

A Systematic Literature Review on Urban Logistic in a Sharing Economy

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Abstract

The sharing economy is fundamentally transforming urban logistics, presenting both opportunities and challenges. This systematic literature review investigates the key research themes and methodologies employed in studying this dynamic field. We conducted a comprehensive search in corpus analysing numbers of peer-reviewed articles to address what is the main topics and challenges explored in urban logistics within the sharing economy and how this research methodologies related to this main topic. The paper discusses the main evidence emerging from a systematic literature review (SLR) on urban logistics. The corpus resulting from the SLR has been used to perform a citation network analysis and a main path analysis that together underpin the identification of the most investigated topics and methodologies in the field. Through the analysis of a corpus of 109 articles, our findings reveal that urban logistics in the sharing economy faces several prominent challenges, including traffic congestion, pollution, and last-mile delivery. Studies consistently emphasize the crucial role of technology in addressing these issues, highlighting innovations such as route optimization, real-time tracking, and alternative delivery methods. Furthermore, we identified the growing importance of policy interventions in promoting sustainable and efficient practices. Studies explored the implementation of measures like congestion pricing and urban logistics zones, reporting positive outcomes such as improved traffic flow, reduced emissions, and optimized use of urban logistics spaces. This systematic review contributes significantly to the field of urban logistics in the sharing economy in identifying key thematic areas and highlighting their specific relevance to the sharing economy context. By doing so, it will offer valuable insights and recommendations for future research, emphasizing the need for further exploration of the long-term impacts of technological innovations and policy interventions, as well as the integration of diverse methodological approaches for a comprehensive understanding of this complex and evolving field.

Keywords: *Sharing economy; collaborative economy; peer-to-peer (P2P) economy; digital economy; platform economy; urban logistics; city logistics; urban freight; last mile delivery; urban delivery.*

Introduction

"Urban" broadly describes the qualities typical of cities and towns. It includes various aspects typical of densely populated areas, such as sophisticated infrastructure, advanced development, and distinctive lifestyles. Urban regions are notably marked by their high population density, extensive infrastructure, and the aggregation of economic, cultural, and social endeavours (Sönke, 2016). Serving as hubs of vitality, innovation, and progress, cities are perpetually evolving entities. They function as consumption hotspots, dependent on regular deliveries ranging from groceries and retail items to express business shipments and an expanding sector of home deliveries (Pu, 2019). The rising proportion of people residing in urban settings, coupled with concerns over pollution and safety in metropolitan areas, challenges like traffic and congestion, and the advent of new technologies, have captured the focus of both researchers and policy makers in the field of urban transportation (Lagorio et al., 2016). Logistics encompasses the entirety of processes involved in planning, implementing, transporting, storing, packaging, and distributing a product or service from the producer to the consumer (Gülçin & Öykü, 2022). These processes impact not just the production and logistics sectors but the urban centers themselves. As more people inhabit these areas, the complexities of urban mobility escalate.

As urban populations swell, they usher in numerous mobility issues, including traffic congestion, increased urban freight movement, elevated energy consumption, and escalating pollution levels (Sönke, 2016). Urban logistics aims to tackle these challenges. This field focuses on identifying and analysing logistical issues in modern cities and devising appropriate solutions and models, positioning it as a pivotal area in contemporary urbanization strategies. Urban logistics plays a crucial role in the operation of modern urban economies. Within the context of a smart city, one of the key components is "mobility." This concept

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encompasses the movement of people, goods, services, and information within and around the city, facilitating a dynamic urban flow (Gülçin & Öykü, 2022).

Urban logistics is indispensable for enhancing the quality of life of its residents, boosting urban competitiveness, and fostering sustainable economic growth. Thus, it remains a vital component for the economic health of cities (Juan et al., 2023). Additionally, the role of cities as production hubs also involves substantial freight activities related to their position in global supply chains. In cities that act as centres for national and international commerce, urban freight is critical for wholesaling, distribution, logistics, and intermodal operations (NCFRP, 2013). Globally, cities have undertaken significant trials to optimize urban logistics, aiming to enhance logistics performance while minimizing its adverse environmental and socio-economic impacts. Despite these efforts, many urban logistics initiatives have fallen short, often showing undesirable side effects or a heavy reliance on government subsidies (Macharis & Melo, 2011). This shortfall can be attributed to the failure to adequately consider the complexity and diversity of urban logistics in the planning and implementation of these measures. A city, bustling with myriad economic sectors, relies on the seamless operation of hundreds of distinct supply chains (Chua, 2018). Moreover, the nature of urban logistics varies greatly around the world due to local differences. Cities not only vary in size—from small towns to rapidly expanding metropolises—but also in cultural settings, with some places being particularly sensitive in cultural or heritage terms. Differences also exist in geographical and climatic conditions, as well as in economic circumstances.

Several crucial aspects define urban logistics, including the concept of 'last mile delivery,' which represents the final segment of the supply chain. This is where goods travel from a distribution centre to the end consumer. Efficient last mile delivery is essential for fulfilling customer expectations and mitigating congestion in urban environments. As e-commerce expands and consumer demands evolve, the realm of urban logistics gains increased significance for businesses and city planners alike. These stakeholders are now more focused than ever on devising sustainable and efficient supply chains specifically tailored for urban settings. This shift is crucial for accommodating the rapid pace of urbanization and the accompanying changes in shopping behaviours and delivery expectations.

Literature Review

Challenges in Urban Logistics

The logistics industry faces numerous challenges, with sustainability within the transport sector standing out as a key concern. To function effectively, logistics providers depend on robust and reliable infrastructure, including highways, railways, ports, and airports (Le et al., 2018). The significant role of logistics as a vital component in urban logistic trade and economic growth cannot be overstated, as speed, costs, and efficiency are crucial for maintaining competitiveness in the industry (Hye et al., 2020). While various studies have pointed out the potential within the logistics sector (Cichosz et al., 2017; Hu et al., 2016; Le et al., 2018), the performance of logistics companies often falls short of remarkable (Miraz et al., 2016). Despite these performance issues, the logistics industry is progressing positively, though there is substantial room for improvement. This need for enhancement has been acknowledged in numerous studies and a transportation blueprint, which have outlined key issues and challenges facing the logistics industry (Ahmad et al., 2017).

Addressing these challenges requires a strategic focus on several critical areas. Initially, it's important to recognize the substantial increase in transport activity, which is expected to nearly double between 2010 and 2020. This rise is largely driven by a growing global economy that demands more frequent movement of goods and people. Currently, the logistics industry faces several major issues that diminish its efficiency and functionality. A significant challenge is the increase in heavy vehicle traffic on roads, which leads to serious congestion. This congestion is particularly acute in local and urban settings, where the relentless transit of heavily laden vehicles often results in severe traffic jams. Another pressing issue is the inefficiencies in urban logistics operations. Activities such as loading and unloading in commercial areas are frequently disorganized, lacking cohesive planning and thus contributing to operational chaos and inefficiency. Additionally, the unauthorized use of residential areas and roadsides as parking for heavy vehicles exacerbates the situation, turning residential neighbourhoods into disordered, congested areas due to poor logistical planning. The logistics sector also struggles with the lack of inter-modal transport options,

which could alleviate some of the congestion by diversifying the modes of transportation. Moreover, the inadequate connectivity and accessibility of roads to key industrial and commercial hubs further impair the industry's efficiency. Addressing these challenges is crucial for enhancing the performance and sustainability of the logistics industry, ultimately leading to more streamlined operations and improved urban mobility.

Unhealthy competition within the logistics sector also presents a major challenge. Haulage operators often engage in cutthroat competition, resulting in a fragmented industry with a weak institutional framework. This lack of collaboration and information sharing among industry players exacerbates competitive pressures, hindering effective logistics planning and coordination. To counteract these problems, a comprehensive strategy that includes regulatory measures, infrastructure development, and enhanced industry collaboration is essential to cultivate a more efficient and sustainable logistics ecosystem. Another pressing issue is the inadequacy of logistics infrastructure. Insufficient logistics facilities not only affect operational efficiency but also diminish a region's competitiveness on a global scale. Strategic investments are required to upgrade and expand logistics infrastructure to meet the industry's growing demands. Moreover, the underutilization of Information and Communication Technology (ICT) in logistics operations compounds these challenges. Industry players often lag in adopting advances in supply chain management and fail to effectively leverage ICT systems. This results in outdated logistics practices that undermine efficiency and global competitiveness. The insufficient use of ICT hampers real-time tracking and monitoring of parcels and limits the implementation of data-driven decision-making processes. Encouraging the widespread adoption of ICT tools and technologies within the logistics sector is crucial. This will streamline operations, enhance transparency, and ensure that the industry keeps pace with technological advancements. Addressing these issues collectively will be instrumental in creating a resilient and technologically adept logistics landscape, capable of meeting the evolving demands of a dynamic global market.

