliometric analysis on the dataset; and (iii) creating matrices [27]. Conversely, VOSviewer is specifically designed to construct and visually depict bibliometric networks, effectively clustering and mapping relationships among authors, keywords, and publications [28].

Within this framework, bibliographic information sourced from the WoS and Scopus databases was imported into the Bibliometrix and VOSviewer platforms for further analysis. Moreover, to align with the study's objectives, the bibliometric analysis was structured to address the following research questions:

RQ1: What are the key statistics for publications on “MCDM-Based Logistics Performance Evaluation” in the WoS and Scopus databases?

RQ2: What has been the trend in the number of publications on “MCDM-Based Logistics Performance Evaluation” in the WoS and Scopus databases in recent years?

RQ3: What is the author's productivity in publications on “MCDM-Based Logistics Performance Evaluation” in the WoS and Scopus databases?

RQ4: Which organizations provide the most support for publications on “MCDM-Based Logistics Performance Evaluation” in the WoS and Scopus databases?

RQ5: What is the distribution of the countries of the corresponding authors in publications on “MCDM-Based Logistics Performance Evaluation” in the WoS and Scopus databases?

RQ6: What are the topics of the most-cited publications on “MCDM-Based Logistics Performance Evaluation” in the WoS and Scopus databases?

RQ7: What are the most frequently used author keywords in publications on “MCDM-Based Logistics Performance Evaluation” in the WoS and Scopus databases?

RQ8: What is the thematic evolution of publications on “MCDM-Based Logistics Performance Evaluation” in the WoS and Scopus databases?

RQ9: What is the landscape of international collaboration in publications on “MCDM-Based Logistics Performance Evaluation” in the WoS and Scopus databases?

RQ10: What is the network of relationships among the most frequently used keywords in publications on “MCDM-Based Logistics Performance Evaluation” in the WoS and Scopus databases?

After formulating the research questions, Table 1 presents the thematic keyword groups employed to implement the bibliometric search strategy. This table includes terms associated with MCDM-based logistics performance evaluation research, ensuring a systematic capture of the pertinent literature.

Table 1
Keywords used in the bibliometric search

Topics	Keywords
MCDM-based Logistics Performance Evaluation	("Logistics Performance Index" OR "LPI" OR "Logistics performance" OR "logistics efficiency" OR "logistics capability") ("MCDM" OR "MCDA" OR "MADM" OR "multi criteria decision making" OR "multi criteria decision analysis" OR "decision-making" OR "decision support system" OR "hybrid MCDM" OR "Integrated MCDM")

To ensure that only publications pertinent to MCDM-based logistics performance evaluation research are included in the analysis, Boolean operators and carefully selected thematic keyword combinations have been developed. The search equation utilized during this process is detailed in Table 2.

Table 2
Equation formulation

Database	Equation Search
WoS	(TOPIC-KEYWORDS ("Logistics Performance Index" OR "LPI" OR "Logistics performance" OR "logistics efficiency" OR "logistics capability") AND PUBYEAR > 2006 AND PUBYEAR < 2026 AND (LIMIT-TO (SRCTYPE, "Open Access")) AND ("MCDM" OR "MCDA" OR "MADM" OR "multi criteria decision making" OR "multi criteria decision analysis" OR "decision-making" OR "decision support system" OR "hybrid MCDM" OR "Integrated MCDM") (LIMIT-TO (DOCTYPE, "Article" OR "Review Article")) AND (LIMIT-TO (WOSCATEGORIES, "Operations Research Management Science") OR LIMIT-TO (WOSCATEGORIES, "Transportation") OR (WOSCATEGORIES, "Industrial Engineering") OR (WOSCATEGORIES, "Business & Economics") OR (WOSCATEGORIES, "Computer Science Interdisciplinary Applications") LIMIT-TO (WOSCATEGORIES, "Management") OR LIMIT-TO (WOSCATEGORIES, "Transportation")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (WOSINDEX, "SCI-E") OR (LIMIT-TO (WOSCATEGORIES, "SSCI") OR (LIMIT-TO (WOSCATEGORIES, "ESCI"))
Scopus	TITLE-ABS-KEY (("Logistics Performance Index" OR "LPI" OR "Logistics performance" OR "logistics efficiency" OR "logistics capability") AND ("MCDM" OR "MCDA" OR "MADM" OR "multi criteria decision making" OR "multi criteria decision analysis" OR "decision-making" OR "decision support system" OR "hybrid MCDM" OR "integrated MCDM")) AND PUBYEAR > 2006 AND PUBYEAR < 2026 AND OA = 1 AND (DOCTYPE = "ar" OR DOCTYPE = "re") AND LANGUAGE (English) AND (SUBJAREA (ENGI) OR SUBJAREA (COMP) OR SUBJAREA (BUSI) OR SUBJAREA (SOCI) OR SUBJAREA (DECI))

