

An overview of research on logistics outsourcing decisions

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Abstract: As the market becomes more globalized and competitive, businesses are under increasing pressure to enhance efficiency, cut costs, and focus on what they do best. One strategy that has gained traction in both practice and research is logistics outsourcing, where companies hand over logistics functions to specialized third-party providers (3PLs). This approach allows businesses to tap into expert capabilities, utilize cutting-edge technology, and scale their operations more effectively. This paper offers a comprehensive review of research on logistics outsourcing decisions, delving into key concepts, theoretical frameworks, and emerging trends. To support this, the study employs VOSviewer, a powerful bibliometric analysis tool that helps visualize and map out the structure of research in this area. By analyzing co-authorships, keyword connections, and citation patterns, VOSviewer uncovers important topics, identifies leading researchers, and highlights new trends in the field. Ultimately, the goal of this paper is to provide insights that deepen our understanding of the evolving landscape of logistics outsourcing research and help shape future studies in this space.

1 Introduction

In an increasingly globalized and competitive market, organizations are under pressure to enhance their operational efficiency, reduce costs, and focus on core competencies. One strategic approach that has garnered significant attention in both practice and academia is logistics outsourcing—the delegation of logistics functions to third-party logistics providers (3PLs). Logistics outsourcing enables firms to leverage specialized capabilities, access advanced technologies, and achieve scalability in service delivery [1].

The theoretical foundation of logistics outsourcing spans multiple disciplines, including operations management, strategic management, and supply chain theory. Resource-Based View (RBV) posits that firms outsource logistics activities to focus on leveraging internal core competencies while accessing external capabilities that are otherwise costly or inefficient to develop in-house [2]. Transaction Cost Economics (TCE) further explains outsourcing decisions based on minimizing coordination costs and managing opportunism under uncertainty. [3]. More recently, theories such as Relational Exchange Theory and Dynamic Capabilities Theory have been employed to capture the evolving, collaborative nature of logistics outsourcing relationships [4].

A comprehensive understanding of the theoretical landscape is essential for identifying research gaps, understanding strategic outsourcing behavior, and guiding empirical investigations. This paper provides a theoretical overview of logistics outsourcing studies, synthesizing key concepts, frameworks, and evolving trends in the literature. By doing so, it aims to enhance scholarly understanding

and support the development of robust models for future research in this domain.

2 Definition

Since the 1980s, the concept of outsourcing has emerged as a business strategy that offers numerous advantages in improving profitability, especially for large enterprises [5]. Today, outsourcing services has become a common trend among small and medium-sized enterprises (SMEs), particularly among smaller firms, and is no longer the sole priority of large corporations [6,7]. This indicates that outsourcing is a flexible solution adopted by many businesses worldwide to build a competitive advantage.

Currently, there are various definitions of service outsourcing. One commonly cited perspective refers to the use of external supply sources. This approach helps businesses overcome challenges such as the lack of technology and human resources, while also reducing investment costs in machinery and equipment [5]. Any activity that is necessary for a company's survival but not part of its core operations is considered an outsourced function. This refers to an agreement in which a business transfers part of its operations to an external partner through a service provision contract.

Another approach suggests that outsourcing involves a company entrusting part or all of its internal functional activities to an external partner who is responsible for executing them [10]. To clarify further, Murem [11] describes outsourcing as the process by which a business delegates part of its operations—whether core or supporting—to a service provider through a contractual agreement. This allows managers to focus resources and

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time on core business activities, thereby improving efficiency and competitiveness.

Logistics outsourcing refers to the strategic use of external service providers to perform logistics functions that have traditionally been handled internally by the company. These functions can include transportation, warehousing, inventory management, order fulfillment, and other supply chain-related activities. According to Sink and Langley (1997) logistics outsourcing is "the use of external companies to perform logistics functions that have traditionally been performed within an organization," with the goal of achieving cost reduction, service improvement, and enhanced focus on core competencies [12].

Logistics outsourcing encompasses a range of services that companies delegate to third-party providers to enhance efficiency, reduce costs, and focus on core competencies. Common types include transportation outsourcing, where external firms handle inbound and outbound freight; warehousing and distribution, which involve storage, order fulfillment, and last-mile delivery; and inventory management, where providers assist with stock control and forecasting. Additionally, many firms outsource freight forwarding and customs brokerage to navigate complex international trade regulations, as well as reverse logistics services for handling returns and recycling processes. These outsourcing strategies allow companies to access specialized expertise and flexible infrastructure while improving overall supply chain performance [1,13].

