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KEY INFLUENCES ON WAREHOUSE RENTAL PRICES: A SYSTEMATIC REVIEW OF THE LITERATURE

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ABSTRACT

Background: Warehouse rental costs are a critical component of supply chain management; however, existing studies often focus on isolated factors, such as location or building characteristics. A comprehensive understanding of the interaction between economic conditions, infrastructure, and emerging trends, such as automation and sustainability, remains limited. This study addresses this gap by systematically analyzing the key determinants influencing warehouse rental pricing.
Purpose: This study examines the primary factors affecting warehouse rental costs and their broader implications for market dynamics, investment decisions, and policy frameworks.
Design/methodology/approach: A Systematic Literature Review (SLR) was conducted following PRISMA guidelines, analyzing peer-reviewed studies (2014–2025) from databases such as Scopus, Web of Science, and ScienceDirect. The determinants were categorized into location factors, market conditions, services, and physical attributes.
Findings/Result: Key drivers of rental costs include proximity to transport hubs, economic trends, supply-demand fluctuations, and regulatory policies. In addition, warehouse automation and green-building certifications are emerging as new pricing factors.
Conclusion: Warehouse rental pricing is shaped by a complex interplay of economic, geographic, and technological factors. Understanding these trends enables businesses, investors, and policymakers to optimize logistics strategies and site selection.
Originality/value (state of the art): This study bridges research gaps by offering a holistic framework that integrates economic, spatial, and technological determinants, providing actionable insights for logistics and real estate stakeholders.

Keywords: warehouse rent, supply chain, logistics real estate, economic determinants, market trends, sustainability

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INTRODUCTION

Warehouse rental costs have become an increasingly significant component of logistics and supply chain operations. The rise of global trade, expansion of e-commerce, and evolving consumer demands for faster delivery have repositioned warehouses as critical elements in the value chain. Warehousing is no longer limited to storage; instead, it functions as a hub for inventory management, order fulfillment, and value-added services that drive competitive advantage (Glta, 2024). The adoption of advanced technologies, such as automation and Logistics 4.0, has further increased the strategic importance of warehouses, enhancing both operational responsiveness and efficiency (Hwang et al. 2024). These changes have also elevated the financial implications of warehouse use, especially rental costs, which have grown to constitute a substantial portion of the logistics budget. In urban areas with limited land availability, warehouse rents have a particularly strong influence on cost structures and the overall supply chain competitiveness (Lim & Park, 2019).

Prior research has identified a range of determinants that influence warehouse rental prices. Micro-level factors, including building size, age, and design features, are commonly cited as variables that affect the rental value. Studies have also emphasized the importance of infrastructure access, such as proximity to transportation hubs and urban centers, in determining rent levels (Lim & Park, 2019). At the macro level, economic indicators, including inflation, land prices, and regulatory conditions, have been shown to shape warehouse rental dynamics (Minashkina & Happonen, 2023; Tian & Zhang, 2021). While these contributions are valuable, many studies focus on isolated variables and offer limited insights into the interaction between determinants. Emerging issues such as energy efficiency, sustainability certifications, and digital integration remain underexplored in the literature despite their growing relevance to warehouse selection criteria (Sodiya, 2024). Additionally, regional and cultural differences, including zoning policies, infrastructure gaps, and tenant behavior, have not been systematically analyzed across comparative contexts. These limitations suggest the need for a more comprehensive and integrated understanding of the multifaceted factors that influence warehouse rents.

This study addresses this research gap by employing a systematic literature review (SLR) to identify, classify, and analyze the factors that affect warehouse rental costs. The review followed the PRISMA 2020 protocol, which ensures methodological transparency and replicability in the process of article selection, screening, and inclusion. Empirical studies published between 2014 and 2025 were examined to identify recurring themes and evaluate consistencies and discrepancies in their findings. The detected determinants were grouped into four main thematic categories: location-related factors, market and economic conditions, service features and amenities, and physical building characteristics. The analysis also considers how methodological approaches, ranging from econometric modeling to spatial and qualitative studies, affect the interpretation of the findings. Special attention is being given to emerging variables, such as automation infrastructure and environmental regulation, which are becoming increasingly relevant in modern warehouse planning. The comparative approach offers a structured and critical perspective that reflects the diversity of both research contexts and market environments.