The initial analysis encompassed publications from 2007 to 2025. This period was selected because the LPI was launched in 2007, providing a comprehensive overview of scholarly contributions since its inception and enabling a thorough examination of the field's development, theoretical framework, and emerging research trends. To maintain linguistic consistency during the bibliometric mapping process, publications in languages other than English were excluded. Furthermore, only open-access publications were chosen to promote transparency, accessibility, and reproducibility in the analysis. The dataset was subsequently refined to concentrate on research areas pertinent to the study's objectives, including Operations Research, Management Science, Transportation Science and Technology, and Industrial Engineering. Ultimately, the analysis was restricted to publications

indexed in the SCI-E, SSCI, ESCI, and Scopus categories to ensure the inclusion of high-quality, globally recognized scholarly contributions.

On May 22, 2026, a search was conducted in the WoS database using the keywords listed in Table 1. This search yielded a total of 273 publications. Subsequently, the filters detailed in Table 2 were applied, resulting in the selection of 43 publications for bibliometric analysis. Together, a similar search was performed in the Scopus database using the same keywords, yielding 483 publications, of which 82 qualified for bibliometric analysis. Duplicates were removed from both the WoS and Scopus databases, leading to a final dataset of 95 publications for analysis. Bibliometrix and VOSviewer software (version 1.6.20) were utilized to generate and visualize the bibliometric maps. A summary of the bibliometric research process is presented in Figure 1.



Fig. 1. Bibliometric research procedure

3. Data and Analysis

Bibliometrix is recognized as a reliable tool for conducting bibliometric research due to its open-source structure, extensive analytical capabilities, and support for widely accepted academic methodologies [19, 20]. Accordingly, this study employed Bibliometrix for the analyses presented in this section, which was developed using the specified software. The findings derived from these analyses are discussed here. Additionally, VosViewer was utilized in this section, as it is another valuable resource for academic research [28].

3.1. Basic Statistics (RQ1)

Although the publication search began in 2007, publications meeting the filter criteria were first recorded in 2013. The fact that the 95 publications meeting the criteria appear in 70 sources can be interpreted as an indication that the field has taken on a multidisciplinary structure. The annual increase in publications at 30.77% demonstrates that the field remains current. This situation indicates that the field remains important to researchers. The average age of the documents, being 3.69 years, indicates that the field is still in its early stages of development. This result is valuable in showing that the field remains active for new researchers. The citation count of 19.11 per document is considered a good value for many academic fields. The use of 391 author keywords across 95 articles demonstrates a broad and diverse conceptual distribution in the publications. It was determined that 311 authors contributed to the publications, while the number of single-authored studies was quite low. The average of 3.43 co-authors per article indicates that collaborative publication is widespread in the research field. However, the fact that the rate of international co-authorship remains at 11.58% suggests the field has room for growth in global academic collaboration (Table 3).

Table 3

Basic statistics of publications

Description	Results
Timespan	2013:2025
Sources (Journals, Books, etc)	70
Documents	95
Annual Growth Rate %	30.77
Document Average Age	3.69
Average citations per doc	19.11
Keywords Plus (ID)	484
Author's Keywords (DE)	391
Authors	311
Authors of single-authored docs	10
Single-authored docs	10
Co-Authors per Doc	3.43
International co-authorships %	11.58

3.2. Number of Publications by Year (RQ2)

Figure 2 shows the annual number of publications in this research field. The publication trend, which began in 2013, ranged from 1 to 3 in the early years. During these years, the first contributions to the literature began to emerge. Subsequently, an upward trend became evident in 2020. This upward trend appears to have continued beyond 2023. This trend is particularly noteworthy, especially for new researchers in the doctoral program. This research field is new, and researchers working in this area could become key influencers in the logistics performance and MCDM ecosystems.