Despite the critical need for sustainable solutions, technological advancements such as the development of fuel-efficient vehicles and alternative power sources have not kept pace with the rapid increase in transport demand. This lag highlights the pressing need to boost technological innovation to mitigate the environmental impacts of the expanding vehicle fleet. Addressing these challenges demands a concerted effort to accelerate innovations in green transport technologies, enhance energy efficiency, and promote sustainable practices within the logistics industry. Only through such proactive measures can the sector hope to align with global environmental goals and ensure a sustainable future for transportation. These efforts should include investing in research and development for new technologies that reduce the carbon footprint of transport operations, implementing policies that incentivize the adoption of cleaner technologies, and fostering collaborations between governments, industry stakeholders, and research institutions. By doing so, the logistics industry can not only meet the increasing demands of global trade but also contribute significantly to environmental sustainability. This is essential for reducing the long-term ecological impact of logistical activities and for ensuring that the logistics sector plays a vital role in promoting a greener economy.

Research Gap

However, despite its importance and increasing relevance, the literature on urban logistics remains quite fragmented, which obstructs a comprehensive understanding of the field and complicates the identification of critical gaps that need addressing. An initial review conducted at the start of this study revealed a significant shortfall in a systematic and encompassing literature analysis that consolidates existing knowledge on urban logistics and tracks the evolution of the discipline. While the existing literature recognizes the significant challenges faced by urban logistics, there is a noticeable lack of depth in understanding the specific obstacles and opportunities presented by the diverse urban landscape. Current research often provides broad insights into urban logistic challenges, yet it falls short of examining how specific factors—such as varied city structures, traffic patterns, and cultural contexts—affect the efficiency and effectiveness of delivery operations. Further research is imperative to explore the distinct nuances of urban logistics, with an emphasis on devising context-specific strategies and solutions that cater to the intricacies of local urban environments. This approach will not only fill the existing knowledge gaps but also enhance the practical application of urban logistics solutions, tailored to meet the unique demands of

different cities. Such focused studies are crucial for advancing the field and supporting the development of more resilient and efficient urban logistics systems.

This research gap in urban logistics highlights the need for more targeted and context-specific investigations that consider the unique characteristics of different urban environments. This could include examining the roles of urban planning, infrastructure development, and cultural factors in shaping the challenges of urban logistics, with the aim of identifying strategies that are specifically tailored to the contexts of various cities. Consequently, there is a pressing demand for innovative approaches to managing urban logistics, necessitating new knowledge that addresses the diversity and complexity inherent in urban settings. To this end, this paper presents the results of a systematic literature review (SLR) on urban logistics, viewed through the lens of logistics and management disciplines. An SLR facilitates a detailed longitudinal analysis of the literature, enabling the consolidation of existing knowledge on urban logistics and providing an analysis of how the discipline has developed over time. This systematic approach helps identify where further research is needed and offers potential directions for future investigation. By doing so, the SLR aims to bridge the current knowledge gaps and lay a foundation for advancing research in urban logistics, ensuring that it can meet the evolving challenges of modern cities effectively.

Research Questions and Objectives

In the realm of scientific literature on urban logistics, it is evident that the focus and subject matter can vary significantly. Some studies concentrate on specific topics or distinct areas of the field, while others adopt a broader approach, covering multiple topics within a single paper. For example, McLeod et al. (2011) zero in on the logistics of loading bays, providing a detailed examination of this particular aspect. On the other hand, Stathopoulos et al. (2012) explore a wider scope by examining stakeholder reactions to innovative public policies, highlighting the broader impacts and responses to changes within urban logistics. This variety in focus underscores the complexity and multifaceted nature of urban logistics challenges, which are influenced by a myriad of factors ranging from infrastructural to regulatory and societal dimensions. The current study delves into these complexities to better understand and address the unique challenges faced in the logistics operations of urban cities. By focusing on context-specific insights, this research aims to provide targeted recommendations that enhance the efficiency and effectiveness of urban logistics systems. Such a tailored approach is crucial for developing practical solutions that are responsive to the specific needs and conditions of different urban environments. This not only improves logistic operations but also contributes to the broader goals of sustainable and resilient urban development. Because no systematic analysis of these topics is available, the first research question (RQ) addressed in this paper is:

RQ1: What are the main topics, that is, the main subjects of discussion in a paper, in urban logistics?

The research methodologies employed in studies of urban logistics vary widely, reflecting the diverse nature of the challenges and questions addressed. The literature showcases a spectrum of approaches ranging from case studies, as described by Arvidsson (2013), which offer an in-depth and detailed examination of specific subjects, to mathematical and statistical modeling exemplified by Yang et al. (2015), which provide quantitative insights into logistics dynamics. Additionally, survey methods and stated preferences, as utilized by Anand (2012), help gather subjective data from participants regarding their attitudes and preferences. Although it can be hypothesized that certain methodologies are better suited to specific topics, a comprehensive analysis that correlates methodologies with topic suitability has not yet been conducted. Such an analysis could yield valuable insights into the most appropriate methodologies for different types of research questions in urban logistics. It might reveal, for instance, that case studies are particularly effective for exploring new or complex issues where detailed context is crucial, whereas mathematical models are best suited for issues that can be quantified and where predictive accuracy is important. Furthermore, identifying which methodologies provide the most comprehensive coverage of a topic could significantly enhance the field of urban logistics. It could guide future research by suggesting optimal approaches for various investigative needs, ensuring that studies are both effective and efficient in addressing the multifaceted challenges of urban logistics. This approach would not only streamline research efforts but also potentially increase the impact and relevance of the findings within the field. Consequently, the second research question is:

RQ2. What are the main research methodologies employed and how are they related to the main topics?

Significance of the Review

Urban logistics, particularly in the context of the sharing economy, plays a pivotal role in supply chain management within densely populated urban areas. This study fills a notable void in the existing literature by exploring the unique challenges and opportunities the urban landscape presents in terms of the sharing economy. While the significance of urban logistics is recognized in the scholarly community, there remains a lack of detailed knowledge concerning the specific factors that influence this critical stage of the supply chain. This research aims to bridge this gap by providing context-specific insights that contribute to a deeper understanding of the logistics challenges in urban settings. By delving into how the sharing economy can be leveraged to optimize the delivery of goods in urban environments, this study offers valuable perspectives for logistics practitioners and businesses operating within these cities. The practical implications of this research are significant. By pinpointing specific challenges and opportunities in urban logistics, the study seeks to aid in the development of more effective and efficient logistics strategies. This can lead to streamlined operations, reduced logistical costs, and improved competitiveness of logistics services in urban areas. Ultimately, this research not only enhances academic understanding but also provides actionable strategies that can be implemented by businesses to capitalize on the advantages of the sharing economy in urban logistics.

Methodology

In exploring the main research biases and paths traversed by the field of urban logistics, this study utilized a descriptive approach grounded in a systematic literature review (SLR). The SLR differs from traditional reviews in that it incorporates specific protocols for data extraction and processing. According to Vries et al., (2016), our review process was structured into four key stages: (1) identifying relevant articles through blocks of keywords; (2) screening these articles based on predefined research questions; (3) applying eligibility criteria to the extracted data; (4) selecting the most pertinent articles for detailed data summarization and analysis. For this study, the search strategy was specifically designed to uncover relevant literature on urban logistics within Malaysian cities. A comprehensive set of keywords was employed, detailed in Table 1 of the study, with Boolean operators used to combine and refine search terms, such as (Urban Logistics OR City Logistics) AND (Sharing Economy OR Digital Economy). The search was conducted primarily through the Web of Science (WoS) database, with the publication timeframe restricted to 2010 through 2023. This period was chosen to ensure the inclusion of contemporary developments and insights in the field of urban logistics. Only peer-reviewed articles were included in the study to ensure the credibility and reliability of the data, while conference abstracts were excluded. The focus on English-language publications was intended to maintain consistency and facilitate a comprehensive analysis. The search strategy was periodically reviewed and refined based on initial findings, ensuring a dynamic and responsive approach to literature gathering. Detailed documentation of the process was maintained, recording the databases searched, queries used, and the number of results obtained. This meticulous approach aimed to ensure a thorough and accurate capture of relevant literature, providing a robust foundation for understanding the evolution and current state of urban logistics research. The search strategy as in Table 1 below:

Table 1. Final search strategy terms.