The objective of this research is to provide a comprehensive synthesis of the factors influencing warehouse rental costs based on a systematic evaluation of recent empirical literature. This study specifically aims to: (1) identify and categorize the principal determinants of warehouse rent across geographic regions and industrial contexts; (2) compare the methodological variations and geographic scope in previous studies; (3) evaluate the extent to which emerging trends, such as automation, sustainability, and green building practices, have been incorporated into rent modeling; and (4) generate practical insights for warehouse developers, logistics managers, and policymakers. Two central research questions guide this study: (1) How do determinant factors influencing warehouse rent differ across regions and methodological approaches in peer-reviewed literature published between 2014 and 2025? (2) In what ways do previous studies converge or diverge in identifying these factors, and what research gaps remain to be addressed?

METHODS

This study adopts a qualitative approach employing a Systematic Literature Review (SLR) to examine the determinant factors influencing warehouse rental costs.

The data utilized were secondary in nature, consisting of peer-reviewed scientific journal articles published between 2014 and 2025. Only articles written in English and indexed in reputable databases, such as Scopus (Q1–Q3) and Sinta (1–3), were considered. These sources were selected to ensure a minimum standard for academic quality, empirical robustness, and thematic relevance.

The data collection process followed the PRISMA 2020 protocol, which ensured methodological transparency and reproducibility. A comprehensive search was conducted across major academic databases (Scopus, Web of Science, ScienceDirect, and Google Scholar) using Boolean search operators. Keywords included: ("warehouse" OR "storage" OR "logistics" OR "distribution") AND ("rent" OR "cost" OR "price") AND ("determinant" OR "factor" OR "influence"). The initial search yielded 344 records. Duplicate entries (42) were removed, followed by preliminary filtering, which excluded 27 studies published outside the target timeframe. Titles and abstracts were screened to assess topical alignment, and full-text screening was performed to determine methodological and empirical suitability. After a two-phase eligibility assessment, 28 articles were retained for the final analysis.

The inclusion criteria were as follows: (1) alignment with the topic of warehouse rent determinants, (2) full-text availability in English, (3) publication in peer-reviewed journals indexed in Scopus Q1–Q3, and (4) empirical analysis. Articles that focused exclusively on residential or non-logistics commercial rents were excluded. Although Q4 and non-indexed sources were initially screened, they were excluded unless they met rigorous empirical and thematic standards.

Qualitative thematic synthesis was applied to the final pool of 28 studies. Determinant factors were systematically coded and classified into four thematic categories:(1) location factors, such as proximity to transportation infrastructure, urban centers, and land prices;(2) market and economic conditions, including supply-demand dynamics, inflation, and government policy;(3) services and amenities, such as value-added logistics features, security, and climate control; and (4) physical characteristics, including warehouse size, age, and structural configuration.

Articles were mapped into these categories to identify dominant themes, overlaps, and areas of divergence. A comparative analysis was conducted to examine the variations across regions, methodological approaches, and market conditions. Additionally, emerging issues, such as the role of sustainability, automation, and e-commerce growth, were explored to assess their impact on rental pricing, despite being relatively underrepresented in earlier literature.

The research framework is anchored in the PRISMA 2020 model, which classifies the review process into three phases: identification, screening, and inclusion. This process is illustrated in Figure 1. Each phase guided a progressively narrower selection of literature, culminating in a dataset that reflected both methodological rigor and thematic relevance.

The research also incorporated a comparative analysis to contrast the findings across studies, highlighting areas of agreement and identifying research gaps. Emerging trends, such as the impact of e-commerce, automation, and sustainability on warehouse rental costs, were also examined. This structured qualitative review process ensures the reliability, replicability, and academic rigor of the analysis. These findings contribute to a deeper understanding of rental pricing structures, helping businesses, policymakers, and investors optimize warehouse site selection, investment strategies, and regulatory frameworks in the logistics sector. Moreover, although this study adopted a qualitative approach to capture thematic insights, future studies should consider combining qualitative and quantitative meta-analysis techniques to improve triangulation and analytical depth. Expanding the sample size and diversifying methodological designs could further increase the validity and generalizability of the findings.

This review was limited to studies published between 2014 and 2025 and accessible in English. While the inclusion criteria were selectively applied to ensure quality, this may have resulted in the exclusion of some potentially relevant Q4 or gray literature. Additionally, thematic synthesis emphasizes qualitative interpretation, which could be strengthened in future studies through meta-analysis or mixed-method integration to enhance analytical triangulation.