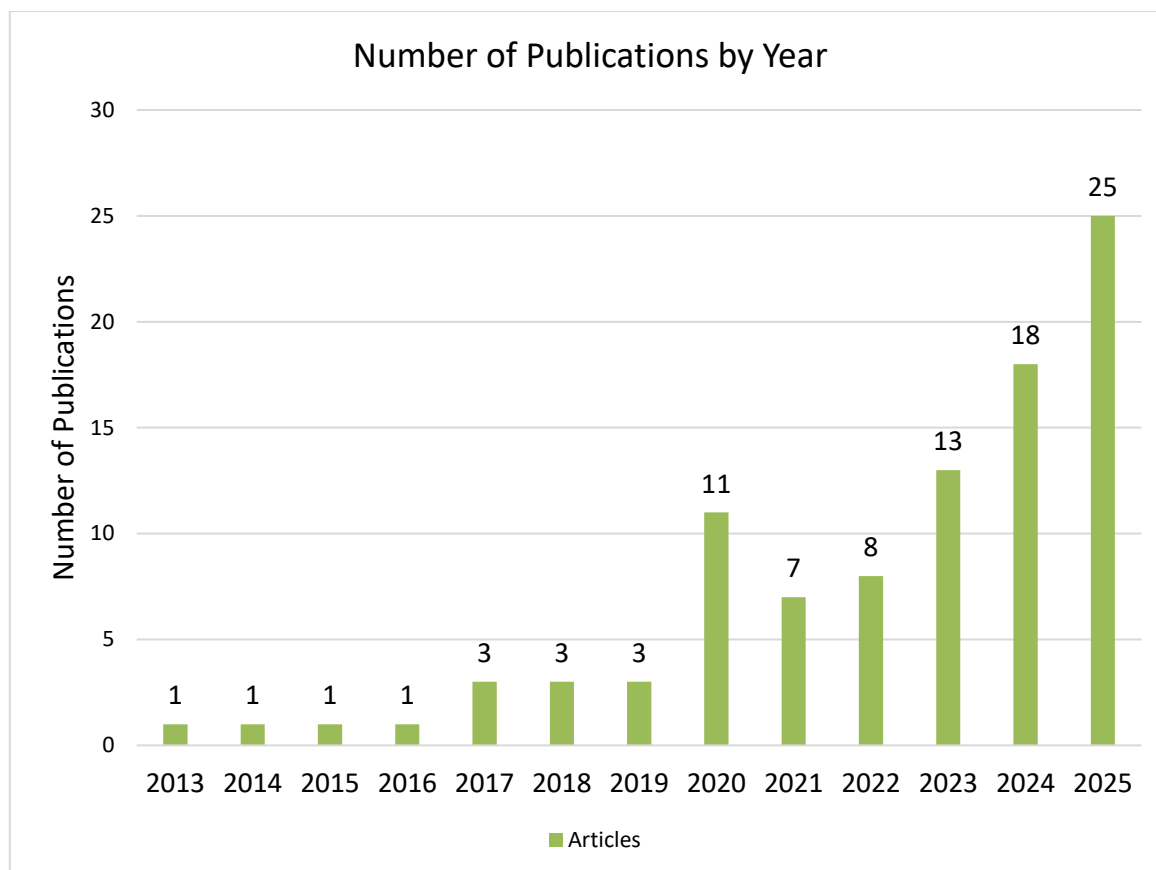


Fig. 2. Number of publications by year

3.3. Author Productivity Through Lotka's Law (RQ3)

The analysis of Lotka's Law, described by Lotka [29] and whose results are presented in Table 4, shows that author productivity is distributed quite unevenly [29]. Of the 311 authors in the dataset, 300 (96.5%) have produced only one publication. In contrast, only 11 authors have produced two or more publications. This situation indicates that a core group of highly productive researchers has not yet emerged in the field. It also suggests that the research field has a dispersed author structure. The predominance of authors with a single publication may indicate that the field is an emerging research topic. This situation could be seen as an opportunity for new researchers and doctoral students.