Inclusion Criteria	Description
Keywords	((“Sharing Economy” OR “Collaborative Economy” OR “Peer-to-peer (P2P) Economy” OR “Digital Economy” OR “Platform Economy”) AND (“Urban Logistics” OR “City Logistics” OR “Urban Freight” OR “Last Mile Delivery” OR “Urban Delivery”))
Language	English
Document Types	Articles
Source Types	Peer Reviewed Journal
Time Interval	2010 - 2023

By meticulously applying these criteria, the search aimed to yield a refined collection of literature that addresses the specific nuances of urban logistics within urban cities. The first step involved assessing titles and abstracts against the inclusion and exclusion criteria to ensure alignment with the research focus on urban logistics, considering the specified temporal and geographical parameters. This initial screening

served to quickly filter out irrelevant studies, streamlining the selection process for deeper review. In the second step, full-text articles were thoroughly examined to ascertain their eligibility for inclusion in the review. This in-depth assessment was critical in ensuring that the articles not only met the basic inclusion criteria but also contributed substantively to the research questions posed by the study. During this phase, duplicates were systematically removed to avoid redundancy in the analysis. After eliminating duplicates, the remaining records underwent a rigorous two-step screening process. The first stage of this process involved a more detailed evaluation of how well each article addressed the core aspects of urban logistics in urban settings, scrutinizing the methodologies, findings, and relevance to the broader research aims. In the second stage, selected articles were further assessed to ensure a comprehensive understanding and coverage of the topic, evaluating the depth of analysis and the potential for providing new insights or confirming existing knowledge. This thorough and structured approach to literature review ensures a robust and reliable foundation for synthesizing the existing body of knowledge on urban logistics, highlighting gaps, and setting the stage for future research directions.

Study Selection Process

The study selection process for the systematic literature review on urban logistics was structured and meticulous, adhering to a well-defined methodological approach. This process began with an initial screening of literature using the predefined search strategy executed across the Web of Science (WoS) database. During this stage, any literature that did not meet the relevance criteria was promptly removed. To enhance transparency and replicability, the selection process was thoroughly documented. A flowchart illustrating the stages of screening was created, detailing each step from the initial database search to the final selection of studies. This visual representation helped clarify the process for any future reviews and ensured a systematic approach was visibly followed. This meticulous methodology aimed to ensure that the final set of studies included in the review met the established criteria and contributed meaningfully to the synthesis of knowledge on urban logistics, particularly within the context of the sharing economy. The comprehensive data extraction that followed allowed for a nuanced understanding of the various dimensions of urban logistics. This included not just the logistical processes themselves but also their integration within the larger framework of urban economies and the sharing economy. The data, once extracted, was organized systematically, serving as the foundation for subsequent synthesis and analysis. This organization facilitated the identification of trends, patterns, and gaps in the existing literature, providing a clearer picture of the state of urban logistics research. Following the data extraction phase, a meticulous quality assessment was undertaken to evaluate the reliability and methodological rigor of the studies included. This assessment considered factors such as study design, data collection methods, and the robustness of the analytical techniques used. The aim was to ensure that the conclusions drawn from the systematic review were based on scientifically sound and reliable information, ultimately contributing to the body of knowledge with high-quality research findings. This quality assurance step was crucial for upholding the integrity and utility of the review in informing future research and practice in urban logistics.

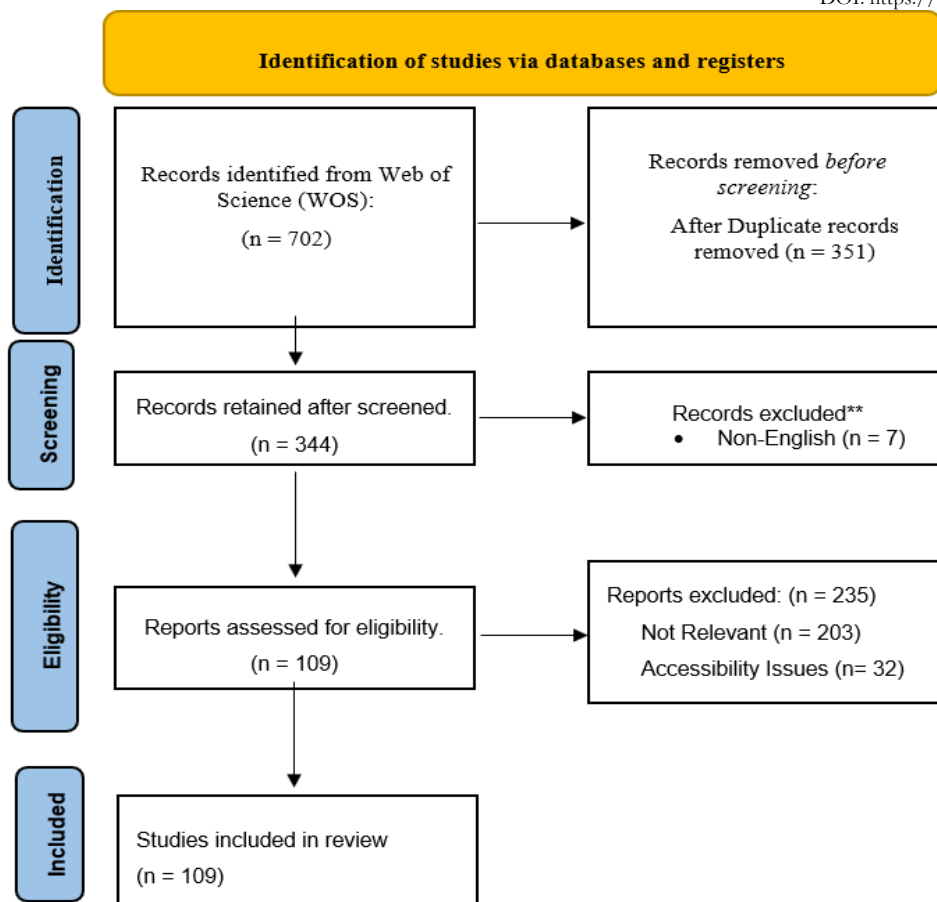


Figure 1. Flowchart of the PRISMA protocol.

After conducting the initial search on Web of Science (WoS), a total of 702 articles were identified as potentially relevant for further evaluation. At the screening stage, articles not published in peer-reviewed journals—such as conference papers, working papers, or book chapters—were excluded due to concerns about reliability and quality. Additionally, duplicates were removed from the set. This screening resulted in the exclusion of 351 articles, leaving 344 articles for more detailed evaluation. However, 7 articles were subsequently removed because they were published in languages other than English. At the eligibility stage, the remaining articles underwent a thorough review based on their titles, abstracts, keywords, and full texts to assess their relevance to the theme of this review. During this process, 32 articles were excluded due to access issues, 203 were excluded for content irrelevance, leaving 109 articles to advance to the final stage of review. During the inclusion stage, the references of these 109 articles were meticulously checked to ensure no relevant literature had been overlooked. Ultimately, 109 articles were identified as directly pertinent to the study's theme and were coded for content analysis. Due to space limitations in the publication, the detailed results of this coding process were summarized and included in the Supplementary Materials, which were made available for download on the journal's website. Following this extensive selection and refinement process, a systematic plan for data synthesis was formulated. This plan aimed to distil key insights from the diverse studies included in the systematic literature review on urban logistics. The objective was to identify common themes, trends, and gaps in the existing research, thereby providing a consolidated view that could inform future studies and practical applications in the field of urban logistics. The synthesized findings from this systematic review are presented in the subsequent sections of the paper, offering a comprehensive overview of the current state of knowledge, and identifying directions for future research.