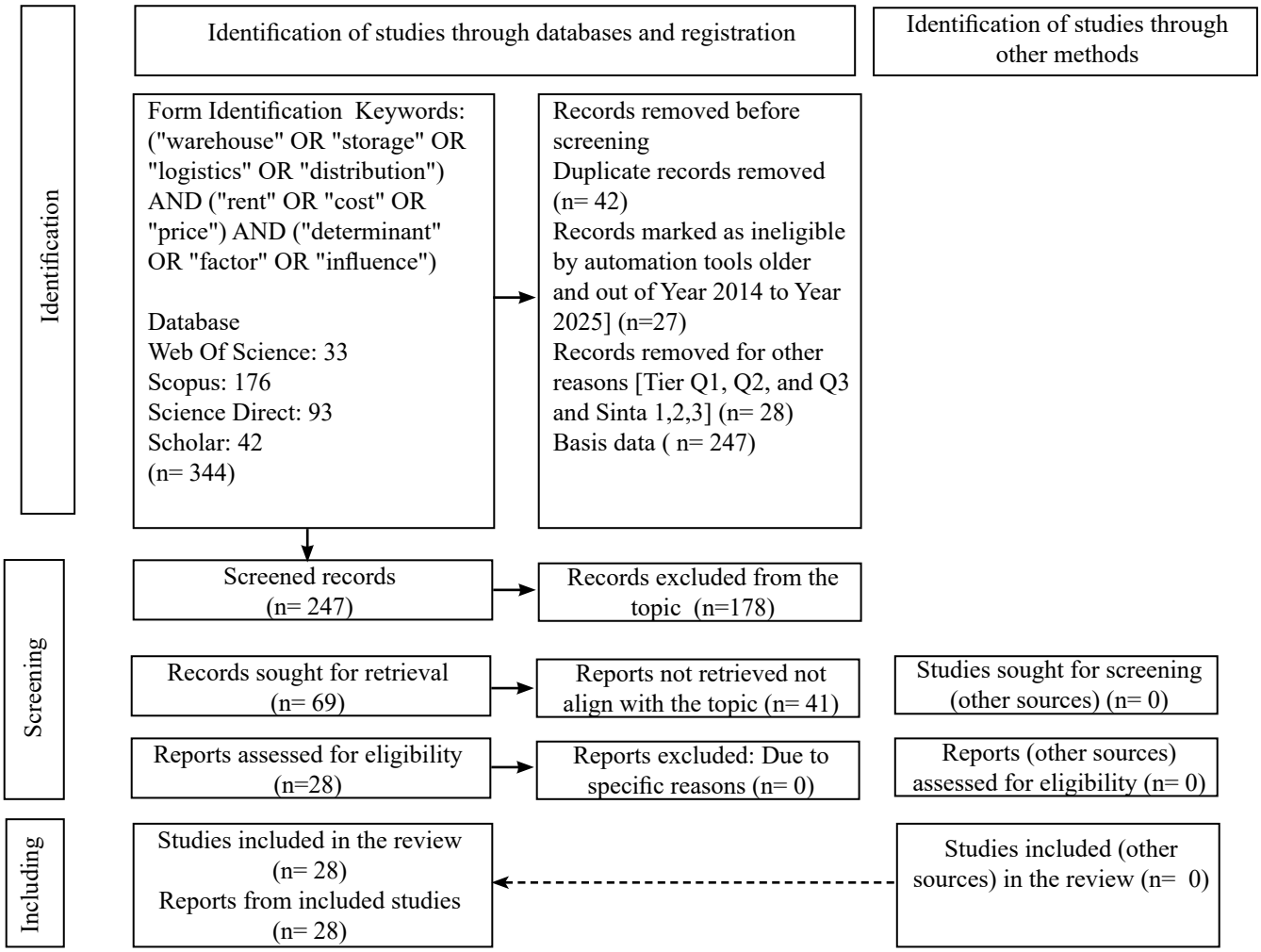

Figure 1. Research framework (prisma protocol)

RESULTS

The results of the systematic literature review (SLR) revealed that 28 relevant articles were identified after a rigorous selection process. The initial database search produced a large number of studies that were systematically screened based on predefined inclusion and exclusion criteria. Duplicate records were eliminated, and studies lacking empirical data or focusing solely on residential or commercial real estate were excluded. A full-text review was then conducted to evaluate the methodological rigor and relevance of the remaining studies, ensuring that only those that provided quantitative or qualitative analyses of warehouse rental cost determinants were retained. As shown in Table 1.

The selected articles highlighted key factors influencing warehouse rental costs, including location, economic conditions, building characteristics, and additional services. The synthesis of these studies provides a comprehensive understanding of the underlying factors shaping warehouse rental pricing across diverse market contexts, and offers valuable insights for industry practitioners, policymakers, and researchers. By analyzing these determinants, stakeholders can better navigate pricing fluctuations and optimize their decision-making processes in warehouse site selection, investment strategies, and cost management.