Table 4

Author productivity through Lotka's law

Documents Written	Number of Authors	Proportion of Authors
1	300	0,965
2	7	0,023
3	4	0,013

3.4. Most Relevant Affiliations (RQ4)

An examination of the institutional distribution presented in Table 5 reveals that 44.4% of the institutions among countries with five or more publications are located in China. This finding demonstrates that China has significant institutional representation in research. Countries outside of China - namely, Taiwan, Ireland, Spain, Bosnia and Herzegovina, and Ukraine - are represented by only one institution each. This situation indicates that research activities are spread across different

regions, with East Asia and Europe standing out. Consequently, it is evident that the research field attracts global interest, yet scientific output is concentrated in East Asia.

3.5. Corresponding Author's Countries (RQ5)

Table 6 illustrates the geographic distribution of scientific output in the research field and the structure of international collaboration. According to the results, China is by far the country with the highest output, accounting for 18.9% of publications, indicating that it plays a leading and central role in the field of research. This finding is consistent with the distribution of authors by institutional affiliation presented in Table 6. Turkiye ranks second with an 8.4% contribution; however, the fact that all studies involve single-country collaboration (SCP = 8, MCP = 0) indicates limited participation in international research networks. In contrast, the United Kingdom stands out as one of the country's most open to international collaboration, with a high MCP rate of 66.7% despite a low number of publications. Brazil and Iran also exhibit some level of international collaboration, but in countries such as India, Indonesia, Bangladesh, Ireland, and Spain, the studies are entirely domestically produced. Overall, the findings indicate that the research field has a China-centric production structure. Yet the level of collaboration varies significantly across countries.

Table 5

Most relevant affiliations

Country	Affiliation	Articles
China	Wenzhou Medical University	12
Taiwan	National Kaohsiung University of Science and Technology	7
Bosnia and Herzegovina	University of East Sarajevo	7
Ireland	University College Dublin	6
Spain	University of Valencia	6
China	Fujian Agriculture and Forestry University	5
China	Hainan University	5
China	Inner Mongolia University	5
Ukraine	Ministry of Education and Science of Ukraine	5

Table 6

Corresponding author's countries

Country	Articles	Articles %	SCP	MCP	MCP %
China	18	18,9	16	2	11,1
Turkiye	8	8,4	8	0	0
Brazil	5	5,3	4	1	20
Indonesia	4	4,2	4	0	0
India	3	3,2	3	0	0
Ireland	3	3,2	3	0	0
Spain	3	3,2	3	0	0
United Kingdom	3	3,2	1	2	66,7
Bangladesh	2	2,1	2	0	0
Iran	2	2,1	1	1	50

3.6. Most Globally Cited Documents (RQ6)

An examination of the top 10 most-cited topic headings presented in Table 7 reveals that the field under study is fundamentally structured around performance evaluation. In particular, the prevalence of topics such as the Logistics Performance Index, logistics performance indicators, supply chain performance, and logistics efficiency indicates that the field is largely built upon measurement, comparison, and performance analysis. This suggests that MCDM is positioned not as a theoretical centre but rather as a set of applied methods for solving logistics problems. Overall, these findings

indicate that the logistics and MCDM literature constitute a research field that is performance-evaluation-based and method-oriented, yet is increasingly evolving toward an interdisciplinary structure.

3.7. Most Frequent Words (RQ7)

The keyword distribution presented in Table 8 indicates that the fields of logistics and MCDM are strongly centered around performance measurement, efficiency analysis, and sustainable decision support systems.