3 Research method

A systematic literature review is the process of identifying and analyzing articles to draw conclusions, thereby identifying gaps and future research opportunities. The literature review is conducted through the following steps:

- Step 1: The investigation spans the period from 2010 to 2025.
- Step 2: Articles are gathered from Scopus databases.
- Step 3: Keywords such as 'logistics service provider', 'logistics service provider selection', 'logistics partner outsourcing', 'logistics service', 'logistics outsourcing', 'third-party logistics provider', 'third-party logistics', '3PL', 'green logistics', 'sustainable logistics', and 'triple bottom line sustainability' are searched in these databases.
- Step 4: Articles unrelated to the topic are excluded. Relevant articles on the evaluation and selection of logistics service providers are retained. This list is further refined by including articles published between 2010 and 2025. All articles are categorized and analyzed to understand the progress made over the past decade.

- Step 5: In the final step, research gaps, findings, and directions for future work are identified.

In this study, VOSviewer is employed as a bibliometric analysis tool to visualize and explore the intellectual structure of research on logistics outsourcing decisions. By analyzing co-authorship, keyword co-occurrence, and citation networks, VOSviewer enables the identification of key themes, influential authors, and emerging trends within the field. This methodological approach supports a systematic review by revealing clusters of research topics such as third-party logistics (3PL), decision-making criteria, outsourcing strategies, and performance evaluation. The visualization maps generated by VOSviewer provide insights into how the literature has evolved over time, highlighting both well-established areas and gaps that warrant further investigation.

4 Results and discussion

Table 1 below provides a clear picture of prominent researchers in the field of logistics service providers. It can be observed that Liu, Weihua is the most active author with 23 papers and the highest link strength (61), indicating a strong academic connection. However, in terms of influence, Knemeyer, A. Michael, and Lai, Fujun stand out more with over 1,100 citations, despite not having the highest number of publications. This highlights the significant quality of their work. Zhao, Xiande is also an impressive name, with both a high number of publications (20) and a substantial citation count. Additionally, names such as Choy, K.L., and Huang, George Q. show their influence through their strong connections within the research network. Overall, this table not only demonstrates who has published the most or been cited the most but also helps us better understand which authors are making an impact and who has strong connections within the academic community—valuable information when searching for key authors to reference.

The data from Table 2 shows that the United States and China are the leading countries in research in this field. The U.S. has the highest number of citations (18,503) and total link strength (TLS) (208), while China has the most publications (388) and the highest TLS (247), indicating a broad research network and a high level of international collaboration. The United Kingdom, Hong Kong, and Australia also hold strong positions in both citations and link strength, reaffirming the role of academic hubs in Europe and Asia. Countries such as India, Singapore, Malaysia, and South Korea, although having fewer publications and citations, still maintain positions in the top 20, demonstrating growing potential and the increasing development of research in the field.

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Table 1 Summary of prominent researchers on logistics service providers

No.	Authors	Documents	Citations	Total Link Strength
1	Liu, Weihua	23	606	61
2	Choy, K.L.	16	482	53
3	Huang, George Q.	14	567	44
4	Zhao, Xiande	20	1,066	43
5	Ho, G.T.S.	9	332	33
6	Zhao, Zhiheng	7	207	33
7	Lai, Fujun	16	1,123	32
8	Huo, Baofeng	13	691	31
9	Ojala, Lauri	10	331	30
10	Wang, Xueqin	10	320	29
11	Huang, Min	10	158	28
12	Knemeyer, A. Michael	15	1,167	28
13	Ganesh, K.	10	244	27
14	Pugazhendhi, S.	10	244	27
15	Rajesh, R.	12	246	27
16	Solakivi, Tomi	9	169	27
17	Töyli, Juuso	8	273	27
18	Yuen, Kum Fai	10	285	27
19	Zhong, Ray Y.	4	168	27
20	Lai, Kee-Hung	11	967	26

Source: Analysis results from VOSviewer software.

