

# Logistics Performance Research: A Bibliometric Mapping And Future Directions

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## ABSTRACT

This study presents a comprehensive bibliometric analysis of logistics performance research from 2003 to 2022, utilizing R Studio, Biblioshiny, and VOSviewer. Unlike previous literature, this review maps the intellectual structure and thoroughly examines the field's evolution. The findings reveal sustained growth in scholarly output, with China and the United States identified as the most productive and influential contributors. Notably, several developing countries, including Malaysia, Turkey, and India, also emerge as prominent contributors. Bibliographic coupling analysis identified six primary research clusters: operational optimization, strategic management, sustainable logistics, reverse logistics, economic perspectives, and industrial/organizational frontiers. The study offers several key contributions: it provides a structural overview of leading publications, authors, and collaborative networks; identifies the most salient emerging research paths; and employs mapping techniques—including tree, thematic, and conceptual maps—to delineate the field's development. These findings serve as a strategic guide for researchers and policymakers to identify foundational knowledge and future research directions.

**Keywords:** *logistics performance; bibliometric analysis; optimization; strategic management; reverse logistics; thematic map*

## 1. INTRODUCTION

The COVID-19 pandemic, originating in 2019, profoundly disrupted global trade, transportation, and supply

chain resilience, causing widespread impacts on the logistics market (Free & Hecimovic, 2021; Tolliver *et al.*, 2021). Entities managing global supply chains (GSC), including the movement and storage of goods, faced direct crises (Twinn *et al.*, 2020). Critical sectors such as food and hospitality experienced significant vulnerabilities in their operations (Aigbedo, 2021; Ali *et al.*, 2021). These disruptions adversely affected global competitiveness (Chen & Hasan, 2023), economic growth, employment, and management systems (Twinn *et al.*, 2020). This crisis underscores an urgent need for strategic change and collaborative decision-making to enhance resilience in logistics (Hasan *et al.*, 2024, 2025). This imperative is particularly acute for developing economies, where logistics costs can constitute up to 25% of GDP, compared to 6-8% in OECD nations. Consequently, improving logistics performance efficiency is critical for strengthening competitiveness and stimulating economic growth in emerging markets (Twinn *et al.*, 2020).

The growing integration of global trade, e-commerce, and digital connectivity has significantly elevated the importance of logistics performance (LP) as a critical determinant of economic competitiveness (Sergi *et al.*, 2021). Efficient logistics services are indispensable; a territory deficient in this area risks compromising its economic development (Sergi *et al.*, 2021). As a multifaceted component of trade operations (Yingfei *et al.*, 2022), LP has consequently become a major focus of research. Over the past decade, studies have extensively utilized the Logistics Performance Index (LPI) to investigate factors influencing LP scores and to propose resolutions for their improvement (Beysenbaev & Dus, 2020; Önsel Ekici *et al.*, 2016, 2019; Yan-Chun & Hasan, 2020). Concurrently, a significant body of literature has established the profound

impact of LP on national economies (Hasan *et al.*, 2025), infrastructure quality, and trade volumes (Amin *et al.*, 2021; Duzbaieva Sharapiyeva *et al.*, 2019; Gani, 2016; Liang & Liu, 2020; Martí *et al.*, 2014; Siddiqui & Vita, n.d.; Sy *et al.*, 2020; Tang & Abosedra, 2019). Recent global disruptions have further exposed supply chain vulnerabilities, accelerating the need to upgrade logistics capabilities. This underscores the necessity of enhancing LP to fortify for future stability and growth (Tolliver *et al.*, 2021).

The critical importance of LP for national competitiveness has spurred significant research into models for improving LP scores. This has led the academics and the practitioners to carry out different study. Existing studies have extensively explored its nexus with factors including the global competitiveness index (GCI), governance quality, role of institutions and liner shipping connectivity (Koh *et al.*, 2018; Önsel Ekici *et al.*, 2016; Sergi *et al.*, 2021; Soh *et al.*, 2021). Önsel Ekici *et al.* (2016) demonstrated the synergistic relationship between GCI components and LP, proposing a decision-support tool for policymakers. The study was carried out to develop a decision-making tool for supporting the policy maker in improving LP. Beysenbaev & Dus (2020) developed a modified, benchmarkable LPI index, while Rashidi & Cullinane (2019) assessed sustainable operational LP using Data Envelopment Analysis (DEA). Önsel Ekici *et al.* (2019) integrated a Bayesian network with a PLS path model, critically identifying specific GCI pillars—such as infrastructure, higher education, and technological readiness—as key facilitators of logistics enhancement. This body of work collectively underscores the potential for data-driven approaches to inform strategic policy decisions aimed at elevating national logistics performance.

While the existing literature provides a robust foundation for understanding LP, critical gaps persist, starkly revealed by recent disruptions such as the COVID-19 pandemic, the Suez Canal blockage, and the war in Ukraine, which exposed a deficiency in practical, scalable strategies for building agile and multi-sourced supply networks. Simultaneously, rapid developments like the integration of AI for predictive analytics and the deployment of autonomous mobile robots (AMRs) highlight a research void concerning the ethical, operational, and socio-technical implications of human-autonomy collaboration, as well as the challenge of achieving interoperability in complex cyber-physical systems. Furthermore, a significant gap exists between the theoretical discourse on sustainability and the implementation of viable, large-scale solutions, underscoring a gap in frameworks that equally prioritize comprehensive environmental impact assessments—such as green last-mile delivery and alternative fuels—alongside cost and the hyper-speed, transparency, and flexibility. Thus, bridging these interconnected gaps is paramount for developing unified, ethically sound, and sustainable supply chains.

Research has further analyzed LP through diverse lenses. Studies have examined its effectiveness within shipping (Yang & Lirn 2017) and its relationship with green activities (X. Wang, 2019), including sustainability indicators (Khan *et al.*, 2019; Liu *et al.*, 2018). Methodologically, assessments have employed multi-criteria decision-making approaches like the SV and MABAC

methods by Işik *et al.* (2020). Recent investigations explore policy implications through spatial analysis (Göçer *et al.*, 2022; Runhua Xiao *et al.*, 2022), logistics integration (Tongzon & Nguyen 2021), and the impact of country risk using Bayesian Belief Networks (Qazi *et al.*, 2023).

Despite extensive research, the existing literature on LP, including its green dimensions, remains fragmented and lacks a coherent trajectory for future inquiry. While prior studies have predominantly focused on the economic implications of the LP, a thorough bibliometric synthesis of the field is absent. This gap underscores a significant opportunity to systematically evaluate the current knowledge state, delineate evolving research trends, and identify emergent themes. A comprehensive review is therefore essential to consolidate scholarly progress and map the intellectual structure of the domain. This study is motivated by this critical need, aiming to provide an integrative analysis on logistics performance.

This study will have significant implications for existing literatures on logistics performance research and logistics sustainability. The findings will have contribution identifying significant areas of logistics performance to be focused on in future. Furthermore, researchers, academicians, and policy makers of logistics industries will get a useful overview of scientific evidence. Finally, it will assess the existing knowledge of prospects highlighting the research objectives (ROs)-

- RO1: determine the leading countries, collaboration, authors, time progress, and leading journals within the domain.
- RO2: classify the existing scientific literature into different clusters, and explore them critically conducting an in-depth content analysis, and
- RO3: derive the pathways for further research.

The remainder of this paper is organized as follows: Section 2 outlines the methodology, Section 3 presents the bibliometric analysis, and Section 4 discusses the contents. Future research directions are detailed in Section 5, followed by the conclusion in Section 6.