Table 7
Most Global Cited Documents

Author	Article Topic	Total Citations	T.C. per Year	Normalized T.C.
[6]	LPI indicators	233	25,89	2,57
[30]	Land use or land cover	143	23,83	4,22
[31]	Peri-urban wetland ecological degradation	112	16,00	3,47
[32]	Key performance indicators in the logistics industry	104	9,45	1,00
[33]	LPI	93	9,30	2,16
[34]	Supplier selection	84	21,00	6,10
[35]	Logistics efficiency	65	5,00	1,00
[8]	LPI	61	12,20	4,00
[36]	Logistics hub location problem	57	8,14	1,77
[37]	Supply chains performance	54	3,86	1,00

When evaluated in terms of trends, the prominence of concepts such as sustainability and the circular economy indicates that the field is expanding toward an environmental dimension. Additionally, keywords such as geographic information system (GIS) and last-mile delivery reveal that logistics research is shifting toward more applied areas such as spatial analysis and urban logistics. Phrases like “emerging markets” and “logistics efficiency” indicate that logistics performance in developing economies is increasingly becoming a subject of research. Overall, the field possesses an interdisciplinary structure that is evolving from performance measurement toward sustainable and smart logistics systems.

Table 8
Most frequently used author keywords

Words	Occurrences	Words	Occurrences
Logistics	16	emerging markets	3
logistics performance index	16	logistics efficiency	3
Multi-Criteria Decision Making/MCDM	11	analytic hierarchy process	2
logistics performance	10	circular economy	2
supply chain	6	data envelopment analysis (dea)	2
Critic	4	Euclidean distance-based aggregation	2
data envelopment analysis	4	freight transport	2
decision making	4	freight transportation	2
Efficiency	4	geographic information system (gis)	2
decision support system	4	key performance indicators	2
Sustainability	4	last-mile delivery	2

3.8. Thematic Evolution (RQ8)

The Thematic Evolution analysis presented in Figure 3 shows that the research field has evolved over time around certain core themes. It also indicates that research has diversified through the adoption of some new methodological approaches. According to the findings, the logistics theme has

been carried over directly from the 2013–2023 period to the 2024–2025 period. At the same time, it has evolved into more specific sub-themes such as logistics performance, LPI, efficiency, and data envelopment analysis. This indicates that while the field initially focused on general logistics topics, it has gradually shifted toward performance measurement, efficiency assessment, and analytical performance analysis. In particular, the Inclusion Index values of 1.00 for the logistics performance and efficiency themes indicate that these topics remain strongly aligned with logistics research from the previous period.

Another key finding is that the MCDM theme is linked to the “data envelopment analysis (DEA)” theme during the 2024–2025 period. This indicates that MCDM approaches are increasingly integrating with performance and efficiency measurement techniques. Additionally, the circular economy theme has evolved into the sustainability theme in the subsequent period. This reveals that the field has undergone a transformation focused on environmental and sustainability issues. Although the frequency of these themes is low, it is evident that the circular economy approach has been repositioned within broader sustainability research.