Furthermore, the distribution of articles based on publication year and topic provides an overview of research trends in this domain. The first chart illustrates the distribution of articles by publication year, showing an increase in the number of relevant studies in 2018, 2022, and 2024. The peak in 2018 suggests a heightened academic interest in warehouse rental cost determinants, possibly driven by the expansion of global logistics networks and the rise of e-commerce. The resurgence of publications in 2022 and 2024 indicates a continued focus on the evolving warehouse landscape, particularly in response to economic fluctuations and technological advancements (Figure 2)

Table 1. Selected articles

Author(s)	Year	Article(s) Title
Aliu	2023	Urban property markets and security risk: explaining how neighborhood security shapes housing rental prices in Ojo Lagos, Nigeria
Angelia	2019	Pengaruh Persepsi Harga, Lokasi Dan Promosi Terhadap Keputusan Sewa Gudang (Studi Kasus pada Kawasan Industri Marunda Center Bekasi)
Baglio et al.	2019	Benchmarking logistics facilities: a rating model to assess building quality and functionality
Cai et al.	2022	Factors affecting private domestic rental prices in Hong Kong: example of the land auction
Chen et al.	2024	A Study on the Exploration of the Development Process of Regenerative Applications of Energy Technologies in Industrial Warehouse Buildings: Bibliometric Research from 2004 to 2024
Darfo-Oduro	2020	Determinants of residential house rental prices in Accra metropolis
Giacomelli et al.	2024	Bi-objective inventory policy with comprehensive environmental factors formulation and service level constraints
Glta	2024	The impact of logistics 4.0 on smart warehouse management: examples from companies in Turkey and a bibliometric analysis for future trends
Godio et al.	2022	Resolution and frequency effects on UAVs semi-direct visual-inertial odometry (SVO) for warehouse logistics
Gunawan et al.	2019	Factors influencing farmers' use of the warehouse receipt system in Indonesia
Hidayani et al.	2019	Factors influencing farmers to join warehouse receipt system in Barito Kuala Regency, South Kalimantan, Indonesia
Huang et al.	2022	Rural housing rental rates in China: Regional differences, influencing factors, and policy implications
Hwang et al.	2024	A Digital Twin Architecture for Automotive Logistics-An Industry Case Study
Jirsák et al.	n.d.	Impact of Spatial Location of Supply Chain Elements on Supply Chain Cost Effectiveness And Performances
Kimani et al.	2021	Analysis of spatial factors affecting rental house prices: A case study of Nyeri Town Constituency, Kenya
Lim & Park	2019	Modeling the spatial dimensions of warehouse rent determinants: A case study of Seoul Metropolitan Area, South Korea
Liu et al.	2022	Spatial pattern of the determinants for the private housing rental prices in highly dense populated Chinese cities: Case of Chongqing
Ma et al.	2018	Estimating warehouse rental price using machine learning techniques
Salee & Chutima	2021	Warehouse management improvement for a leather dyeing factory
Siejka et al.	2019	Extension of the road network as the determinant of development of the regions on the example of Cracow (Poland)
S. Ramya	2024	An inflation-affected supply-chain dual warehouse inventory model for decaying things by investment in preservation technology
Thitiananpakorn & Jarumaneeroj	2019	An Application of Bilevel Optimization in Pricing and Leasing Strategy
Tak et al.	2020	The factors affecting farmland rental prices in Slovakia
Thilagavathi et al.	2022	Effect of inflation and permitted three-slot payment on two-warehouse inventory system with stock-dependent demand and partial backlogging
Wahab et al.	2019	Factors influencing green warehouse practices in Malaysian warehouse industry: An empirical analysis
Wang et al.	2022	Big data statistics of logistics warehousing supply and demand in key cities of central and western China based on Baidu index and warehouse in cloud
Wiguna & Sudiartha	2021	Determination of optimal warehouse location at PT. Sumber alfaria TrijayaTbk (Bali branch)
Zhou et al.	2016	Designing self-storage warehouses with customer choice

The second chart categorizes the selected articles based on their primary research topics. Most studies have focused on warehouses, highlighting the significant role of warehouse-related factors in rental cost analysis. Other notable topics include logistics, rental prices, and housing, reflecting the interdisciplinary nature of warehouse rental research. The relatively low number of articles addressing supply chain, optimization, and inventory management suggests potential areas for future exploration, particularly in integrating advanced logistics technologies and operational efficiencies into rental cost analysis. These findings underscore the dynamic and multifaceted nature of warehouse rental cost research, emphasizing the need for continued investigation of emerging trends and market forces shaping the industry (Figure 3).