Table 2 Top 20 leading countries in logistics service providers

No.	Country	Documents	Citations	TLS
1	China	388	12,673	247
2	United States	349	18,503	208
3	United Kingdom	174	7,454	167
4	Hong Kong	115	5,101	111
5	Australia	77	2,575	87
6	France	88	3,343	84
7	India	177	4,994	76
8	Germany	140	5,517	66
9	Singapore	62	2,423	64
10	Malaysia	88	1,993	50
11	Taiwan	87	2,947	49
12	South Korea	78	1,599	48
13	Italy	85	4,256	47
14	Canada	53	1,815	43
15	Netherlands	56	2,789	43
16	Finland	80	2,760	41
17	Sweden	92	4,354	40
18	Denmark	36	2,657	39
19	United Arab Emirates	28	763	33
20	Poland	42	1,174	24

Source: Analysis results from VOSviewer software.

The image was created using VOSviewer, a powerful tool used to analyze and visualize keyword networks from scientific literature. VOSviewer allows users to identify and observe the relationships between research topics, particularly how they connect and interact with each other.

Figure 3 provides an overall view of research trends in the field of logistics services and logistics service providers

(LSPs). Based on data from 2010 to 2025, keywords are connected through their co-occurrence frequency in research papers, with colors representing time: the more yellow the color, the more recent the term. Keywords like "logistics," "supply chain," "third-party logistics," "outsourcing," and "supply chain management" stand out

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Source: Analysis results from VOSviewer software.

of the development and connections between authors in this field. Authors such as Huang, George and Lai, Po-lin have significant influence, with their proximity on the map indicating a potential for collaboration in research. The links between authors are shown by connecting lines, with thicker lines representing strong collaborations and long-term research groups, such as Choi, K.L., and Kwok, S.K. Recent authors like Gunasekaran, Angappa and Ali, Sadia Samar focus on emerging issues in logistics, including sustainable logistics and digital technologies. The map also highlights the increasing research activity in recent years, reflecting the robust growth of this field, especially in the context of globalization and new technologies.

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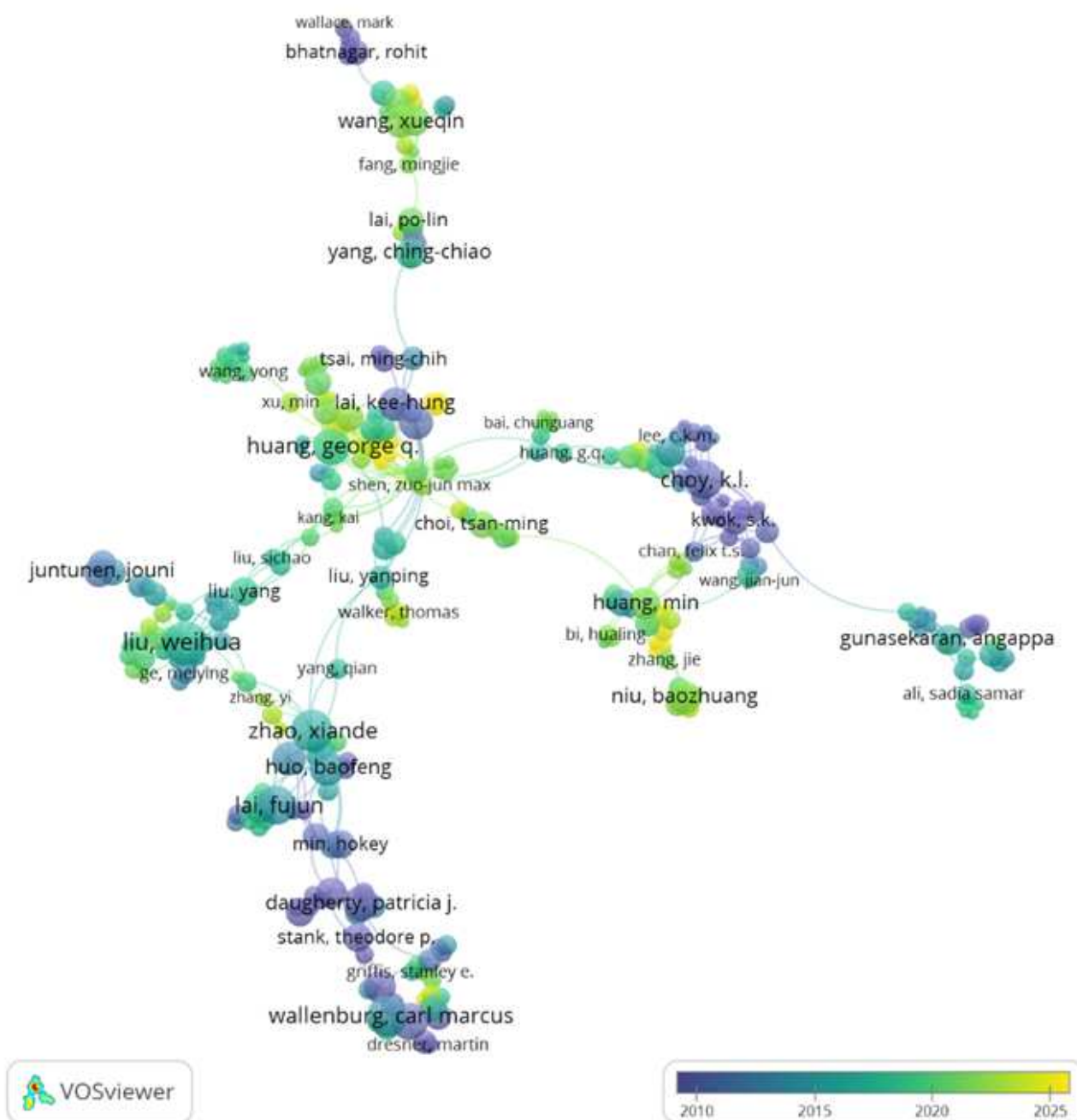