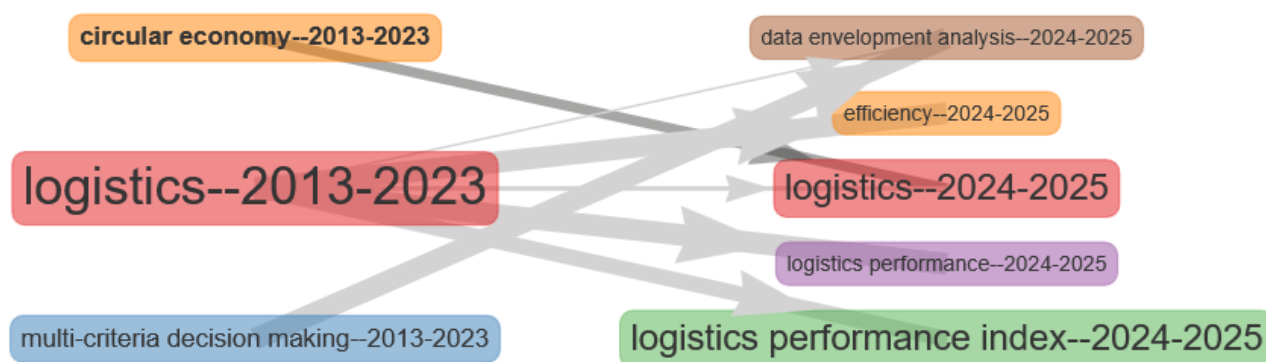


Fig. 3. Thematic evolution

3.9. Country Collaboration Network (RQ9)

The results of the Collaboration Network analysis for countries presented in Table 9 indicate that international collaboration in the research field is organized into multiple clusters of countries. According to the network analysis, China and the United Kingdom are the most influential actors in the network, as they have the highest PageRank values (0.107 and 0.095, respectively). Furthermore, the fact that both countries have a betweenness value of 12.5 indicates that they serve as important bridges connecting different groups of countries and facilitating the flow of information. This demonstrates that these countries not only have high visibility but also play a central role in coordinating international research collaborations.

An examination of the cluster structure reveals that the network consists of six distinct collaboration groups. The first two clusters stand out as the most active and interconnected structures within the network. In contrast, the other clusters exhibit more limited and closed collaboration networks. In particular, the fact that some countries have zero betweenness values despite high closeness values indicates that these countries maintain close relationships within their own small collaboration groups but do not play a connecting role across the network as a whole. Consequently, the study reveals that although international collaborations exist in the research field, the network is not fully integrated.

3.10. Author keywords co-occurrence network (RQ10)

Figure 4 presents the relationship network of author keywords used in the academic literature examined. The analysis was conducted using Association clustering. During this process, the Attraction value was set to 2. Keywords used three or more times were included in the analysis.

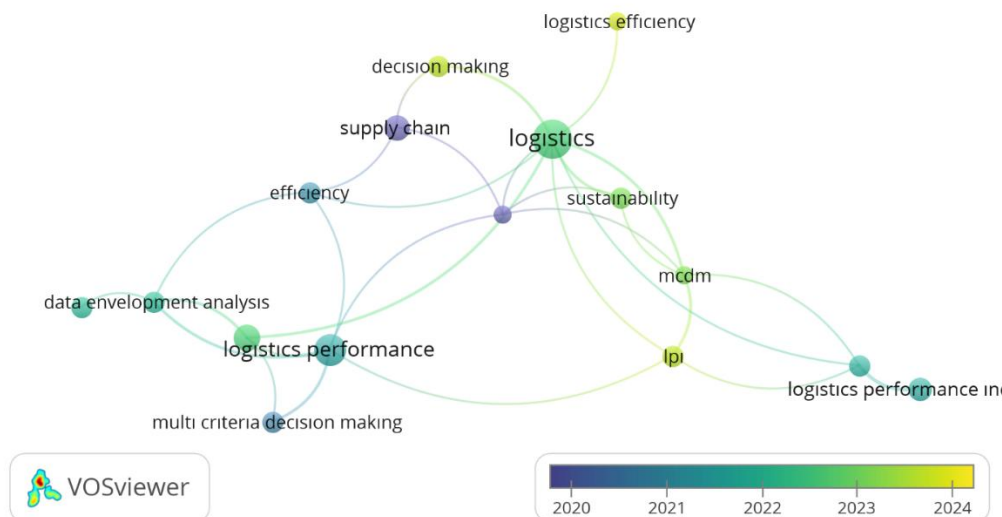


Fig. 4. Author keywords co-occurrence network

The analysis resulted in 16 keywords being grouped into 5 distinct clusters. The first cluster includes terms related to logistics performance and MCDM. This highlights the importance of the MCDM method in determining logistics performance. The second cluster illustrates the relationship between logistics performance, sustainability, and emerging economies. The third cluster shows the relationship between decision-making, efficiency, and the supply chain. The fourth cluster shows the relationship between CRITIC and LPI. At this point, the frequent use of the CRITIC method becomes apparent. The fifth cluster, meanwhile, shows that logistics and logistics efficiency are interconnected in academic papers, as reflected in their frequency of use. These results indicate that logistics performance is related to key themes such as efficiency and sustainability.