The literature review identifies several key factors that influence warehouse rental costs, which can be categorized into four main groups: location, market and economic conditions, services and amenities, and physical characteristics. Each of these aspects contributes significantly to overall rental pricing and is essential for understanding the complexities of warehouse rental markets. These factors do not operate in isolation but rather interact with one another, creating a dynamic pricing environment influenced by both macroeconomic conditions and localized factors specific to individual markets. Key determinant factors in Table 2.

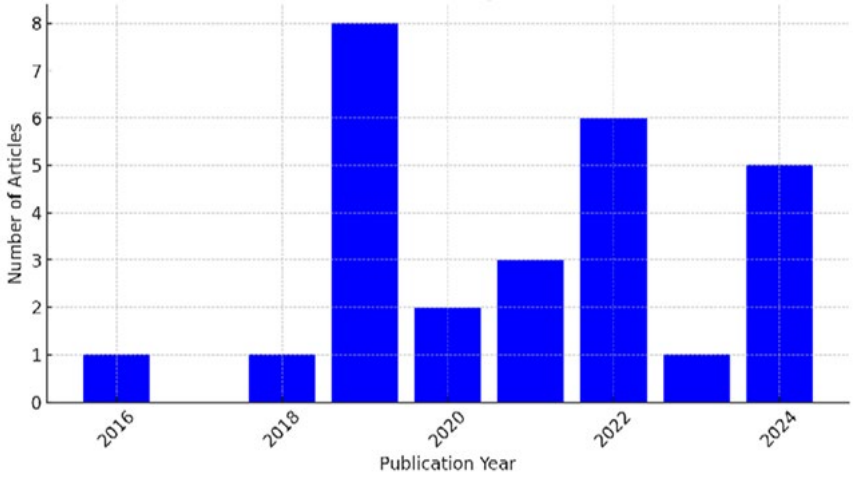

Figure 2. Article distribution base on publication year

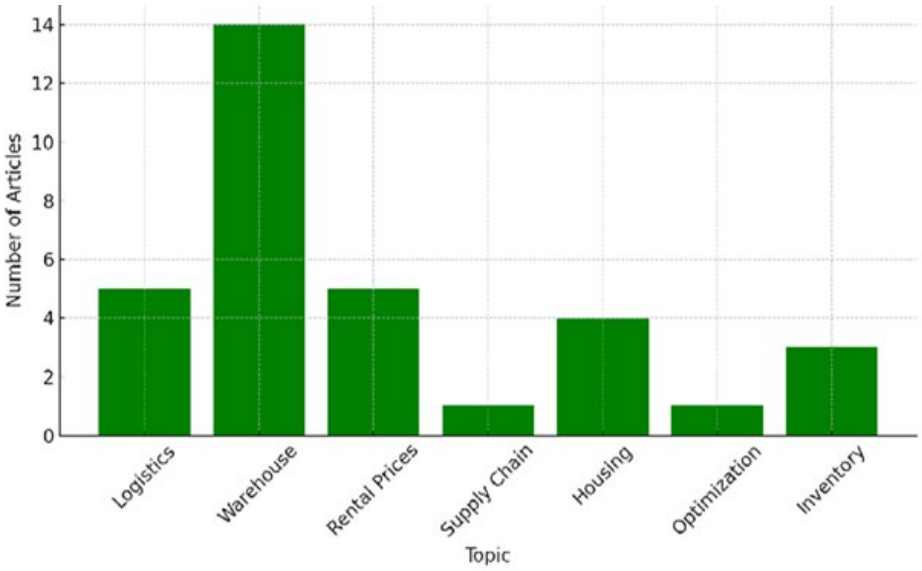

Figure 3. Article distribution base on topics

Table 2. Key determinant factors

Category	Factors	Author(s)	Article count
Location Factors	Proximity to transportation infrastructure (e.g., highways, interchanges, railways, and ports)	Lim (2019); Liu et al. (2022); Aliu (2023); Siejka & Relidzynski (2019);Lim et al. (2019), Baglio et al. (2019)	6
	Proximity to urban centers and consumer markets (e.g., Seoul, Accra)	Angelia (2019); Hwang (2024); Darfo-Oduro (2020); Baglio et al. (2019)	4
	Regional specifics and demand variations based on location	Lim (2019); Siejka & Relidzynski (2019); Kimani et al. (2021)	3
	Supporting infrastructure availability (e.g., repackaging services, built-in ramps, automated systems)	Lim (2019); Jirsak (2015)	2
	Accessibility within supply chain networks and road network development	Jirsak (2015); Hwang (2024); Siejka & Relidzynski (2019)	3
	Land Prices	Lim et al. (2019)	1
Market and Economic Conditions	Supply and demand dynamics (e.g., oversupply, high demand areas)	Wang et al. (2022); Cai et al. (2022); Lim et al. (2019)	3
	Inflation and construction costs	Thilagavathi et al. (2022); S. Ramya (2024); Takáč et al. (2020)	3
	Interest rates and borrowing costs	Wang et al. (2022)	2
	Regional economic growth and its impact on warehousing demand	Wang et al. (2022); Takáč et al. (2020)	2
	Government policies and regulations (e.g., zoning laws, green initiatives, EU CAP payments)	Wahab (2019); Takáč et al. (2020)	2
	E-Commerce Growth	Lim et al. (2019)	1
	Labor Costs (Regional Minimum Wage)	Chen et al. (2024)	1
	Market Segmentation for Warehouse Rental	Lim et al. (2019)	1
Services and Amenities	Value-added services (e.g., climate control, security systems, repackaging services, specialized handling equipment,Warehouse Security Level)	Salee & Chutima (2021); Kimani et al. (2021); Zhou et al. (2016); Lim (2019); Baglio et al. (2020), Chen et al. (2024)	6
	Proximity to amenities (e.g., restaurants, hotels, public transport)	Liu et al. (2022); Aliu (2023); Darfo-Oduro (2020)	3
	Professional management services (e.g., licensed to rent to foreign tenants;lease duration)	Kimani et al. (2021); Salee & Chutima (2021),Thitiananpakorn & Jarumaneeroj (2019)	3
	Technological advancements (e.g., barcode systems, automated warehouse management, Estimation Using Machine Learning)	Salee & Chutima (2021); Baglio et al. (2019);Ma et al. (2018)	3
Physical Characteristics	Building size (contract floor space and total building floor space)	Lim & Park (2019); Zhou et al. (2016); Baglio et al. (2019)	3
	Building age (newer buildings attract higher rents due to energy efficiency and modern designs)	Lim & Park (2019); Ma et al. (2018); Baglio et al. (2019)	3