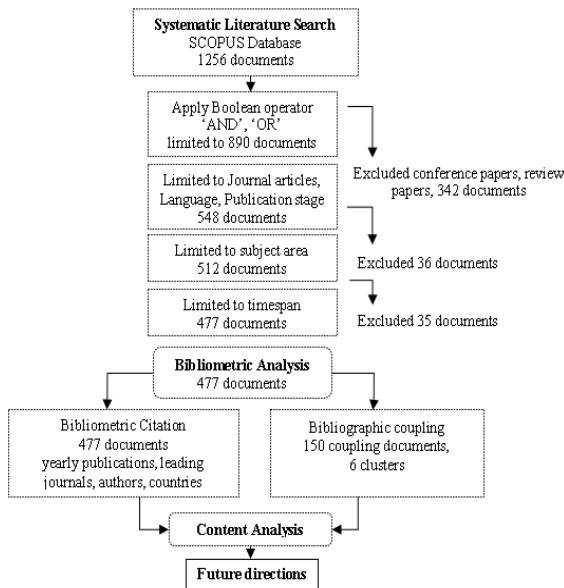
## 2. METHODOLOGY

### 2.1 Bibliometric Approach and Justification for Database Selection

This study employs an integrated approach combining bibliometric and systematic content analysis. Bibliometric analysis serves as a quantitative methodology for mapping global research trends within a specific domain through scientific evaluation (Kołakowski *et al.*, 2022). Its primary objective is to synthesize existing knowledge and identify emerging research paths (Bernatović *et al.*, 2022). In contrast to conventional literature reviews, this study adopts a Systematic Literature Review (SLR) framework to ensure rigorous document selection. Through bibliometric techniques, we critically assess previously identified research objectives (ROs), thereby uncovering knowledge gaps in the field. This analytical approach not only contributes to the current body of knowledge but also provides a foundation for future research (Bolbot *et al.*, 2022).

**Table 1** Literature searching, inclusion, and exclusion criteria

Searching Criteria	Results
"Logistics performance"	1256
<b>TITLE-ABS-KEY</b> ("logistics performance*") AND ("Logistics" OR "Logistics Performance" OR "Logistic Performance" OR "Supply Chains") OR "Logistics Performance Index" OR "Performance" OR "Supply Chain" OR "Reverse Logistics" OR "Transportation" OR "Logistics Management" OR "Management" OR "Efficiency" OR "Performance Management" OR "Planning" OR "Distribution Management" OR "Logistics Performance Index (LPI)" OR "Production Logistics" OR "Logistic Performance Index" OR, "Logistics Services" OR "Third-party Logistics" OR "Logistics System" OR "Strategic Planning" OR "Supply Chain Performance" OR "Freight Transport" OR "Green Logistics" OR "Freight Transportation" OR "Logistics Industry" OR "Performance Measurements" OR "LPI" OR "Logistics Costs" OR "Logistics Service Provider" OR "Third Party Logistics" OR "City Logistics" OR "Performance Measures" OR "Logistics Operations" OR "Logistics Performance Measurement" OR "Logistics Process" OR "Operations Research" OR "Risk Management" OR "3PL" OR "Global Logistics" OR "Green Supply Chain Management" OR "International Logistics" OR "Logistic Operating Curves" OR "Logistics Enterprise" OR "Knowledge Management" OR "Logistics Efficiency" OR "Performance Based" OR "Decision Support System") Limited to English documents, journal article, and publication stage	890
Limited to subject area	548
Limited to timespan	512
Data extraction date	477
	Feb. 2023



**Figure 1** The flowchart of the review methodology and data extraction

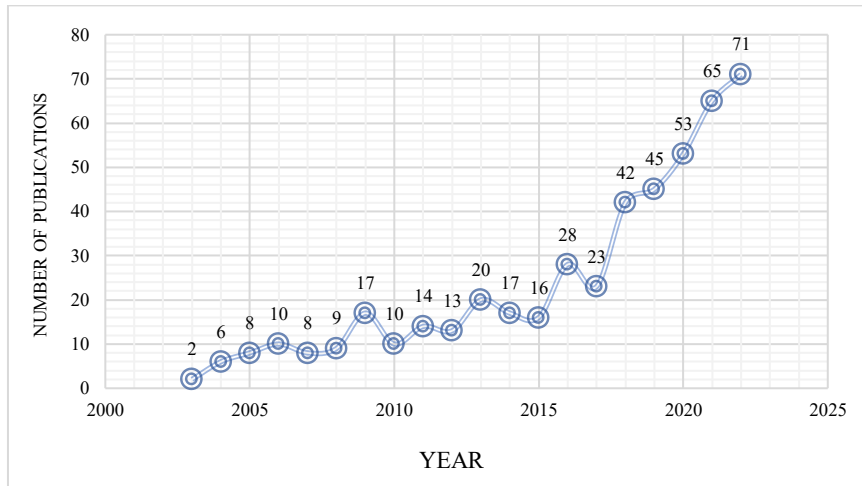
Selecting an appropriate database is a critical challenge in conducting systematic reviews (Keshavarz-Ghorabae *et al.*, 2022). While multiple databases—such as Web of Science (WoS), Scopus, Google Scholar (GS), Dimensions, Lens, and PubMed—are available, each has distinct advantages and limitations. GS, for instance, has been criticized for indexing articles from predatory journals without rigorous validation of originality or adherence to editorial standards (Chapman & Ellinger, 2019; Ibba *et al.*, 2017). Additionally, GS is often deemed inappropriate for bibliometric analysis due to inconsistent citation quality (Aguillo, 2012). In contrast, WoS (Clarivate Analytics) is recognized for its inclusion of high-impact journals (Keshavarz-Ghorabae *et al.*, 2022), while Scopus is regarded as the leading academic database, offering comprehensive coverage of peer-reviewed literature with

reliable citation metrics (Ampah *et al.*, 2021). This study relies on Scopus due to its extensive coverage of peer-reviewed journals in social science, its inclusion of citation metrics, and its widespread use in bibliometric research. While WoS is another leading database, Scopus has broader coverage in certain disciplines. Our reliance on Scopus alone may introduce biases. For transparency, we acknowledge that future research could validate findings using cross-database comparisons (e.g., WoS, Dimensions) or field-specific sources to assess robustness. Given these considerations, Scopus was selected as the primary data source for this study, with extraction conducted in February 2023.

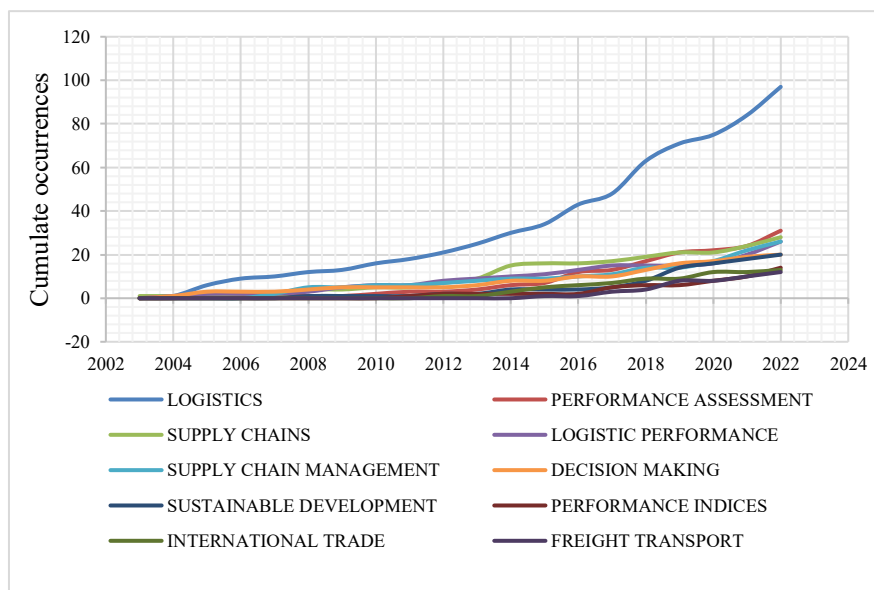
## 2.2 Literature Searching, Inclusion and Exclusion Criteria

The bibliometric data were extracted using Boolean operators ("AND" and "OR") to refine the search strategy. The query was applied to the "TITLE-ABS-KEY" field, where keywords within the same thematic group were connected using the "OR" operator, while distinct groups were linked with "AND" (see Table 1 for the search string). An initial search for the term "logistics performance" yielded 1,256 documents. To ensure comprehensive coverage of relevant literature, the search criteria were systematically expanded, resulting in 890 publications after applying broader keyword combinations.