The primary methodology for synthesizing the data from the systematic literature review on urban logistics within the sharing economy was narrative synthesis. This approach was specifically chosen for its effectiveness in integrating individual study findings into a cohesive narrative. It facilitated the exploration of patterns, contradictions, and overarching themes across the diverse studies, thereby providing a

comprehensive understanding of the field. In addition to narrative synthesis, thematic analysis was employed to further identify and categorize recurring themes specific to urban logistics in the context of the sharing economy. This method allowed for a systematic examination of common threads and unique aspects across the body of literature, enhancing the depth of the analysis. To address the challenge posed by varying methodologies among the studies, a sensitivity analysis was applied. This approach involved assigning more weight to studies identified as higher quality, ensuring that the most reliable and valid findings influenced the synthesis outcomes to a greater extent. For studies that reported differing outcomes, a qualitative synthesis approach was utilized. This involved highlighting the disparities among findings and exploring possible contributing factors that might explain these differences. Given the inherent heterogeneity of the data due to differences in geographical regions, urban logistics dimensions, and types of interventions a subgroup analysis was performed. This allowed for a more granular examination of how specific variables might influence outcomes, thus providing tailored insights that are crucial for policy and practice in urban logistics. This iterative process of synthesis was refined continuously, with regular discussions within the research team and peer reviews. Such interactions enhanced the rigor and transparency of the synthesis process, ensuring that the conclusions drawn were both robust and defensible. Overall, the systematic literature review aimed to deliver a nuanced and comprehensive understanding of urban logistics within the sharing economy, considering the diversity of methodologies and outcomes among the selected studies. This thorough approach provided valuable insights into the current state of the field and highlighted areas where further research is needed to address gaps and enhance knowledge in urban logistics.

Result

A comprehensive search strategy was employed using the academic Web of Science (WoS) database to identify relevant studies on urban logistics. This search successfully yielded a total of 109 records from various sources, encapsulating a diverse range of publications primarily composed of peer-reviewed articles. To visually represent the trends over time in research related to urban logistics, Figure 2 in the report displays the distribution of these papers by year, as cataloged in the WoS. Analysis of this distribution reveals some fluctuations over the considered time interval. However, a notable observation is the steady increase in contributions concerning urban logistics over the last five years. This uptrend underscores the growing academic and practical interest in this field, confirming the current relevance and urgency of the subject.

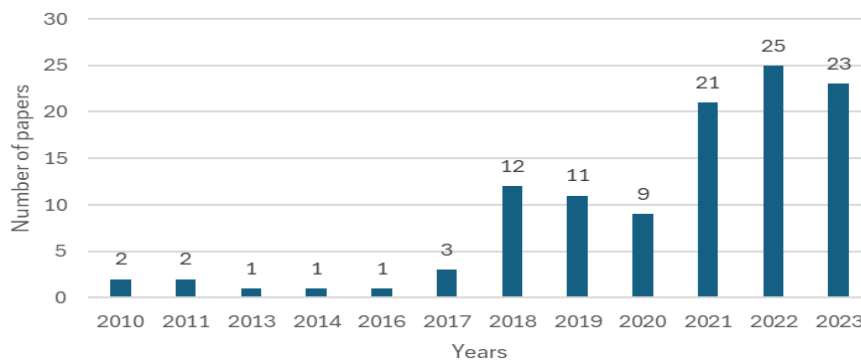


Figure 2. Volume of published articles by years

The data reveals a peak in the number of papers published in 2022, with 25 articles, indicating significant scholarly interest in urban logistics during this period. From 2021 to 2023, there was a substantial increase in publications, with these three years alone accounting for almost 62% of all articles published from 2010 onwards. This surge highlights the increasing focus on urban logistics issues as cities continue to grow and face more complex logistical challenges. An analysis of the journals where these papers were published, as shown in Figure 3, indicates that a total of 15 different journals contributed to the dissemination of research in this area. Interestingly, there is no single dominant journal, even though the subject of urban logistics is primarily addressed by journals focusing on transportation. This diversity in publication outlets suggests that urban logistics is a multidisciplinary field, attracting interest across various academic domains.

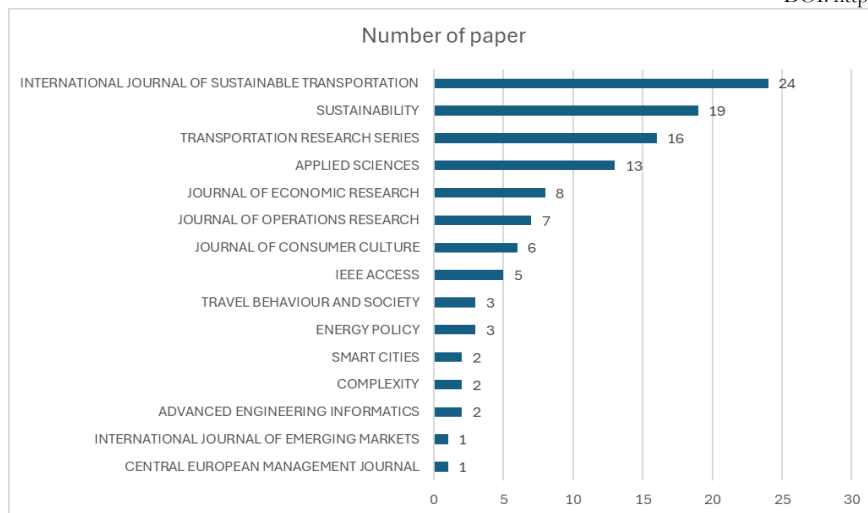


Figure 3. Number of papers addressing each journal.

In the culmination of the study selection process for the systematic literature review on urban logistics, 109 papers were ultimately included. These studies were meticulously chosen based on the predefined inclusion and exclusion criteria, which emphasized relevance and quality to ensure the selected literature would provide a comprehensive and meaningful foundation for analysis. The process was designed to capture a diverse range of perspectives and methodologies, laying a robust groundwork for the subsequent phases of data extraction and synthesis. To address the research questions identified as RQ1 and RQ2, a detailed classification of the papers based on the main topics they addressed was conducted. This classification followed a two-stage approach to ensure thoroughness and accuracy. Firstly, the same subset of 50 random papers was independently analyzed by the review team members, who then inductively defined a list of topics based on their findings. This initial stage allowed for a preliminary understanding of the thematic landscape within the selected literature. Following this, a review of the lists and a discussion among the team members took place to reconcile differences and define a final list of topics. This refined list was then applied to the remaining 59 papers. The second stage of classification confirmed the substantial stability of the initial topic identification, as it highlighted only minimal discrepancies in the understanding of topic assignments. Instances where duplicate meanings for topics appeared were resolved by consolidating such papers under a single topic, ensuring clarity and consistency in the classification. The results of this topic identification process are comprehensively reported in Table 2 of the study. This table outlines the main topics that emerged from the literature, providing a structured overview that facilitates an understanding of the prevalent themes and focus areas within the field of urban logistics. This classification not only aids in synthesizing the existing knowledge but also highlights areas that may require further investigation, thereby guiding future research efforts in urban logistics.

Table 2. Topics in the paper WoS.

Topic	Description	Papers
Mobility	The use of any transport to move physical goods and resources from one place to another.	2, 5, 9, 17, 31, 39, 51, 73, 79, 81, 85, 106
UCC	Infrastructures that allow the consolidation of goods before the last mile delivery. These facilities are usually classified into three main types, namely, urban consolidation centres (UCCs) depending on how long goods remain in the warehouse and what type of actions are performed regarding freight (i.e., consolidation, transshipment).	7, 15, 16, 17, 21, 29, 38, 40, 41, 45, 50, 53, 58, 60, 62, 65, 68, 71, 74, 78, 83, 87
E-Commerce	This topic concerns on-line goods purchasing and the related delivery processes. Papers addressing this topic were considered of interest because they considered the typical e-commerce customer living in an urban centre.	3, 18, 54, 56, 61, 69, 76, 80, 84, 86, 107

Policy	Logistics policies are documents that define the rules and procedures for managing the transportation and delivery of goods and services.	1, 4, 19, 28, 35, 55, 82, 109
ICT	The design and implementation of information and communication technology (ICT) solutions in urban logistics projects.	14, 35, 45, 57, 59, 77, 92, 100, 101, 104
Delivery	Delivery is the processes that manage how your products are acquired, stored, and transported to their final destinations.	43, 46, 47, 49, 64, 66, 67, 91, 103
Manpower	Manpower refers to how a product is acquired, how it is distributed, how it is allocated and how it is delivered by the number of people working.	6, 46, 48, 63, 75, 95, 96, 103, 105
Solution performance	This topic delves into unlocking the secrets of how urban logistics solutions affect our transportation systems.	11, 12, 24, 27, 28, 30, 41, 47
Green Logistic	Sustainable transportation refers to low- and zero-emission, energy-efficient, and affordable modes of transport, including electric and alternative-fuel vehicles, as well as domestic fuels.	8, 9, 26, 32, 34, 44, 52, 53, 72, 93, 108
VRP	Vehicles routing problems (VRP) solutions refer to the optimization of paths of individual vehicles or a fleet of vehicles to reduce routes, waiting times, emissions of pollutants and traffic congestion.	10, 22, 23, 31, 94, 106
Stakeholder	Stakeholders' engagement and management in managing this urban logistics projects.	16, 25, 37, 44
Joint Inventory	Joint inventory in logistic services refers to a collaborative approach where two or more entities share the responsibility and benefits of managing inventory.	33, 102
LTZ	Limited traffic zone (LTZ) is type of restricted traffic area found in many city centres where non-residents and unauthorized vehicles are prohibited from driving at certain times.	20, 42
Service Quality	Service quality in logistic services revolves around meeting and exceeding customer expectations and satisfaction throughout the process.	36, 70
Dark Stores	Dark store refer to retail distribution hub or warehouse designed to prepare and deliver goods purchased online.	99
Smart Cities	Smart cities in logistic refer to the use of new technologies, such as blockchain or big data, to optimize processes taking place in the warehouse.	13

Figure 4 displays the frequencies of the various topics as they appeared in the papers. It is noted that a paper can address more than one topic. The top four most frequently addressed topics were:

- UCC: Infrastructures that allow the consolidation of goods before the last mile delivery. These facilities are usually classified into three main types, namely, urban consolidation centres (UCCs) depending on how long goods remain in the warehouse and what type of actions are performed regarding freight (i.e., consolidation, transshipment).
- Mobility: The use of any transport to move physical goods and resources from one place to another.