Table 9

The country's collaboration network

Node	Cluster	Betweenness	Closeness	PageRank
United Kingdom	1	12,5	0,091	0,095
Bangladesh	1	2,5	0,071	0,058
France	1	0	0,063	0,041
Netherlands	1	0	0,056	0,024
China	2	12,5	0,091	0,107
Brazil	2	0	0,071	0,04
Australia	2	2,5	0,071	0,057
Korea	2	0	0,056	0,039
Thailand	2	0	0,063	0,04
Iran	3	0	0,5	0,056
USA	3	0	0,5	0,056
Slovakia	3	0	0,5	0,056
Ukraine	4	0	1	0,056
Kazakhstan	4	0	1	0,056

Table 9

Continued

Node	Cluster	Betweenness	Closeness	PageRank
Azerbaijan	5	0	1	0,056
Russia	5	0	1	0,056
Malaysia	6	0	1	0,056
Pakistan	6	0	1	0,056

4. Discussion

The COVID-19 pandemic has been a major disruption for the logistics sector. During this period, pandemic-related logistics disruptions have affected people's daily lives. Today, societies have come to realize the importance of logistics in meeting their needs on time and at reasonable costs. This awareness, combined with the experiences of the COVID-19 pandemic, is compelling countries to implement innovative improvements in their logistics operations. Since each country possesses different capabilities, expertise, and technological infrastructure, logistics performance varies from country to country. Another factor is income levels across countries. In this context, it is important to analyze logistical efficiency and draw conclusions about the logistics sector [38].

In this context, this study contributes to the literature on logistics performance. The findings indicate that, in addition to the keywords used in publications on logistics performance and MCDM, popular topics such as efficiency, sustainability, the circular economy, freight transportation, and last-mile delivery have come to the fore.

4.1. Logistics Performance and the MCDM Method

In the study by [16], EU countries were evaluated based on their LPI performance [39]. The evaluation utilized various MCDM methods—namely MACROS, SAW, and TOPSIS—which were compared in the analysis. As seen in this study and in Ozekenci [10], MCDM methods can rank countries from best to worst based on their LPI performance [10]. Based on the findings of this study, "CRITIC" is among the most frequently used keywords in logistics performance-themed research. This finding indicates that this method is recognized as an accepted approach in the literature on this subject.

4.2. Competitiveness in Logistics Performance

The findings of this study indicate that competitiveness is a central theme in the literature regarding logistics performance and MCDM. Within this framework, various factors influence logistics performance. Li and Guangwen [39] emphasize the crucial role of artificial intelligence in enhancing logistics operations for businesses [39]. This technology acts as an essential tool for companies to identify and capitalize on opportunities. Researchers further contend that artificial intelligence is vital for restructuring logistics operations and adapting to rapidly changing technological environments.

Additionally, Haralambides *et al.* [40] examine the connection between logistics performance and digitalization. They underscore the importance of advancements in digital technology infrastructure, improvements in port and railway systems, and the training of industry personnel. However, it is essential to recognize that enhancements in logistics performance cannot be achieved solely through technology and infrastructure [40]. In this context, Khuc *et al.* [41] highlight the impact of cultural structures on logistics performance [41]. They assert that cultural factors can transform the operational characteristics of logistics systems by influencing intersectoral coordination, decision-making processes, and risk adaptation.

4.3. Publications on Logistics Performance in a National Context

The findings of this study underscore China's prominent role in publications about logistics performance and the MCDM method. Wahyu *et al.* [42] emphasize China's efforts to bolster its logistics capabilities through initiatives like the Belt and Road Initiative [42]. The positive impact of this project, particularly on logistics infrastructure, is thoroughly discussed. In conclusion, China appears to be actively supporting substantial logistics projects, including those under the Belt and Road Initiative, as reflected in the academic literature. It is essential to acknowledge that any initiative-including innovations aimed at enhancing logistics performance-can significantly boost a country's competitiveness. In this regard, policymakers should prioritize improving their nation's logistics performance to enhance overall competitiveness [43].