The dataset was further refined through a multi-stage screening process. First, only peer-reviewed journal articles published in English and in final publication stages were retained (n=548). Next, the search was limited to six subject areas: Business, Management and Accounting; Engineering; Social Sciences; Decision Sciences; Economics, Econometrics and Finance; and Multidisciplinary (n=512). Finally, a temporal restriction (2003-2022) was applied, yielding 477 documents for final analysis. Figure 1 illustrates the PRISMA-inspired selection methodology, demonstrating how each exclusion criterion enhanced the precision of the sample while maintaining representativeness of the research domain.



**Figure 2** Number of annual scientific publications on logistics performance research



**Figure 3** Thematic growth of logistics performance over time

### 2.3 Data Analysis Approach and Tools

This review analyzes 477 documents to explore publication trends, collaborative networks, leading journals, influential authors, key papers, and country contributions. The study employs both VOSviewer (version 1.6.18) and Biblioshiny for comprehensive bibliometric analysis (detailed methodology provided in Appendix A). VOSviewer, a specialized software for bibliographic network analysis, enabled the visualization and exploration of complex research networks (Van Eck & Waltman, 2010).

Our analysis identified 150 bibliographically coupled articles, which were subsequently grouped into six distinct clusters. From this subset, we selected the 50 most relevant papers based on two rigorous criteria: total citation count and link strength. These selected documents underwent detailed content analysis, through which we systematically identified emerging research themes and potential directions for future investigation. The synthesis of these findings provides both quantitative and qualitative insights into the evolution of research in this domain.

## 3. RESULTS AND ANALYSIS

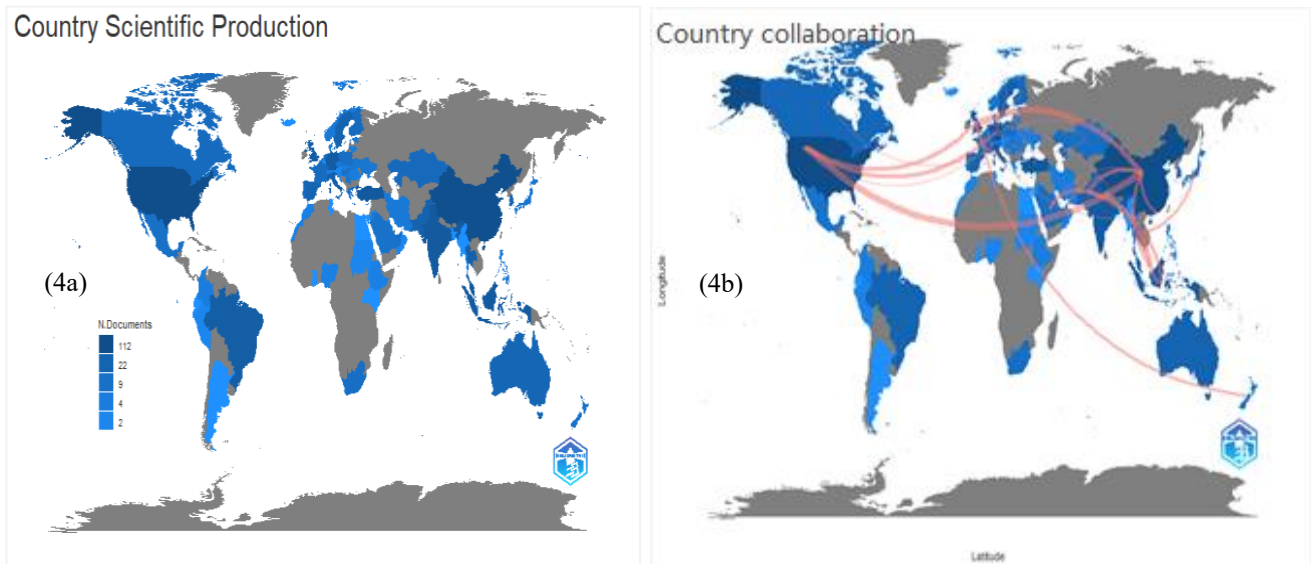
### 3.1 Publication Trend and Thematic Growth Over Time

Figure 2 demonstrates a substantial growth of scientific publication, reflecting an increasing academic and practical significance. From 2003–2012, only 97 documents were published, contrasting sharply with 380 documents in the subsequent decade (2013–2022). This notable increase is largely attributable to expanding global trade and commerce, which heightened the focus on logistics performance. A pivotal shift is seen in 2010, coinciding with key international sustainability initiatives. The United Nations' strategic benchmarks, the establishment of the Commission on Sustainable Development (CSD), UNEP's Sustainable Consumption and Production program, and the 2012 Rio+20 conference collectively emphasized sustainable, "green" supply chains. This paradigm shift directed significant research attention towards the environmental dimensions of logistics performance, integrating it firmly within green

**Table 2** Country specific scientific papers

Country	Freq.	LPI	Country	Freq.	LPI
USA	112	3.89	France	12	3.84
China	96	3.61	Netherlands	11	4.02
Malaysia	50	3.22	Poland	11	3.54
Turkey	50	3.15	UAE	11	3.96
India	47	3.18	South Africa	10	3.38
Indonesia	43	3.15	Greece	9	3.20
Germany	41	4.20	Hungary	9	3.42
Brazil	35	2.99	Mexico	9	3.05
UK	35	3.99	New Zealand	8	3.88
Italy	30	3.74	Saudi Arabia	8	3.01
Thailand	29	3.41	Japan	7	4.03
South Korea	25	3.61	Serbia	7	2.84
Sweden	25	4.05	Ukraine	6	2.83
Pakistan	24	2.42	Czech Republic	5	3.68
Spain	21	3.83	Denmark	5	3.99
Australia	19	3.75	Estonia	5	3.31
Kazakhstan	15	2.81	Iran	5	2.85
Canada	13	3.73	Norway	5	3.70
Finland	13	3.97	Philippines	5	2.90
Portugal	13	3.64			

[Note: only 1<sup>st</sup> 39 countries with at least 5 scientific publications]



**Figure 4** Country scientific production and collaboration

supply chain management discourse. Therefore, academic interest culminated in a peak of publications in 2022, indicating the field's robust potential for continued expansion.

Figure 3 depicts the substantial growth in logistics performance literature from 2003 to 2022. This trend underscores the field's evolving focus, particularly towards green logistics, driven by expanding global trade and the concomitant need for operational efficiency and optimization. Simultaneously, mounting environmental concerns have intensified research into sustainable practices. Therefore, scholarly work now encompasses a broad spectrum of themes, including supply chain logistics, reverse logistics, third-party logistics (3PL), and distribution management. However, to strengthen the thematic analysis, the growth should be refined to reflect the core strategic concepts within logistics performance, rather than just synonyms for "logistics." A more conceptual thematic

framework could include- (1) strategic infrastructure: this category would encompass themes related to the physical and digital foundations of logistics, such as port efficiency, warehouse automation, transportation network connectivity, and the integration of IoT and blockchain for real-time asset tracking. (2) operational excellence: this would focus on execution and process optimization within the supply chain, including inventory management, order fulfillment accuracy, lead time reduction, freight cost management, and the implementation of lean principles to eliminate waste. (3) customer-centric fulfillment: this conceptual category moves beyond simple "delivery" to analyze performance through the lens of the end-user. It includes themes like last-mile delivery innovation, delivery speed and reliability, returns management, and overall service quality as a competitive differentiator. (4) resilience and sustainability: this groups are related to risk mitigation, supply chain agility, and green logistics initiatives (like carbon-neutral shipping).