- E-Commerce: This topic concerns on-line goods purchasing and the related delivery processes. Papers addressing this topic were considered of interest because they considered the typical e-commerce customer living in an urban centre.
- Green Logistic: Sustainable transportation refers to low- and zero-emission, energy-efficient, and affordable modes of transport, including electric and alternative-fuel vehicles, as well as domestic fuels.

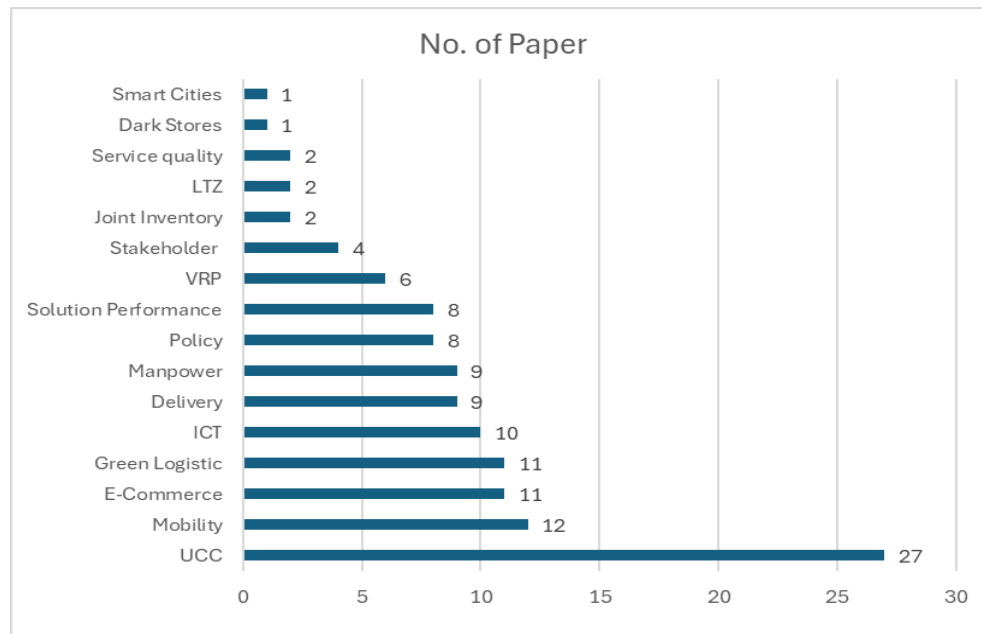


Figure 4. Number of papers addressing each topic

The systematic literature review on urban logistics included studies spanning various publication years, providing a broad understanding of the field's evolution. All papers were then classified based on the type of data they utilized and their research methodology. The studies were distinguished between those employing qualitative (or unstructured) data and those using quantitative (or structured) data. The distribution of these data types across the studies is visually represented in Figure 5. As indicated in the figure, quantitative data was the predominant type used, accounting for 48% of the studies. Quantitative data, which can be quantified and verified, lends itself well to statistical manipulation. Examples of such data include traffic flows, flows of goods, distances covered by vehicles, and orders from stores or e-commerce customers. This type of data is essential for defining specific aspects of urban logistics and for modeling and forecasting purposes. Following quantitative studies, qualitative data was utilized in 36% of the studies. Qualitative data, such as the opinions of stakeholders, cannot be measured directly and are used to provide context and deeper understanding of the issues at hand. This type of data is invaluable for describing and interpreting complex phenomena within urban logistics, offering insights into stakeholder perceptions and experiences.

Studies that combined both qualitative and quantitative methods accounted for 16%. Using both types of data allows researchers to conduct a more comprehensive examination of the phenomena being studied, as noted by Creswell (2009). This mixed-methods approach enables a more robust analysis by defining and describing the issues, thereby enhancing the validity and depth of the research findings. To address the complexities of urban logistics thoroughly, the study employs a multifaceted research approach, as detailed in Table 3. This approach encompasses a variety of research methods and data types to ensure a comprehensive understanding of urban logistics challenges and solutions.

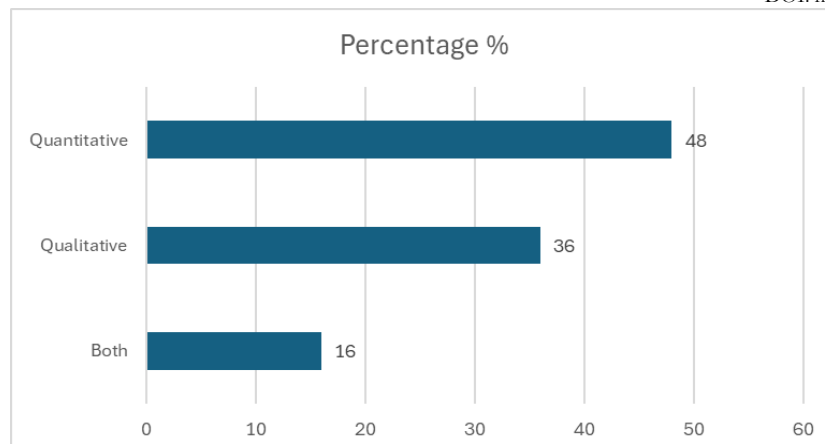


Figure 5. Types of data used.

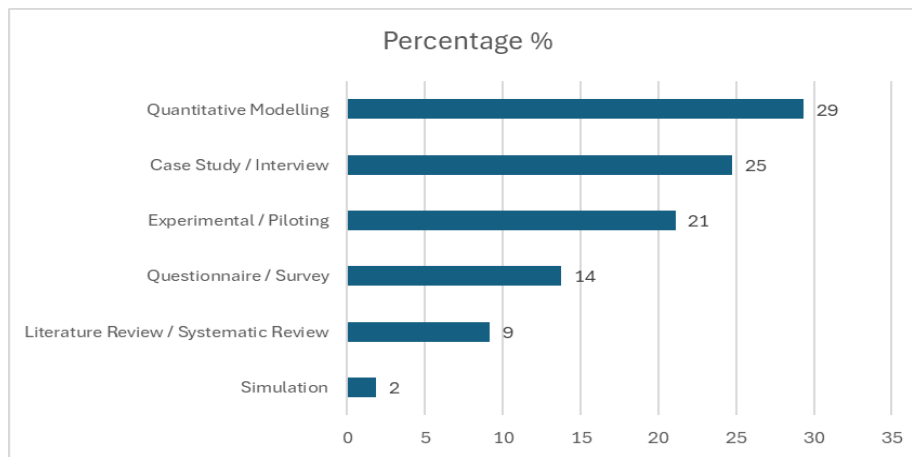


Figure 6. Types of research methods.

It has been observed that there has been relatively little use of literature reviews and simulation methods within the field of urban logistics research. Quantitative models, as expected, are predominantly employed to address routing and scheduling issues to optimize deliveries (Taniguchi & Shimamoto, 2004), determine the optimal locations for Urban Consolidation Centers (UCCs) (Yang & Moodie, 2011), or to predict behaviors through agent-based decision-making methods (Baindur & Viegas, 2011). These models are critical for operational optimization but may not fully capture the broader impacts and stakeholder perspectives. In contrast, interviews and case studies are more frequently utilized to assess the potential effectiveness of urban logistics solutions (Himanen et al., 2005), make comparisons between different urban contexts (Ballantyne et al., 2013), and understand the viewpoints of stakeholders involved in the decision-making processes (Lindawati et al., 2014). These qualitative methods provide deep insights into the practical implications and effectiveness of logistics interventions, offering a more human-centric perspective that quantitative models often overlook.