Figure 4 Author map on research about logistics service providers (LSPs)

Source: Analysis results from VOSviewer software.

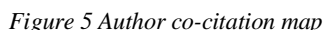
The author's co-citation map (Figure 5) reveals the intellectual structure of the logistics and supply chain management field, which is divided into four main clusters. The red cluster focuses on topics such as logistics marketing, service quality, and customer behavior, with key authors like Parasuraman, Mentzer, and Hair. The blue cluster reflects research on supply chain management (SCM), logistics performance, and SCM integration, represented by authors such as Gunasekaran, Christopher, and Dubey. The green cluster primarily consists of Chinese authors like Wang, Zhang, and Li, indicating a trend in the

development of smart logistics, digital technology applications, and cold chain logistics. The yellow cluster focuses on green supply chain management and sustainable logistics, with authors such as Govindan, Sarkis, and Diabat. The clear grouping shows different theoretical approaches, while also opening up opportunities for interdisciplinary research between fields like digital technology and sustainable logistics or between customer behavior and supply chain performance.

Through the process of analyzing the titles and abstracts of articles, the author has identified a total of 43

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Long-term commitment and trust between parties play a crucial role in logistics outsourcing relationships. Chu et al.. [22] and Yuan et al.. [23] found that relationship norms and cultural factors, such as *guanxi*, help enhance the sustainability of cooperation. Moreover, these non-technical factors help control opportunistic behaviors and create an effective collaborative environment [25].



Emotional factors, value perception, and the environment influence consumer behavior in logistics services, particularly in last-mile delivery. Li et al. [34,35] argue that customer satisfaction, loyalty, and positive perceptions are key drivers of service selection and continued usage. This is especially important in the context of the growing e-commerce sector.

5 Conclusions

The paper provides an overview of the theory and existing research on logistics outsourcing decisions, emphasizing the importance of this strategy in improving operational efficiency and reducing costs for businesses. Logistics outsourcing not only helps companies save costs but also allows them to focus on their core competencies and gain flexibility in meeting market demands. Studies have shown that factors such as cost, responsiveness, and environmental sustainability are key elements influencing logistics outsourcing decisions. Moreover, long-term relationships and trust between collaborating parties play an essential role in maintaining effective logistics outsourcing partnerships.

In addition, non-technical factors such as organizational culture and emotional elements are increasingly emphasized in logistics outsourcing research, especially in the context of rapidly changing technology and the growing need for sustainability. Recent studies also highlight that digital transformation and modern technologies such as IoT, RFID, and smart systems are fundamentally changing logistics models and improving supply chain management efficiency.

The paper also points out that research in this field is gradually shifting toward new trends such as e-commerce, customer satisfaction, and sustainability factors, such as the impact of COVID-19 on logistics and the development of more flexible logistics models. The integration of digital technology with logistics, along with support from government policies, are key factors driving significant changes in modern logistics operations.

However, there are still many research gaps, particularly regarding how companies can integrate new technologies into logistics outsourcing models to optimize efficiency. These studies need to be expanded to propose more effective and sustainable logistics outsourcing models in the future. At the same time, factors related to collaboration, information sharing, and building trust between partners will continue to be important research topics in this field.

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Single-blind peer review process.