**Table 3** Country collaboration of scientific papers

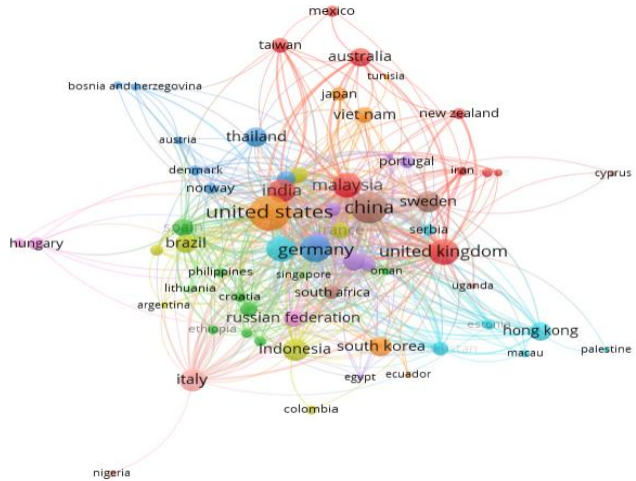
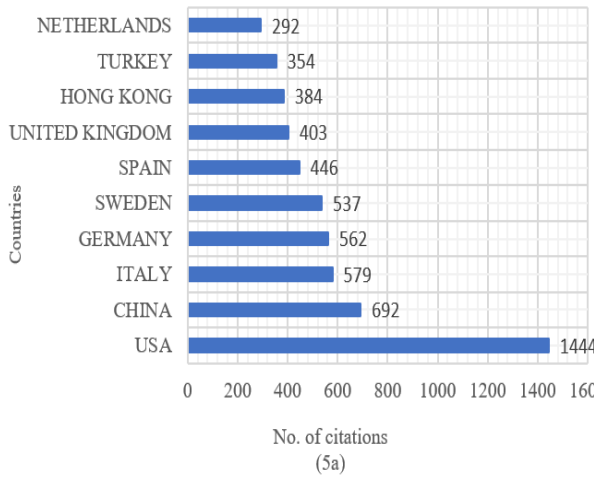
From	Freq.	To	From	Freq.	To
China	40	UK (8), Malaysia (4), Pakistan (4), Hong Kong (3), Poland (2), Saudi Arabia (2), UAE (2), Australia (1), Bahrain (1), Canada (1), Egypt (1), France (1), Ghana (1), Indonesia (1), Iran (1), Japan (1), Korea (1), Lithuania (1), Singapore (1), South Africa (1), Switzerland (1), Thailand (1)	Brazil	2	Colombia (1), Netherlands (1)
USA	30	China (9), Germany (4), UK (4), France (2), Australia (1), Austria (1), Finland (1), Hong Kong (1), India (1), Italy (1), Japan (1), Mexico (1), Pakistan (1), Spain (1), Switzerland (1)	Hong Kong	2	Canada (1), Cyprus (1)
UK	20	Italy (3), New Zealand (3), Finland (2), Hong Kong (2), Australia (1), Bahrain (1), Greece (1), Iran (1), Jordan (1), Korea (1), Lithuania (1), Pakistan (1), Saudi Arabia (1), UAE (1)	Norway	2	Austria (1), Ethiopia (1)
Malaysia	18	Pakistan (6), Indonesia (5), UK (2), Egypt (1), Iran (1), Nigeria (1), Saudi Arabia (1), UAE (1)	Australia	2	Bangladesh (1), New Zealand (1)
Germany	11	Canada (1), Denmark (2), Estonia (2), Hungary (1), Kazakhstan (2), Norway (1), Pakistan (1), Portugal (1)	Poland	2	Croatia (1), Romania (1)
Indonesia	10	Pakistan (3), Thailand (2), Australia (1), Egypt (1), Peru (1), Saudi Arabia (1), UK (1)	Portugal	2	Czech Republic (1), Morocco (1)
Pakistan	10	Saudi Arabia (4), UAE (2), Czech Republic (1), Egypt (1), Finland (1), Poland (1)	Kazakhstan	2	Estonia (2)
Turkey	8	Poland (2), Finland (1), France (1), Italy (1), Kenya (1), Kuwait (1), UK (1)	Mexico	1	Colombia (1)
Thailand	9	Japan (3), Australia (1), Finland (1), Myanmar (1), Peru (1), Philippines (1), Switzerland (1)	Oman	1	Sudan (1)
Canada	7	France (2), Denmark (1), Finland (1), Morocco (1), Norway (1), Portugal (1)	Spain	1	Ecuador (1)
Italy	7	Portugal (2), Canada (1), Finland (1), Morocco (1), Norway (1), Poland (1)	Sweden	1	Netherlands (1)
France	5	Argentina (1), Kuwait (1), Netherlands (1), South Africa (1), UAE (1)	Ukraine	1	Jordan (1)
Netherlands	4	Belgium (1), Colombia (1), Mexico (1), New Zealand (1)	Hungary	1	Slovenia (1)
Finland	3	Austria (1), Estonia (1), Saudi Arabia (1)	Philippines	1	Switzerland (1)
Denmark	3	Iceland (1), Norway (2)	UAE	1	Saudi Arabia (1)
India	3	France (1), UAE (1), UK (1)	Korea	1	Pakistan (1)
Saudi Arabia	3	Egypt (1), Sudan (1), Tunisia (1)			

### 3.2 Country Scientific Performance and Collaboration

The geographical distribution of scientific production in LP research is presented in Figure 4a and Table 2. The top ten contributing countries, ranked by publication count, are the USA (112), China (96), Malaysia (50), India (47), Indonesia (43), Germany (41), Brazil (35), the UK (35), Turkey (35), and Italy (30). To contextualize scholarly output with practical performance of the nations, the latest World Bank Logistics Performance Index (LPI) score—a comprehensive national assessment scaled from 1 (low) to 5 (high)—is included in Table 2 as well. Analysis reveals that all top ten publishing nations achieve LPI scores of 3 or higher, suggesting a positive correlation between research investment and operational logistics competency. The

preeminence of the USA and China is attributed to targeted national strategies and significant involvement from major industry players. In China's case, research initiatives driven by leading firms such as SF Holding, Alibaba-backed Cainiao Network, and Suning.com have been a primary catalyst for its high volume of scientific output.

International collaboration is a defining feature of logistics performance research. Co-authorship between researchers from different nations signifies productive partnerships (Fahim & Mahadi, 2022) and the network of these collaborations is illustrated in Figure 4b, with full data provided in Table 3. While the USA leads in total publication volume, China occupies the most central position within the global collaboration network, engaging with 40 countries. The USA and the UK follow, with 30 and 20 international



[Note: Minimum Number of a documents of a country is 1, minimum number of citations of a country is 1, 75 meet thresholds out of 81 countries, 11 cluster, link 578, total link strength 1523]

**Figure 5** Most Cited countries focus on logistics performance research

collaborations, respectively. It affirms that the top ten collaborating nations form a densely interconnected network, indicating that knowledge production in this field is increasingly a collective, endeavor rather than an isolated national pursuit.

However, academic research critically complement, validates, and extends the World Bank’s LPI by providing methodological depth, causal analysis, and contextual nuance that the official survey cannot capture. Scholarly studies rigorously validate the LPI’s constructs by testing its convergence with hard data on port efficiency, infrastructure quality, and trade times, thereby strengthening its empirical credibility. Furthermore, academic research extends beyond the LPI’s descriptive rankings by employing multivariate econometric models to isolate the specific drivers—such as governance, regulatory frameworks, or ICT adoption—that underpin performance, thus moving from correlation toward causation. It also complements the macro-level LPI by drilling down into sub-national disparities, sector-specific case studies, and the performance of individual supply chain segments, offering granular insights for targeted policy interventions that the high-level index alone cannot provide.

**3.3 Most Cited Countries**

Figure 5a ranks the top 10 countries by total citations (TC) and average article citations (AAC) to assess the global impact of research on LP. The USA leads with 1444 citations, followed by China (692) and Italy (579). The prominence of developed economies and China on this list suggests a strong correlation between a nation’s research infrastructure and the influence of its LP publications. Notably, while some nations with high publication output, such as Malaysia, are absent from the top 10, others like Spain and the Netherlands are highly cited despite a lower volume of contributions. This indicates that research significance, rather than mere quantity, drives citation impact. The network visualization in Figure 5b further

terms of GC, with 223, 206, and 183 citations, respectively, underscoring their significant contributions to the literature. Aronsson H. (2006) demonstrates how firms

illustrates these influential international connections. These findings affirm that the most cited nations produce the most insightful research, while also indicating a growing, though not yet equally impactful, scientific focus on logistics performance within developing countries.