	Specialized features (e.g., built-in ramps, parking, repackaging services, loading docks)	Lim & Park (2019); Baglio et al. (2019); Zhou et al. (2016)	3
	Internal and external building quality (e.g., fire safety, sustainability certifications)	Baglio et al. (2019); Ma et al. (2018)	2

Table 2. Key determinant factors (continue)

Category	Factors	Author(s)	Article count
Other Factors	Land prices in the surrounding area	Lim (2019); Wang et al. (2022)	2
	Labor costs in the region	Wiguna (2021); Hwang (2024);Chen et al. (2024)	2
	Environmental regulations and sustainability initiatives (e.g., green warehouses)	Giacomelli (2024); Wahab (2019)	2
	Competition in the warehouse market (e.g., supply-demand dynamics and rental adjustments)	Wang et al. (2022); Zhou et al. (2016)	2

The systematic review identified recurring themes that consistently emerged across diverse studies despite differences in regional contexts and methodological approaches. The scan revealed that while warehouse rental costs are influenced by a wide array of factors, four major thematic categories dominate the discourse: location, market and economic conditions, services and amenities, and physical building characteristics. This thematic consolidation not only highlights where scholarly consensus exists but also reveals significant variations in emphasis across geographical markets and study types. For instance, studies in developed economies tend to prioritize infrastructure and regulatory concerns, whereas those in emerging markets emphasize service gaps and operational adaptability. These insights provide both an academic understanding and practical considerations for developers, tenants, and policymakers.

Location Factors

Location is widely recognized in the literature as a central determinant of warehouse rental costs. Numerous studies highlight that proximity to transportation infrastructure, such as highways, interchanges, ports, and logistics corridors, has a direct effect on rent levels because of its role in reducing transport time and cost for tenants (Lim, 2019; Liu et al. 2022; Aliu, 2023). Warehouses located near major urban centers and consumer markets also tend to command higher rents, driven by greater accessibility and demand (Angelia, 2019; Darfo-Oduro, 2020). However, the impact of location is context-specific. In highly urbanized areas, such as Seoul, even minor differences in distance to transport nodes significantly influence rental prices (Lim & Park, 2019). Conversely, in suburban or emerging industrial zones, broader connectivity and land availability may carry more weight than proximity to city centers (Kimani et al. 2021). Krakow and Accra revealed that accessibility to urban amenities, such as business districts or religious centers, also correlates with higher rental values (Siejka & Relidzynski, 2019; Darfo-Oduro, 2020). Additionally, location within integrated supply chain networks enhances the strategic value of a warehouse, supporting distribution efficiency and service speed (Jirsak, 2015). The importance of regional planning is further illustrated in studies where road infrastructure investments significantly raised warehouse rental values over time. Although location remains a universally acknowledged determinant, its influence is shaped by infrastructure development, urban density, and regional logistics dynamics.