However, questionnaires and surveys, which are valuable tools for gathering extensive data from a broader audience, are utilized to a lesser extent compared to the methodologies mentioned above. This underutilization suggests potential areas for future research where surveys could be applied more extensively to extend and generalize findings from interviews and quantitative models. Surveys can bridge the gap between detailed case-specific insights and broader applicability across different urban settings. Interestingly, the review also revealed a scarcity of literature reviews and that those present primarily focused on reviewing specific projects rather than offering a broader review of literature (Allen et al., 2012). Most of these reviews relate specifically to sectors like Intelligent Transportation Systems (ITS) or e-commerce (Vanelslander et al., 2013), indicating a focus on applied research aimed at solving specific

problems rather than developing a cohesive theoretical framework or a shared understanding of key concepts in urban logistics.

This trend underscores the applied nature of the discipline, which is predominantly focused on addressing concrete logistical challenges within urban environments rather than exploring theoretical dimensions. This finding further validates the contribution of this systematic literature review by highlighting its role in providing a solid foundation of knowledge in urban logistics. This study addresses a significant gap by not only synthesizing existing research but also offering a broad and longitudinal perspective that has been largely absent in the field.

- **Quantitative Modeling:** Utilizes mathematical models and statistics to analyze data and test hypotheses, seeking numerical results and uncovering relationships between variables. Imagine building a digital simulation to predict market trends based on complex data analysis.
- **Case Study/Interview:** Delves deep into a particular individual, group, or event through interviews, observations, and document analysis, providing rich qualitative data and nuanced understanding of complex phenomena. Think of exploring the experiences of a specific patient during a new medical treatment through focused interviews.
- **Questionnaire/Survey:** Gathers data from a large sample using standardized questions, offering insights into attitudes, opinions, and behaviors. Picture analyzing responses from thousands of customers to understand their satisfaction with a new product.
- **Experimental/Survey:** Blends elements of both, manipulating variables to test cause-and-effect relationships with controlled groups while utilizing surveys to capture responses. Imagine administering a new teaching method to different groups of students while measuring their learning outcomes through questionnaires.
- **Literature/Systematic Review:** Synthesizes existing research on a specific topic, creating an overview of current knowledge and identifying research gaps. Picture compiling and analyzing studies on climate change to assess the global understanding of its causes and impacts.
- **Simulation:** Leverages computer models to mimic real-world processes and test hypotheses, studying complex systems and predicting outcomes under various conditions. Imagine creating a virtual model of an ecosystem to assess the impact of different conservation strategies.

Table 3. A summary of key details from each topic and methods used.

	Case Study / Interview	Quantitative Modelling	Questionnaire / Survey	Experimental / Piloting	Literature / Systematic Review	Simulation
UCC	15, 38, 40, 53, 60, 72, 78, 87, 90, 97	7, 17, 21, 29, 45, 58, 68, 98	16, 50, 62, 74, 88, 89	41, 83	65	-
Mobility	9, 85, 106	17	5, 51,	2, 31, 79, 81	73	39
E-Commerce	-	54, 69, 76, 80, 84, 86, 107	3, 18	56, 61	-	-
Green Logistic	26, 32, 72	93	-	52, 108	-	-
ICT	92, 101	35, 45, 57, 100, 104	77	14	59	-
Delivery	46, 64	47, 49, 67	-	66, 91, 103	-	43
Manpower	46	6, 48, 95	105	63, 75, 103	97	-
Policy	19, 28, 109	4, 35, 55	-	1	82	-
Solution Performance	12, 27, 28	11, 30, 47	-	41	24	-
VRP	10, 106	94	-	22, 23, 31	-	-
Stakeholder	-	-	16, 37	42, 44	25	-

Joint Inventory	-	-	102	33	-	-
LTZ	20	-	-	42	-	-
Service Quality	-	-	36	70	-	-
Dark Store	-	-	-	-	99	-
Smart Cities	-	-	-	-	13	-

Table 3 summarizes key aspects of each included study, providing a snapshot of key details from each topic and methods used relevant to urban logistics. The diversity in study designs and focal points contributes to a comprehensive overview of the state of urban logistics research in sharing economy.

Findings

The findings from the systematic literature review on urban logistics in sharing economy are thematically summarized below:

1. Challenges in Urban Logistics:

- *Traffic Management:* Numerous studies have pinpointed traffic congestion as a fundamental challenge in urban logistics, significantly affecting delivery times and overall operational efficiency. The implications of traffic management extend beyond mere inconvenience, influencing economic outputs, delivery reliability, and the quality of urban life. Efforts to optimize traffic flow and reduce congestion are critical, with strategies ranging from the implementation of advanced traffic control systems to the redesign of urban spaces to accommodate smoother flows of commercial traffic.
- *Pollution:* Environmental impact, particularly concerning air pollution, is another critical challenge identified by researchers. The logistics sector, especially in urban environments, contributes significantly to emissions due to the density of delivery activities. This has led to an increased focus on developing sustainable logistics practices, such as the adoption of electric vehicles, alternative fuel options, and optimizing delivery routes to reduce overall vehicle miles travelled. These initiatives not only address environmental concerns but also often improve operational efficiency and are increasingly demanded by environmentally conscious consumers.
- *Last-Mile Delivery:* The complexities of last-mile delivery in urban areas present unique challenges. Issues such as limited parking availability, strict delivery time windows, and varying customer preferences require innovative solutions. This segment of delivery is critical because it directly affects customer satisfaction and has significant cost implications. Strategies being explored include the use of micro-fulfilment centres, deployment of autonomous delivery vehicles, and improved logistics planning that considers real-time data and customer behaviour patterns.

2. Solutions Proposed or Implemented:

- *Technological Innovations:* The literature emphasizes the transformative impact of technology in urban logistics. Innovations such as advanced route optimization algorithms, real-time tracking systems, and automated delivery methods (including drones and autonomous vehicles) are increasingly integral to addressing logistical challenges. These technologies enable more efficient routing to avoid congestion, timely deliveries that adapt to real-time conditions, and the minimization of human errors. Furthermore, the integration of Internet of Things (IoT) devices and advanced analytics helps logistics companies to anticipate problems before they occur, enhancing the overall efficiency of urban logistics systems.
- *Policy Interventions:* Policy measures are crucial for supporting sustainable urban logistics practices and managing the complex dynamics of city traffic and commerce. Congestion pricing, for example, has been implemented in several cities to reduce traffic volume

during peak hours, thereby decreasing delivery delays and lowering emissions. Urban logistics zones, designated areas that prioritize or restrict logistics activities, help manage the impact of freight movements in congested urban centers. Policies encouraging or mandating the use of electric vehicles in these zones can significantly reduce pollution levels. Additionally, regulatory frameworks supporting the use of technology, such as allowing the operation of autonomous delivery vehicles or drones, can also accelerate the adoption of innovative logistics solutions.

3. Outcomes or Impacts Reported:

- *Positive Impact of Technology:* The adoption of advanced technologies in urban logistics has been consistently linked to several beneficial outcomes. Enhanced delivery efficiency is often reported, largely due to improved route optimization and real-time tracking capabilities that help avoid delays and reduce unnecessary travel. Operational costs are also significantly lowered through more efficient vehicle utilization and reduced fuel consumption, which, in turn, diminish environmental impacts. Additionally, customer satisfaction has seen notable improvements due to the precision and predictability that technology brings to the delivery process, such as accurate delivery windows and real-time updates for customers. Technologies like AI and machine learning further refine these processes, making them more adaptive and responsive to changing conditions.
- *Efficacy of Policy Interventions:* Evaluations of policy interventions have also shown favourable outcomes. Measures such as congestion pricing, the creation of low-emission zones, and the establishment of urban logistics hubs have contributed to improved traffic flow and reduced congestion in urban centres. These policies help allocate urban space more efficiently, ensuring that logistics operations do not overwhelm other urban functions. Furthermore, these interventions have been effective in reducing emissions by limiting the number of polluting vehicles in city centres and encouraging the use of greener transportation methods. The strategic use of these policies can significantly enhance the functionality and sustainability of urban logistics systems.

Quantitative Data: While the review covered a diverse range of study designs including case studies, theoretical analyses, and surveys, the majority of quantitative data originated from studies that used statistical methods or surveys. These methodologies provided a solid base for deriving measurable and verifiable data, crucial for quantifying the impacts and efficiencies in urban logistics. Below, a key quantitative table that presented which outlines some of the key quantitative findings table:

Table 4. Key Quantitative Findings.