**3.4 Popular Publication Outlets**

Table 4 presents the top 10 leading journals based on local citation count. Analysis reveals a distinction between publication volume and scholarly impact. While Transport Policy (15) and the Journal of Cleaner Production lead in output (12) have the highest publications, the Journal of Business Logistics (10) demonstrates the highest aggregate influence (945 citations) from just 10 publications. Similarly, the International Journal of Production Economics shows a high impact (678 citations) from a relatively small output (7 documents). This discrepancy underscores that citation dominance is driven by the significance of individual articles rather than volume alone, a trend further exemplified by Transportation Research Part E: having the highest citations-per-publication ratio. The prevalence of Elsevier journals and the high Scimago Quartile (Q1/Q2) and impact factor scores across the list indicate a concentration of high-quality, influential research in premier outlets. These journals are pivotal in disseminating foundational research, including studies linking logistics performance to global supply chain.

**3.5 Most Global Cited Documents**

Table 5 presents the ranking of the most influential papers based on global citations (GC), including details such as authors, publication years, total citations (TC), citations per year (TCY), normalized citations, major focus, and contributions. The GC serves as a key metric for assessing the scholarly impact of highly cited works. This analysis highlights the top 15 most relevant documents, which extensively examine various dimensions of logistics performance. Notably, the studies by Daugherty P. J. (2005), Bottani E. (2006), and Gremain R. (2006) rank highest in can enhance environmental sustainability through structural modifications in their logistics systems. Daugherty P. J. (2005) and Bai C. (2013) develop frameworks for reverse

**Table 4** Top 10 leading journals based on the number of citations

Name of Journal	Publisher	SC	TC	N P	CT/ NP	BQ	IF	h index	g index	m index
Journal of Business Logistics	Wiley	BMA, DS	945	10	94	Q1	7.875	9	10	0.450
Journal of Cleaner Production	Elsevier	BMA, E, Eng., EnvS.	733	12	61	Q1	11.07	11	12	1.000
International Journal of Production Economics	Elsevier	BMA, DS, Eng., EEF	678	7	96	Q1	11.25	7	7	0.389
Transportation Research Part E: Logistics and Transportation	Elsevier	BMA, DS, Eng., SC	577	4	144	Q1	10.04	4	4	0.211
Transport Policy	Elsevier	SS	469	15	31	Q1	6.173	9	15	1.000
Benchmarking-An International Journal	Emerald	BMA	340	8	42	Q1	3.932	7	8	0.412
International Journal of Logistics Management	Emerald	BMA, SS	309	5	61	Q1	5.446	7	12	0.636
International Journal of Physical Distribution	Emerald	BMA, SS	251	6	41	Q1	7.290	3	3	0.167
CIRP Annals-Manufacturing Technology	Elsevier	Eng.	242	8	30	Q1	4.482	6	8	0.286
Production Planning and Control	Taylor & Francis	BMA, DS, CS, Eng.	228	6	38	Q1	6.846	6	6	0.353

[Note: SC = Scimago Category (BMA: Business, Management and Accounting, SS: Social Sciences, EnvS: Environmental Science, E: Energy, EEF: Economics, Econometrics and Finance, Eng.: Engineering, DS: Decision Science, CS: Computer Science), TC = Total Citations, NP = Number of Publications, BQ = Best Quartile, Factor IF= Journal impact factor (Thomson Reuters, 2022)]

logistics, while Khan SAR. (2020) proposes a policy framework to guide decision-makers in achieving sustainable economic growth. Similarly, Khan SAR. (2019) examines the interplay between green logistics operations and socio-economic-environmental indicators in SAARC nations. Bottani E. (2006) and Droge C. (2012) introduce innovative methodologies for improving logistics service efficiency. Shang (2005) investigates logistics capabilities in manufacturing firms, establishing a theoretical foundation for internal and external benchmarking. Rezaei J. (2018) highlights the Global LPI as a tool for assessing the relative importance of LPI indicators, a theme further explored by Martí L. (2014), who underscores the LPI's significance in international trade. Fugate (2006) analyzes supply chain coordination mechanisms, elucidating managerial strategies for fostering inter-organizational relationships. Lastly, Germain R. (2006) explores how internal and external integration synergistically influence logistical and organizational performance.

The excessive emphasis on sustainability and reverse logistics stems from growing regulatory pressures, consumer demand for ethical practices, and the recognition of logistics' significant environmental footprint. The strategic management focus reflects the need to integrate these complex, cross-functional initiatives for competitive advantage. The period, 2005 onward, coincides with the mainstream adoption of corporate social responsibility (CSR) and the realization that efficiency alone is insufficient for long-term resilience. Thus, the current paradigm is shifting towards leveraging digitalization and data. Emerging fields now prioritize supply chain resilience, AI and big data analytics (BDA) for predictive logistics, the circular economy (moving beyond basic reverse logistics), and the integration of Industry 4.0 technologies like IoT and blockchain for full visibility and automation.

### 3.6 Most Impactful Relevant Authors

Table 6 presents the top 10 most productive authors in logistics performance research. Nyhuis P. (7), Zaman K. (6), Wong W. P. (6), and Forslund H. (6), Chen H. (5), who, along with the other ranked authors, collectively contributed 54 documents. Chen H. and Daugherty P. J. have made substantial contributions to the field through a series of foundational studies. Their research has been instrumental in advancing the theoretical understanding of supply chain process integration, establishing a comprehensive framework for managing logistics outsourcing relationships, and exploring the drivers of logistics service innovation. Furthermore, their pioneering work in reverse logistics and forward-looking analyses of digital supply chains has established a distinct and influential research path. In a complementary stream of research, Zaman K. has focused extensively on the intersection of sustainability and logistics. His work employs rigorous empirical analysis to assess the relationship between green logistics practices and macroeconomic indicators, thereby advancing the conceptualization and implementation of green principles within SCM.

In terms of scholarly impact, as measured by total citations, the most influential authors are Chen H. (473 citations), Daugherty P. J. (464), and Zaman K. (174). Author impact was further quantified using the h-index, which reflects both productivity and citation influence (Garousi & Fernandes, 2017; Simoes & Crespo, 2020). The g-index, which assigns more weight to highly-cited articles (Jimenez *et al.*, 2022), is also provided. The m-index, a metric of sustained citation impact over time, is included for a comprehensive bibliometric assessment.

**Table 5** Most global cited documents

Author (s) & Years	TC	TCY	NTC	Focused area	Contribution
Daugherty P. J, 2005	223	11.73	2.93	Sustainable logistics	Reverse logistics framework.
Bottani E, 2006	206	11.44	2.42	Logistics service	Methodologies for improving logistics service efficiency
Germain R, 2006	183	10.16	2.15	Interaction effect	Interaction of internal and downstream integration for logistics performance.
Aronsson H, 2006	181	10.05	2.13	Sustainable logistics	Structural modifications in firms' logistics systems
Fugate, 2006	181	9.05	2.77	Coordination mechanisms in SCM	Showed what mechanisms managers use in establishing inter-organizational relationships.
Khan SAR, 2020	161	40.25	12.45	Sustainable logistics	Policy for sustainable economic growth.
Droge C, 2012	149	12.41	2.79	Service performance	Methodologies for improving logistics service efficiency.
Rezaei J, 2018	147	24.5	6.58	The LPI	Measured the the relative importance of the LPI indicators.
Fugate BS, 2010	146	10.42	2.83	Logistics performance	Better understanding of logistics performance for manufacturing firms.
Hoekman B, 2011	135	10.38	2.7	Trade restrictiveness and facilitation	improve logistics performance and facilitate trade.
Shang KC, 2005	127	6.68	1.67	Logistics capability	Theorized different capability for firms's internal and external capability development.
Martí L, 2014	125	12.5	3.81	The LPI	Presented the importance the LPI for global trade.
Bai C, 2013	124	11.27	3.89	Sustainable logistics	Developed a reverse logistics framework.
Khan SAR, 2019	122	24.4	6.87	Sustainable logistics	Policy suggestion for green paractice in SAARC nations.
Ramanathan R, 2010	119	8.5	2.31	Customer loyalty	Impact of risk characteristics of products and efficiencies in between the relationships of logistics performance and customer loyalty.