5. Conclusion

In the current global competitive environment, logistics performance is of strategic importance. This importance is linked to economic growth, trade volume, and the efficiency of supply chains for nations and businesses alike. Given the multifaceted nature of logistics performance, it requires the simultaneous assessment of various interrelated criteria. As a result, MCDM methods play a crucial role in facilitating a systematic, objective, and comprehensive analysis of logistics performance. This study investigates the development of this research area from a bibliometric perspective, emphasizing the relationship between logistics performance and MCDM methods. The analysis reveals trends in the literature, identifies leading countries, and clarifies thematic structures. The findings deepen the understanding of the methodological approaches used in logistics performance evaluations and provide a framework for future research. In this regard, the study makes a significant contribution to the academic literature by offering a thorough overview of the current state of research on logistics performance and MCDM. Notably, there has been no discernible upward trend in the number of these publications in recent years, which may present a valuable opportunity for emerging researchers. The extent of international collaboration among countries varies significantly. While countries such as China and the United Kingdom actively foster international partnerships, others, such as Turkey, show no evidence of such collaborations in their corresponding authors. An analysis of the ten most-cited articles reveals that the field is interdisciplinary. The findings indicate a significant emphasis on performance evaluation, with the MCDM method emerging more as a practical tool for addressing logistics-related challenges than as a theoretical framework.

The distribution of keywords used by authors shows that research in logistics and MCDM primarily focuses on performance measurement, efficiency analysis, and sustainable decision support systems. Additionally, emerging trends such as sustainability, the circular economy, GIS, last-mile delivery, efficiency, and emerging markets are prevalent, reflecting the field's expansion into an interdisciplinary domain. Thematic analysis indicates that the initial research focused on logistics and MCDM centered around general logistics themes; however, it has progressively shifted toward performance measurement, efficiency assessment, and analytical performance analysis. Furthermore, the findings suggest that this research domain has evolved to place greater emphasis on environmental and sustainability-related topics. An analysis of the country cooperation network reveals that nations are organized into six distinct clusters. Within these groups, both China and the United Kingdom assume pivotal roles, acting as central nodes that engage with other clusters. In contrast, the remaining groups exhibit a more closed structure. This distinction highlights China and the United Kingdom as key connecting countries in logistics and MCDM. Moreover, the author's keyword collaboration analysis indicates that logistics performance is linked to themes such as sustainability, efficiency, and the circular economy. This relationship provides valuable insights into

emerging trends within the sector, suggesting that researchers may benefit from aligning their studies with these themes.

In conclusion, the literature surrounding logistics performance is evolving, presenting significant opportunities, especially for newcomers in the field. The connection between logistics performance and contemporary issues such as sustainability, competitiveness, and the circular economy underscores the potential for new research initiatives to contribute to meaningful discourse.

5.1. Policy Recommendations

The findings indicate that logistics performance is intricately linked to key challenges in the current business environment, including competitiveness, sustainability, and the circular economy. Enhancing logistics performance is vital for promoting a competitive and sustainable economy. To accomplish this, improvements are required across various areas, including artificial intelligence, infrastructure development, and personnel training in the logistics sector. Investments by both businesses and governments in the logistics sector will positively impact economic development.

5.2. Limitations of This Study

The dataset used in this research presents certain limitations. Specifically, the study relies solely on data obtained from the WOS and Scopus databases. Furthermore, the bibliometric analyses conducted in this study are somewhat constrained in scope. The focus is mainly on basic statistics, keyword analysis, and country-level analysis, while more in-depth analyses, such as author-citation relationships, are not addressed. This omission further constitutes a limitation of the study.

5.3. Research Recommendations

This research can be further improved by updating the dataset and employing various bibliometric analyses. Additionally, the study can be revisited from a new perspective by integrating different keywords that influence logistics performance. This strategy facilitates an examination of logistics performance from multiple viewpoints and through diverse methodologies. These findings will significantly contribute to the ongoing advancement of literature in this field.

Declaration of Generative AI and AI-Assisted Technologies in the Manuscript Preparation Process

During the preparation of this work, the authors used Grammarly Pro to enhance readability and improve language structure. The tool was not used to generate scientific results, analyses, interpretations, or conclusions. The authors reviewed and verified all AI-assisted output and take full responsibility for the accuracy, originality, and integrity of the final manuscript. No Generative AI or AI-assisted tools were used to create or modify figures, images, graphical abstracts, artwork, or other visual material intended for publication.

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Conflicts of Interest

The authors declare no conflicts of interest.

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