Study	Quantitative Data
Tho and Satish (2019)	75% of survey respondents indicated that traffic congestion significantly affected last-mile delivery times.
Attila and Vilmos (2021)	Implementation of a congestion pricing policy resulted in a 20% reduction in traffic congestion, as evidenced by quantitative traffic flow data collected over a 12-month period.
Farook and Srikanta (2021)	Adoption of route optimization technology led to a 15% reduction in delivery times and a 25% decrease in fuel consumption, as quantified through comparative analysis pre- and post-implementation.

This comprehensive synthesis across thematic and quantitative dimensions provides a detailed overview of urban logistics challenges, solutions, and impacts within the sharing economy, noting that the studies generally demonstrate moderate to high quality and adhere to rigorous methodologies. Key strengths include the use of empirical research methods, such as case studies and quantitative analyses, which provide substantial evidence that bolsters the findings. Additionally, the diversity of methodologies enriches the analysis by offering varied perspectives. However, certain studies relying on theoretical frameworks without sufficient empirical support show limitations in practical applicability. Moreover, some studies suffer from a lack of detailed methodological reporting, potentially affecting replicability. This analysis underscores the importance of empirical validation of theoretical insights and the necessity for clear, detailed

methodological documentation to enhance the research's reproducibility and utility in developing effective urban logistics strategies.

The quality assessment was crucial in shaping the outcomes of the systematic review. Higher methodological quality studies received more weight in the synthesis process, significantly bolstering the robustness of the overall conclusions. The incorporation of high-quality empirical research strengthened the validity of the identified challenges, proposed solutions, and measurable impacts related to urban logistics in the sharing economy. On the other hand, studies that displayed methodological weaknesses were treated with caution; their influence on the synthesis was moderated to account for how these limitations could affect the reliability of the findings. This careful approach ensured that the conclusions of the systematic review are based on the most methodologically sound studies, while also recognizing and addressing any weaknesses in the broader body of research. This strategy helps maintain the integrity and credibility of the review's findings, providing a reliable foundation for future research and practical applications in urban logistics.

Discussion

Summarizing the key findings from the systematic literature review on urban logistics within the sharing economy offers critical insights into the complexities and evolving dynamics of this domain. The review, while addressing the central research question and objectives, reveals a landscape filled with persistent challenges and innovative solutions. It highlights the intricate interplay among technological advancements, policy interventions, and the unique regional nuances that shape urban logistics in the sharing economy. This synthesis underscores how each element interacts to influence logistics practices, where technology drives efficiency and policy shapes the framework within which these technologies operate. Moreover, the review draws attention to how localized conditions and cultural contexts tailor logistics solutions, suggesting that effective urban logistics strategies must consider both global trends and local realities to be successful.

The identified challenges within the sharing economy for urban logistics highlight the complex task of managing freight flows in dynamic urban settings. Traffic congestion stands out as a widespread issue, significantly affecting last-mile delivery times and the overall efficiency of supply chains. Environmental concerns, especially air pollution, present considerable obstacles, underscoring the urgent need for sustainable logistics practices. Additionally, the complexities of last-mile delivery, which include limited parking availability and varying customer preferences, add layers of complexity to the urban logistics framework. These factors together paint a picture of an intricate and challenging environment where logistics solutions must be adaptive and responsive to both environmental and societal demands, ensuring timely deliveries while minimizing negative impacts on urban life and the environment.

In response to these identified challenges, the literature underscores a thorough exploration of solutions and innovations tailored to urban logistics within the sharing economy. Technological advancements such as route optimization, real-time tracking, and the adoption of innovative delivery methods stand out as powerful strategies to streamline logistics operations and enhance efficiency. These technological tools enable more precise planning and execution of deliveries, adapting in real-time to changing urban conditions to mitigate delays and optimize resource use. Furthermore, policy interventions like congestion pricing and the establishment of urban logistics zones have shown tangible successes in reducing traffic congestion and encouraging more sustainable logistics practices. By regulating traffic flow and designating specific areas for logistics activities, these policies help manage the impact of delivery operations in dense urban environments. The combined implementation of technological innovations and policy-driven solutions reflects a holistic approach to managing urban logistics. This synergistic strategy not only addresses immediate logistical challenges but also contributes to broader sustainability goals by reducing environmental impact and improving the quality of urban life. Such integrated solutions are crucial for developing resilient urban logistics systems that can adapt to and thrive in the complex dynamics of modern cities.

The thematic synthesis of findings effectively addresses the research question and objectives, providing a detailed exploration of the challenges, solutions, and their impacts within the context of urban logistics in the sharing economy. This synthesis contributes to a nuanced understanding of how urban logistics operates under these new economic conditions, highlighting the crucial role of technology adoption and

policy interventions in shaping effective logistics outcomes. These findings align with the overarching research aim of comprehensively assessing the state of urban logistics within the sharing economy, offering insights into the efficacy of different strategies. As the review delves deeper into the intricate dynamics of urban logistics, it not only answers specific research questions but also opens avenues for broader discussions on sustainable and efficient logistics practices. By revealing how technological innovations and policy measures can work together to overcome logistical challenges, the findings emphasize urban logistics as a critical area for ongoing research and innovation. This synthesis underscores the importance of developing adaptive strategies that integrate both technological advancements and thoughtful policy interventions to enhance the sustainability and efficiency of urban logistics systems.

By comparing the findings of this systematic literature review on urban logistics in the sharing economy with existing studies, both commonalities and distinctive insights emerge. Like previous research, persistent challenges such as traffic congestion and environmental concerns are highlighted, underscoring the universal nature of these issues in urban logistics. This alignment with global trends in emphasizing technology-driven solutions and policy interventions reflects the widespread applicability and relevance of these innovative logistics practices across varied urban contexts. Furthermore, the review brings unique perspectives on how specific elements within the sharing economy, such as decentralized delivery systems or peer-to-peer logistics networks, can enhance or complicate urban logistics strategies. These insights contribute to a deeper understanding of the complexities and opportunities presented by the sharing economy model in urban logistics, suggesting that while the core challenges are similar globally, the solutions may require adaptation to local nuances and specific economic models. This broader discourse enriches the field, providing a more comprehensive approach to tackling urban logistics challenges effectively and sustainably.

Implications & Limitations

The implications of the systematic literature review findings extend significantly to various stakeholders involved in urban logistics within sharing economy. Urban planners can leverage the identified challenges, such as traffic congestion and environmental concerns, to inform infrastructure development plans and implement sustainable transport solutions tailored to the specific dynamics of each city. Policymakers are poised to benefit from success stories of policy interventions, like congestion pricing and the establishment of urban logistics zones, as they formulate regulations that balance environmental sustainability and operational efficiency in urban logistics. For businesses operating in urban cities, the technological innovations highlighted in the review present opportunities to optimize logistics operations, enhance delivery times, and elevate overall customer satisfaction. The practical implications drawn from this review collectively contribute to fostering a more sustainable and streamlined urban logistics ecosystem. Furthermore, in the realm of policy and planning, the findings offer crucial insights for informed decision-making, urging urban planners to consider regional variations in tailoring logistics infrastructure development strategies. Policymakers are encouraged to draw from the success of technology-driven solutions and policy interventions when shaping regulations, envisioning a future where sharing economy in urban logistics landscape is not only adaptive but also resilient and sustainable.

Practical Implications

The practical implications derived from this review hold substantial significance for practitioners involved in urban logistics within the sharing economy. Understanding key challenges like traffic congestion and environmental concerns provides actionable insights for logistics professionals aimed at streamlining operations and boosting efficiency. The focus on technological innovations, such as route optimization and real-time tracking, presents concrete solutions that can significantly enhance last-mile delivery and overall supply chain performance. Businesses operating in urban settings can utilize these insights to adopt advanced technologies, optimize delivery routes, and ultimately improve customer satisfaction. Moreover, the regional insights from the review emphasize the importance of developing customized strategies that cater to the unique dynamics of different urban centers. This tailored approach allows practitioners to address local specificities, whether they relate to geographic, demographic, or regulatory characteristics, ensuring that logistics operations are not only effective but also contextually appropriate. By implementing these region-specific strategies, businesses can more effectively manage the complexities of urban logistics, making operations more responsive to the needs of the local environment and its inhabitants. These

practical applications of the review findings empower companies to make informed decisions that enhance their operational efficiency and contribute to more sustainable urban logistics systems.