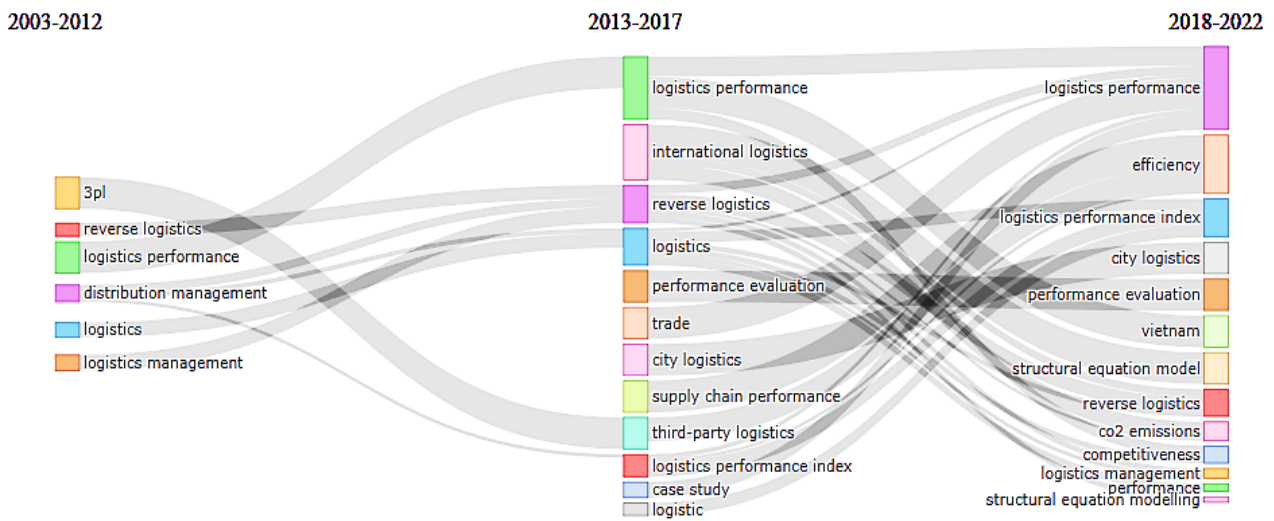
[**Note:** TC= Total Citations, TCY = Total Citations per Year, NTC = Normalized Total Citations. Papers included in this table are not included in citations and references as they are the outcome bibliometric analysis]

**Table 6** Most impactful authors

No.	Author	NP	TC	h index	g index	m index	PY start
1	Nyhuis P.	7	116	5	7	0.250	2004
2	Zaman K.	6	174	4	6	0.571	2017
3	Wong W. P.	6	75	5	6	0.556	2015
4	Forslund H.	6	151	6	6	0.333	2006
5	Chen H.	5	473	5	5	0.263	2005
6	Daugherty P. J.	5	464	5	5	0.263	2005
7	Wang M.	5	70	4	5	0.500	2016
8	Choy K. L.	5	145	5	5	0.294	2007
9	Wang C.	5	24	3	4	0.231	2011
10	Kabak.	4	128	4	4	0.500	2016

[**Note:** NP = Number of publications, TC = Total Citations, PY = Publication Year start]





**Figure 8** Thematic evaluation of logistics performance research

## 4. ASSESSMENT & EVALUATION OF THE RESEARCH

### 4.1 Tree Map Assessment

Figure 6 visualizes a tree map of authors' keywords (repetitive words are removed). It identifies core research themes within logistics performance (LP). The evaluation highlights the field's critical importance and evolving focus, linking LP directly to economic facilitation. Predominant keywords include logistics performance, SCM, reverse logistics, distribution management, and so on. The significant co-occurrence of terms like trade facilitation, financial performance, and economic growth underscores the macroeconomic connection of logistics. It exposes a robust quantitative and operational focus in current LP research, centered on economic efficiency in SCM. Future studies must critically address significant contextual and methodological gaps. The predominance of economic metrics overlooks the social dimension of logistics, such as labor equity, community impact, and resilience for vulnerable populations. Furthermore, while green supply chain and sustainability appears, research remains nascent in exploring the inherent tensions between performance, decarbonization, and circular economy mandates, particularly in developing economies. Unexplored contexts include the logistics of the care economy, disaster relief, and the gig economy, moving beyond traditional commercial supply chains to assess societal value creation. Thus, this mapping enhances scholarly literature retrieval and content representation (Grant, 2010), thereby projecting future research directions

### 4.2 Co-occurrences Assessment

Figure 7 illustrates the network mapping of logistics performance research. Using a threshold of five occurrences and removing repetitive keywords, the figure incorporates both author keywords and Keywords Plus. Node size corresponds to frequency, while proximity and connecting lines indicate the strength of relationships. Distinct clusters

are denoted by color. Key themes strongly linked to logistics performance include economic growth, trade facilitation, infrastructure, sustainable development, emissions, customer satisfaction, logistics costs, strategic planning, logistics innovation, third-party logistics, logistics outsourcing, production planning and control, and manufacturing. This analysis defines logistics performance as being driven by goals to enhance financial performance and competitiveness. Key themes include SCM, cost control, and sustainable development, which are linked to outcomes such as customer satisfaction and economic growth. It also highlights enabling elements such as strategic planning, communication, innovation, and performance measurement tools like benchmarking and structural equation modeling, demonstrating a holistic business strategy.

The network of eight distinct clusters reveals that the classical paradigm of logistics performance measurement is predominantly anchored in retrospective, output-oriented metrics. These traditionally encompass operational capabilities (e.g., strategic planning), environmental impact (e.g., carbon footprint, sustainable development), cost-efficiency metrics (e.g., cost control), and customer-oriented indicators (e.g., customer satisfaction). It effectively addresses the question of past performance ("How well did we do?") but fails to provide the prescriptive and predictive intelligence necessary for future readiness ("How can we optimally perform under dynamic and unforeseen conditions?").

Therefore, a paradigm shift is emerging, driven by the convergence of disruptive technologies including AI, the IoT, explainable AI (XAI), hyperautomation (Hasan *et al.*, 2026), and quantum computing. This evolution moves the research frontier beyond static efficiency measurement toward the design, evaluation, and governance of cognitive logistics ecosystems. These systems are characterized by inherent adaptivity, proactive decision-making, and structural resilience. Critical to this new trajectory is the formalization of human-AI collaborative frameworks for core strategic decisions, the application of quantum



exponentially as a strategy for supply chain performance optimization (Panayides & So, 2005). This approach generates essential place, time, quantity, and space value, which are fundamental to customer satisfaction. While supply chain risks can obstruct logistics development, 3PLs mitigate these operational risks by optimizing efficiency, increasing collaboration, and freeing organizational resources for strategic distribution channel restructuring, thereby creating competitive advantages (Rossiter Hofer *et al.*, 2014; M. Wang *et al.*, 2018). Thus, performance optimization via 3PL is paramount for logistics performance.

The significance of LP is well-established, with its relative importance measured by scholars including Rezaei *et al.* (2018) and Schramm-Klein & Morschett (2006), and its metrics empirically developed by researchers such as Coşkun & Ertugut (2022). Additionally, globalization has further intensified LP's role in international trade (Rezaei *et al.*, 2018). Its critical impacts made it a potent area of study (Ralston *et al.*, 2013). Research by Grawe *et al.* (2011) identifies logistics innovation as a key resource for optimizing capability and operational flexibility, the latter being a direct antecedent to enhanced LP. This work prescribes three optimization pathways: knowledge synthesis, innovative processes, and flexibility, as knowledge management is a key differentiator for firms and services (Fugate *et al.*, 2012). Complementing this, Moberg *et al.* (2004) emphasize seven catalysts for operational efficiency: operational and strategic information exchange, information quality, IT commitment, SCM commitment, trust, and relationship commitment. Roy *et al.* (2018) had an extended insight into logistics performance variables substantially showing operational excellency. The link between LP and risk mitigation is underscored by M. Wang *et al.* (2018) who advise deploying logistics capabilities to optimize supply chain risk management. Finally, Wong *et al.* (2018) propose a comprehensive framework for LP optimization structured across four layers: integration factors, depot service quality, haulers' sustainable performance, and overall logistics performance.