Market and Economic Conditions: Supply, Demand, and Macroeconomic Factors

Market forces significantly influence warehouse rental costs (Cai et al. 2022; Wang et al. 2022). High Market dynamics and macroeconomic indicators consistently emerge in the literature as key factors influencing warehouse rental costs. In high-demand logistics regions with limited supply, rental prices tend to increase because of the competition for strategically located facilities (Wang et al. 2022; Cai et al. 2022). Conversely, oversupply or economic stagnation can exert downward pressure on rents. Inflation plays a dual role by increasing construction and operational costs, which are often passed on to tenants through higher rents (Thilagavathi et al. 2022; Ramya, 2024). Interest rates, as indicators of capital costs, also affect warehouse development and leasing decisions by influencing borrowing affordability for both developers and occupiers. Government regulations and fiscal policies have further shaped rental trends. Zoning regulations, tax incentives, and green-building mandates can raise or lower the cost of development, thereby affecting rent levels. For example, policies that encourage environmentally sustainable warehouses may lead to

higher initial capital expenditures, yet justify premium rental rates due to long-term operational savings or ESG compliance appeals (Wahab, 2019; Giacomelli, 2024).

Regional economic growth also correlates with warehouse demand. Studies in China demonstrate that warehousing rents are positively associated with retail sales and regional GDP (Wang et al. 2022), whereas research in Slovakia links land rents to agricultural subsidies and broader macroeconomic trends (Tak et al. 2020). Chen (2024) found that GDP growth, interest rates, and unemployment levels jointly influence commercial rental values in Southeast Asia, further validating the interconnectedness between macroeconomic indicators and rental dynamics. Warehouse rents are sensitive to a combination of supply demand forces, macroeconomic conditions, and regulatory frameworks. These factors interact in complex ways across different markets, highlighting the importance of adaptive pricing and investment strategies that consider economic indicators and policy environments.

Value-Added Features and Tenant Preferences

The literature consistently identifies services and amenities as significant contributors to warehouse rental value. Facilities offering value-added services, such as climate control, advanced security systems, automated handling equipment, and repackaging or reworking stations, are typically priced higher because of their capacity to enhance operational efficiency and reduce tenant costs (Salee & Chutima, 2021; Zhou et al. 2016). In urban logistics markets, access to supporting amenities, such as restaurants, hotels, and public transportation, also increases warehouse attractiveness, particularly for facilities with high labor requirements or last-mile distribution functions (Liu et al. 2022; Aliu, 2023). Moreover, professional property management has been found to positively influence rent levels by ensuring better facility maintenance and service reliability (Kimani et al. 2021). Studies further suggest that digital infrastructure, such as warehouse management systems (WMS), barcode technology, and IoT-based monitoring, are becoming differentiating factors in modern warehouse pricing strategies. These technologies not only improve efficiency but also align with tenants' expectations of real-time inventory visibility and integrated logistics operations (Salee & Chutima, 2021).

Physical Characteristics: Building Attributes and Rental Value

The physical attributes of a warehouse, such as building size, structural layout, age, and design specifications, are fundamental determinants of rental value. Larger warehouses with modular layouts and higher ceiling clearances offer flexibility for automation and high-volume storage, often commanding higher rents (Lim & Park, 2019; Zhou et al. 2016). Similarly, newer buildings generally attract higher rental prices owing to their energy efficiency, compliance with updated safety standards, and readiness for modern logistics technologies (Ma et al. 2018).Baglio et al. (2019) introduced a quality-based evaluation model incorporating technical features, spatial organization, and functionality, which strongly correlates with rental pricing. Specific features, such as built-in ramps, loading docks, and fire suppression systems, add operational value and are considered by tenants in lease decisions.

However, the tenants' preferences for physical characteristics vary by segment. For example, self-storage facilities prioritize security and access control, whereas fulfillment centers emphasize throughput capacity and dock-to-door efficiency (Zhou et al. 2016). In emerging markets, the availability of parking space and the ability to accommodate mixed-use logistics functions are also influential. Physical characteristics not only affect the functional suitability of a warehouse but also contribute to its positioning within the rental market, particularly when aligned with tenant operational needs and compliance standards.