Theoretical Implications

The theoretical implications of this review are significant for researchers and scholars in the field of urban logistics. The identified gaps and suggested future research directions create a theoretical roadmap that encourages the exploration of uncharted areas and the advancement of our understanding of urban logistics. Specifically, the synthesis of how regional variations, along with the impacts of technology and policy interventions, influence urban logistics provides a richer context for refining existing theoretical models. This approach enhances our understanding of the dynamics within urban logistics, emphasizing the interplay between logistical strategies and urban environments. Furthermore, the review highlights the importance of developing socio-economic models that comprehensively assess the impacts of logistics strategies on local communities and businesses. This broader perspective is crucial for understanding the full spectrum of effects that logistics operations have on urban areas, ranging from economic outcomes to social and environmental consequences. For scholars, this synthesis not only offers robust theoretical frameworks that can guide future research but also challenges them to consider the multifaceted impacts of logistics practices. By doing so, it sets the stage for a more holistic and integrated approach to studying urban logistics, thereby contributing to a more comprehensive scholarly exploration of how logistics systems can be designed and implemented to optimize both efficiency and societal well-being in urban settings.

Policy Implications

The implications of this review extend to policymakers and urban planners, offering valuable insights that can inform future policy decisions and urban planning strategies. The success stories of policy interventions, such as congestion pricing and the establishment of urban logistics zones, provide evidence-backed strategies that can be considered in the formulation of regulations. Policymakers can draw from these insights to design and implement targeted policies that balance the need for efficient logistics operations with the imperative of environmental sustainability. Additionally, the review underlines the importance of considering regional disparities in policy formulation, advocating for context-specific approaches that acknowledge the unique challenges faced by different urban centres.

While this systematic literature review provides valuable insights into the urban logistics landscape in urban cities, it is crucial to acknowledge certain limitations that may impact the interpretation of the findings. The scope of the literature may not encompass every facet of urban logistics, as the search was confined to specific databases and predefined keywords. This limitation may result in the omission of relevant studies published in other sources or utilizing different terminology. Additionally, biases in study selection may arise despite the rigorous screening process, influenced by language restrictions or the availability of full-text articles. The review also depends on the quality of existing studies, and the variability in methodological rigor across the included literature introduces potential biases. Furthermore, the heterogeneity in study designs, methodologies, and data reporting formats poses challenges in synthesizing findings cohesively. The impact of these limitations lies in the potential incompleteness of the synthesized literature, introducing a degree of uncertainty in the comprehensiveness and generalizability of the review's conclusions. Despite these limitations, the review aims to transparently present the available evidence, offering valuable insights into the state of urban logistics in Malaysian cities while recognizing the need for continued research to address these constraints and refine our understanding of this dynamic field.

In essence, the implications drawn from this review bridge the gap between theory and practice, providing actionable guidance for practitioners, informing future scholarly endeavours, and offering evidence-based strategies for policymakers and urban planners in the dynamic landscape of urban logistics within Malaysia.

Future Research

The systematic literature review has illuminated several gaps in the current understanding of urban logistics in urban cities, paving the way for fruitful directions in future research. Identified gaps include a need for more in-depth investigations into the specific challenges faced by different urban cities around the world,

acknowledging the regional variations highlighted in this review. However, the review contributes novel perspectives by highlighting regional disparities within Malaysia, offering nuanced insights into the logistics dynamics of major cities like Kuala Lumpur, Penang, and Johor Bahru. This comparative analysis positions the review as a valuable addition to the discourse, providing a comprehensive understanding of urban logistics within the Malaysian context and offering fresh insights for future research and policy development.

Moreover, the literature calls for a deeper exploration of the long-term impacts of emerging technologies on urban logistics efficiency and sustainability, considering the rapid advancements in areas such as route optimization and real-time tracking. Longitudinal studies assessing the sustained effectiveness of policy interventions, especially in the context of congestion pricing and the establishment of urban logistics zones, would contribute significantly to the field. Additionally, the review indicates a gap in understanding the socio-economic implications of urban logistics strategies, urging researchers to explore the broader impacts on local communities, businesses, and the overall urban ecosystem. Future research endeavours in these areas can enhance the depth and breadth of knowledge in urban logistics, fostering more robust strategies and policies for sustainable urban development in Malaysia.

In conclusion, this systematic literature review on urban logistics in Malaysian cities has shed light on key challenges, innovative solutions, and regional dynamics within the evolving landscape of urban freight management. The review identified pervasive issues such as traffic congestion, environmental concerns, and last-mile delivery complexities, emphasizing the intricate nature of urban logistics in Malaysia. Aligning with global trends, technological innovations and policy interventions emerged as effective strategies, providing actionable insights for stakeholders and policymakers. Noteworthy regional variations within major cities underscored the need for context-specific approaches. While acknowledging limitations in scope and potential biases, this review transparently presented the available evidence, recognizing the gaps in the current literature. Looking ahead in future research directions were suggested, focusing on nuanced regional studies, the socio-economic impacts of logistics strategies, and longitudinal assessments of emerging technologies and policy interventions. In sum, this comprehensive review contributes to a deeper understanding of urban logistics in Malaysian cities, offering practical implications for planners, policymakers, businesses, and other stakeholders, and providing a solid foundation for continued research and strategic development in the field.

Conclusion

In summary, this systematic literature review has distilled a wealth of insights into urban logistics in urban cities. The primary findings underscore persistent challenges, with traffic congestion, environmental concerns, and last-mile delivery intricacies emerging as focal points. The literature consistently emphasizes the pivotal role of technological innovations and policy interventions as effective solutions. Route optimization, real-time tracking, and the adoption of innovative delivery methods stand out as impactful strategies, mirroring global trends in urban logistics management. The challenges identified highlight the need for adaptive and sustainable solutions tailored to the specific regional dynamics of major. The synthesis of these insights contributes to a nuanced understanding of urban logistics in urban cities, laying the groundwork for strategic initiatives aimed at enhancing efficiency, reducing environmental impact, and fostering sustainable urban development.

The significance of this review lies in its substantial contribution to advancing our understanding of urban logistics within the sharing economy context. By comprehensively synthesizing existing literature, this review provides a nuanced exploration of the challenges and solutions specific to urban cities, including the critical examination of regional disparities. In doing so, it adds substantial value to the field of urban logistics by offering a tailored perspective that acknowledges the unique dynamics of major urban centres. The identified gaps and future research directions outlined in the review not only guide scholars towards unexplored avenues but also provide a roadmap for policymakers, urban planners, and businesses seeking to optimize logistics strategies in a sustainable and efficient manner. In essence, this review serves as a foundational resource, enriching the literature on urban logistics and offering practical insights that can inform strategic decision-making for the continued development of urban logistics landscape.

Building upon the findings of this review, several practical recommendations are proposed for enhancing urban logistics management in urban cities. Policymakers are encouraged to consider the successful implementation of congestion pricing and the establishment of urban logistics zones, tailoring such policies to the unique challenges and dynamics of each urban centre. Collaborative efforts with businesses and logistics operators can facilitate the integration of sustainable practices, incentivizing the adoption of technology-driven solutions for route optimization and real-time tracking. Urban planners should prioritize the development of infrastructure that alleviates traffic congestion and supports efficient last-mile delivery, considering the regional variations identified in the review. Businesses, in turn, are urged to invest in and adopt emerging technologies, optimizing their logistics operations to enhance efficiency and meet the growing demands of urban environments. These practical recommendations, rooted in the review's insights, aim to create a conducive environment for sustainable and efficient urban logistics management in urban cities.

In conclusion, the exploration of urban logistics in urban cities through this systematic literature review offers a profound understanding of the present landscape while paving the way for contemplation on the future trajectory of this dynamic field. The findings point towards a future where sustainable and technology-driven solutions will play an increasingly pivotal role in navigating the complexities of urban logistics. As major cities continue to evolve, the adoption of innovative technologies and adaptive policies is likely to become even more critical for addressing the persistent challenges identified in this review. The amalgamation of artificial intelligence, data analytics, and sustainable logistics practices holds promise for reshaping urban logistics frameworks, with the potential to optimize operations, mitigate environmental impact, and enhance overall urban living. The review underscores the need for continuous collaboration between stakeholders, including policymakers, urban planners, businesses, and researchers, to foster a resilient and responsive urban logistics ecosystem. In embracing these evolving trends and remaining attuned to the unique regional dynamics, major cities can position themselves at the forefront of urban logistics innovation, setting the stage for sustainable, efficient, and future-ready urban development.

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