Future research should prioritize longitudinal studies to empirically validate the causal mechanisms linking 3PL integration strategies to sustained logistics performance outcomes. A critical pathway involves investigating the mediating role of dynamic capabilities, such as operational flexibility and knowledge synthesis, in this relationship. Furthermore, the interplay between digital transformation (e.g., AI, IoT) and 3PL operational models presents a fertile ground for inquiry, particularly its impact on risk resilience and real-time optimization. Research must also develop integrated frameworks that quantify how 3PL-driven value co-creation translates into competitive advantage across diverse cultural and regulatory environments. Finally, examining the dark side of outsourcing, including potential vulnerabilities in over-reliance on 3PLs, would provide a more nuanced understanding of strategic supply chain design.

## 5.2 Strategic Management Performance

The growing recognition of logistics' strategic role has elevated the priority of measuring strategic management performance (Fugate *et al.*, 2010), necessitating a holistic view of service, cost, return on assets, and investment. Rodrigues *et al.* (2004) argue that improving strategy,

structure, and process through relational strategic management encourages coordinated operations and controls to enhance cross-organizational behavior. This perspective is reinforced by Omar *et al.* (2012), who clarify strategic performance through the interplay of supply chain orientation, coordination, collaboration, and integration. Integration is a cornerstone of SCM (Daugherty *et al.* 2009), with internal integration—the unification of internal functions like warehousing, transportation, and planning—directly strengthening a firm's logistics performance through enhanced information capability and relationship effectiveness. Critically, Germain & Iyer (2006) demonstrate that a greater level of internal integration amplifies the positive effects of external integration, which involves collaborative planning and unified processes with external partners.

Strategic logistics management is influenced by multifaceted factors. Bottani & Rizzi (2006) proposed a framework contingent on service factors (e.g., lead time, flexibility) and strategic actions (e.g., Just-in-Time, ICT). This performance is further situated within a broader institutional environment shaped by corporate and public governance Uyar *et al.* (2021). While improvements in cost and service are central to organizational performance (K.-H. Lai *et al.*, 2008), competitive disparity stems from the heterogenous distribution of valuable resources across firms. However, the differences in performance of organizations occur when some organizations possess valuable resources that others do not have (Manuj *et al.*, 2013). A comprehensive view is offered by Jakhar & Barua (2014), whose integrated performance model emphasizes supply chain planning, partnership, production, delivery, and service. Consequently, achieving a sustained competitive advantage is contingent upon synthesizing internal integration, strategic resources, capabilities, and organizational structures to boost the strategic position of logistics operations.

Future research should investigate the dynamic interplay between internal integration and emerging strategic resources, such as data analytics capabilities, to determine their combined effect on competitive positioning. A critical pathway involves examining how governance structures moderate the relationship between strategic collaboration and performance outcomes across diverse institutional environments. Research must also develop integrated metrics that capture the performance implications of synthesizing relational strategies with operational processes, particularly in the context of digital transformation. Exploring the potential dark side of intense integration, including rigidity and heightened vulnerability to disruptions, would provide a more nuanced understanding of strategic logistics management.

## 5.3 Sustainable Logistics Performance

The expansion of global trade has precipitated a substantial increase in supply chain (SC) activities (J. Liu *et al.*, 2018; Rashidi & Cullinane, 2019), intensifying concerns regarding their environmental impact and sustainable logistics. Firms and logistics providers face mounting pressure to mitigate the ecological footprint of their operations (J. Liu *et al.*, 2018). Thus, existing literature

shows a significant association between green logistics and broader sustainability (Karaman *et al.* 2020) as well as a relationship between green logistics indices and economic growth in BRICS countries. So, organization and firms should emphasize integrated supply chain models for sustainable logistics performance and raise their voice for green logistics. Therefore, adopting integrated supply chain models is imperative for achieving sustainable logistics performance and advancing green logistics initiatives.

Research into sustainable logistics examines the intersection of operational efficiency and environmental strategy. Pazirandeh & Jafari (2013) analyze how a firm's sustainability strategy impacts logistics efficiency, while Magazzino *et al.* (2021) and Sikder *et al.* (2022) explore the trilemma between innovation, logistics activities, and environmental degradation, finding logistics performance can positively influence carbon emissions. A critical impediment is the sector's reliance on non-renewable energy, which exacerbates negative societal and environmental impacts (Khan *et al.*, 2019). Conversely, adopting renewable energy sources can enhance sustainability and improve a firm's image and export potential in ecologically conscious markets (Khan *et al.*, 2019). Further obstacles include inadequate transport infrastructure, inefficient customs procedures (Khan *et al.*, 2019), and institutional and human factors (D'Aleo & Sergi, 2017) are vital for aligning logistics with eco-friendly practices and mitigating environmental degradation.

#### 5.4 Economic Valuation of Logistics Performance

Logistics performance is a critical driver of economic value, significantly influencing trade and development. Martí *et al.* (2014) established its importance in fostering bilateral trade relations, particularly highlighting potential advances for developing economies. The economic impact is further detailed through logistics infrastructure, which positively affects export variety and value on the extensive margin (Töngür *et al.*, 2020). By facilitating product mobility and ensuring safety in a cost-efficient manner (Martí *et al.*, 2014), efficient logistics services are essential for sustainable economic development (Suki *et al.*, 2021). Thus, the significant economic value created by logistics performance warrants continued and focused research in this domain.

#### 5.5 Reverse Logistic

The significance of reverse logistics (RL) has substantially increased, compelling both researchers and supply chain managers to understand its critical link to operational performance (Morgan *et al.*, 2018). It effectively requires comprehensive involvement, encompassing customer relations and the development of specialized information capabilities as a core managerial priority (Daugherty *et al.*, 2005). This entails physically handling returns through stock selection, transportation, data collection, refurbishing, and sortation, supported by strategic decisions and advanced IT systems, all of which are essential for enhancing both economic and service quality performance (Daugherty *et al.*, 2005). Therefore, RL is recognized as a source of competitive advantage, functioning as a tool to minimize costs, improve customer satisfaction, and achieve financial goals (Huang *et al.*, 2012). As all firms

positive relationship with economic growth in emerging economies. Aldakhil *et al.* (2018) has found a positive must manage returns, developing innovative solutions is crucial (Morgan *et al.*, 2018). The performance of RL is broadly defined across two dimensions: economic performance, which includes customer satisfaction, competitive advantage, and operational efficiency; and environmental performance, which pertains to external effectiveness, green image, and environmental flexibility (Huang *et al.*, 2012). Thus, RL serves as a vital catalyst for overall logistics performance.

#### 5.6 Industrial and Organizational Frontiers

Shang & Marlow (2005) identified information-based capability, flexibility capability, and logistics performance as critical for industrial leaders, with key intra-firm components including benchmarking, ICT capability, flexibility, and financial performance. Subsequent research by Droge *et al.* (2012) established supply chain integration (SCI) as a mediating factor between product/process modularity and delivery performance. They argue that SCI enhances a firm's responsiveness to customers and global markets (Droge *et al.*, 2012). Subsequently, the essential factors to model include (1) product modularity, (2) process modularity, (3) supplier integration, (4) customer integration, (5) delivery performance, and (6) support performance.

Manufacturing managers and industrial operators must learn to communicate, cooperate and coordinate with supply chain partners. So, Ellinger *et al.* (2015) examined the roles of learning orientation (LO) and SCI in industries. They indicated that LO significantly influences industry performance by helping the firms to exploit organizational gains. Supply Chain (SC) process of industry including purchase, manufacture, selling, logistics, delivery in real time, and the information to all SC partners should be coordinated; because firms with more extensive digitized logistics activities bundles, achieve better logistics performance (K. Lai *et al.*, 2010). K. Lai *et al.* (2010) had identified four different types of firms with three configurations of digitized logistics activities, those can positively impact organizational performance. They are (1) internally oriented digitized logistics activities, (2) externally oriented digitized logistics activities, and (3) communication-oriented digitized logistics activities. However, behavioral processes in organization should be focused as well to develop a 'keen awareness' of industrial performance (Ellinger *et al.*, 2015), as LP, which produces value for customers, may activate value co-creation behavior among firms (Tuan, 2017). Therefore, LP in industrial frontiers is a three dimensional- integration, digitalization, and learning orientational

## 6. RESEARCH GAPS AND FUTURE PROSPECTS

Based on the existing literature, several critical gaps and future research directions have been identified. A significant and crucial research gap persists in the adoption and integration of disruptive technologies within logistics systems, necessitating substantive models and empirical studies to explore their transformative potential. This includes the development of integrated AI and robotic

frameworks capable of autonomously optimizing the entire supply chain for holistic performance enhancement, moving sharing (Cao *et al.*, 2017), research must now empirically demonstrate its direct impact on upgrading core logistics performance metrics such as agility, cost-effectiveness, and end-to-end visibility. Concurrently, studies should focus on building practical, smart tools leveraging the IoT for real-time asset tracking and blockchain for immutable, transparent record-keeping to reduce disputes and improve trust among supply chain partners. Ultimately, this research avenue calls for robust practical experimentation through applied case studies and pilot implementations to rigorously test the real-world efficacy and return on investment (ROI) of these technological integrations.

To achieve operational excellence, future research must concentrate on the development of sophisticated models and strategic frameworks that fundamentally enhance multi-level coordination and integration. This necessitates the construction of advanced mathematical and simulation-based optimization models dedicated to complex logistics operations—such as routing, warehouse management, and network designs supported by novel methodological developments for building and measuring performance. New research must explore mechanisms for fostering deeper strategic integration and collaboration among firms, focusing on relationship effectiveness and firm-wide synergy. A critical research avenue involves investigating the unification of internal functions—including warehousing, transportation, inventory, and production planning—and their seamless integration with external partners and customers to create a cohesive supply chain ecosystem. Furthermore, this endeavor requires a critical re-evaluation of core logistical concepts, such as 'Just-In-Time', within the modern technological landscape to assess their contemporary impact on delivery performance, service efficiency, and transportation optimization.

In addition, the substantial environmental impact of global logistics operations has elevated the pursuit of sustainable and green performance to a paramount research concern. This necessitates studies that directly address the "go-for-green" concept by developing robust metrics and actionable strategies to mitigate environmental degradation, pollution, and threats to biodiversity inherent in logistics activities. Furthermore, research on reverse logistics must adopt a more holistic approach, moving beyond forward supply chains to investigate closed-loop systems that effectively integrate recycling, remanufacturing, and reuse into core logistics performance models (Morgan *et al.*, 2018). Critically, this domain requires further examination of the role policymakers and environmental regulations play in driving the adoption of sustainable practices, alongside exploring strategic avenues for firms to transform these sustainability mandates into a tangible competitive advantage.

Existing research has already focused on the sophisticated and consequential link between logistics performance and macroeconomic outcomes, presenting a fertile ground for scholarly inquiry. A critical avenue involves the macro-economic valuation of logistics (A. Wang, 2010) requiring future work to precisely quantify its impact on national GDP, economic growth, and competitiveness. Building upon foundational studies, there is

beyond current siloed applications. Furthermore, while cloud computing is acknowledged for enabling information a pressing need to further model and measure how enhancements in logistics performance directly influence bilateral trade flows and the operational efficiency of global transportation networks (Gani, 2017; Gao *et al.*, 2018). Therefore, a pivotal strand of this research explores the strategic positioning of logistics industries, investigating how nations and regions can cultivate these sectors into sophisticated, high-value organizations of profound strategic economic importance.

Current research has focused on the evolving strategic role of external partnerships, particularly the deep integration of 3PL providers, moving beyond transactional relationships to explore how performance management and strategic alignment contribute to enhanced supply chain resilience and flexibility. This research path critically examines how these partnerships can be leveraged to mitigate systemic risks and strengthen overall network robustness, with a specific emphasis on how strategic information sharing and knowledge synthesis with 3PLs improve decision-making quality and superior logistics performance. In parallel, the developing field of humanitarian supply chain research addresses unique, underexplored challenges, calling for studies on the adoption of both simple and advanced technologies to overcome haphazard logistics and short lead times in crisis environments. This avenue necessitates the development of models for building resilient, agile networks capable of effective disaster response, alongside the creation of improved decision-making frameworks and risk assessment models specifically tailored for the high-uncertainty, high-pressure contexts that define humanitarian logistics.

However, the current paradigm in LP is mainly anchored in the concept of supply chain resilience and digital integration. Contemporary research and practice prioritize the development of agile, data-driven networks capable of withstanding disruptions through enhanced visibility, predictive analytics, and the strategic deployment of technologies such as the Internet of Things (IoT) and cloud computing. Performance measurement has consequently evolved beyond traditional cost and time metrics to incorporate multifaceted indicators of flexibility, sustainability, and robustness. Future research paths are anticipated to focus on the transformative potential of autonomous intelligence and hyperautomation (Hasan *et al.*, 2026). This includes the systemic integration of Artificial Intelligence for prescriptive analytics and decision-making, the maturation of blockchain for immutable transparency and smart contracts, and the exploration of decentralized logistics models. A critical emerging strand will investigate the optimization of human-AI collaboration within warehouse and last-mile delivery systems. Furthermore, scholarly inquiry will increasingly examine the sustainability-resilience nexus, seeking models that simultaneously minimize environmental impact and enhance adaptive capacity, thereby redefining performance within a circular economy framework.

## 7. CONCLUSION

Logistics performance (LP) is a critical driver of global economic activity and trade efficiency within supply chain from the Scopus database to evaluate current trends and the state of knowledge in LP research. The findings reveal a dominant scholarly contribution from the United States and China in terms of output, collaboration, and citation impact. Key themes strongly associated with LP and economic facilitation include the Logistics Performance Index (LPI), green supply chain management, reverse logistics, performance optimization, and the role of third-party logistics (3PL) providers.

Content analysis further synthesizes the field's intellectual structure into six primary dimensions: (I) operational optimization, (II) strategic management, (III) sustainable performance, (IV) economic valuation, (V) reverse logistics, and (VI) industrial frontiers. The analysis identifies environmental sustainability, green logistics, reverse logistics, and the efficiency management of logistics service providers as the most significant and emerging trajectories for future research, underscoring the evolving complexity of performance measurement in modern supply chains.

This study is subject to several limitations that also present avenues for future research. Firstly, the analysis relies exclusively on literature sourced from the Scopus database. Future investigations could enhance comprehensiveness by incorporating additional databases, such as Web of Science (WoS) or Dimension. Furthermore, the chosen timespan (2003–2022) could be expanded to include publications up to the present to ensure the review captures the very latest developments.

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## CONFLICTS OF INTEREST

The authors declare that there is no conflict of financial, professional, or personal interest to be declared.

## DATA AVAILABILITY STATEMENTS

The authors use Scopus database and will provide data upon request.

management (SCM), making its study a priority for scholars and practitioners alike. This study conducts a comprehensive, bibliometric analysis of prominent literature

## APPENDIX A

**Data visualizing and programming operation.** This research work has been done using R, and R Studio. First, we have used “install.packages(“bibliometrix”, dependencies=TRUE)” command to install the “bibliometrix” packages in R Studio. It is one of the efficient and user-friendly packages for bibliometric analysis. After successful completion, we run the command “library(bibliometrix)” again in the 2nd step. Now the packages are ready for data analysis. In the 3rd stage, we have applied “biblioshiny()” command to open the web-based software Biblioshiny to conduct our bibliometric analysis. A new window opens, and finally we have input our data extracted from Scopus in “BibText” format.

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