Other Factors

In addition to location, market conditions, services, and physical attributes, several other factors also influence warehouse rental pricing. Land value in industrial zones directly affects development costs and, by extension, rental rates (Lim, 2019). High land prices in prime logistics corridors increase baseline rent expectations for developers and investors. Labor availability and wage levels, although not always directly linked to rent, influence the operational attractiveness of a location, which can affect tenant demand and lease terms (Wiguna, 2021). Environmental regulations and sustainability mandates, such as green building certifications, carbon footprint reporting, and energy-efficiency standards, also contribute to higher construction or maintenance

costs, which are often reflected in rent (Giacomelli, 2024). Furthermore, the degree of market competition shapes rental negotiation power. Landlords can offer concessions or reduce rates to secure occupancy in highly competitive or oversupplied areas. Conversely, in markets with limited high-quality supply, rental rates are more likely to favor property owners (Wang et al. 2022).

Comparative Analysis of Studies

The 28 reviewed articles employed diverse methodological approaches, including spatial econometric modeling (Lim & Park, 2019), structural equation modeling (Angelia, 2019), multi-criteria decision-making tools (Wiguna, 2021), and thematic qualitative analysis. Despite these variations, most studies converge to identify location and physical characteristics as the primary rental determinants. However, the emphasis and analytical depth vary across contexts. Studies from East Asia, such as those in Seoul and Chongqing, often prioritize transportation accessibility and high-density urban planning, whereas research from Europe and Africa tends to integrate broader planning, zoning, and socioeconomic variables (Siejka & Relidzynski, 2019; Darfo-Oduro, 2020). Differences in data sources, regional market maturity, and policy environments also shape the study outcomes. For instance, while some studies focus on warehouse-specific factors, others include insights from office or residential rental markets to draw analogies. This methodological and contextual heterogeneity was accounted for through thematic synthesis to avoid overgeneralization. The diversity of methodologies and regional foci emphasizes the complexity of the subject matter and the need for further research to refine our understanding of the relative importance of different factors across various contexts.

Furthermore, the included studies exhibited considerable heterogeneity in terms of research design, geographical coverage, and analytical approaches. This variability was carefully considered during thematic synthesis to avoid overgeneralization. Although this review identifies common categories of determinants, their relative significance may differ across economic regions, methodological frameworks, and market structures. Addressing this heterogeneity enhances the robustness and contextual validity of our findings.

Managerial Implication

The findings of this study offer significant managerial implications for decision-makers in logistics, real estate, and supply chain management. By understanding the multifaceted determinants of warehouse rental costs, ranging from location and economic conditions to physical infrastructure and value-added services, managers can develop more informed site selection strategies and negotiate lease agreements that align with operational needs and financial objectives. The integration of sustainability features and automation technologies, as highlighted in the reviewed literature, underscores the need for proactive investment in future-ready warehouse facilities. Furthermore, logistics and real estate managers should continuously monitor macroeconomic indicators and regulatory changes, as these external factors have a direct impact on rental pricing trends. Embracing a data-driven approach in evaluating warehouse options can enhance cost-efficiency, reduce risk, and create long-term value for businesses operating in increasingly dynamic and competitive logistics environment

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This systematic literature review identifies a set of key factors that consistently influence warehouse rental costs across diverse empirical studies. Location-related attributes, particularly proximity to transportation infrastructure, urban centers, and industrial zones, have emerged as the most dominant determinants. Physical characteristics, including warehouse size, age, and architectural design, also exert considerable influence on rental values. Macroeconomic factors, such as inflation rates, market demand, and regulatory policies, play a substantial role in shaping rental trends, especially in volatile or emerging markets. The availability of value-added services, such as climate control, 24-hour access, and integrated logistics systems, further differentiates warehouse pricing in competitive environments.

Thematic synthesis reveals that warehouse rental pricing is not driven by isolated variables, but rather by the interaction of spatial, economic, infrastructural, and institutional factors. Comparative findings show regional variations in determinant weightings, with urban density and infrastructure capacity being critical

in developed markets, whereas emerging markets face challenges related to policy consistency, service availability, and market maturity. These insights emphasize the need to situate warehouse rental analyses within specific contextual environments to avoid overgeneralization.

Recommendations

Future research should address several critical gaps identified in the current literature. Studies that quantify the relative importance of each determinant using robust statistical or econometric models, such as hierarchical modeling or spatial analysis, are particularly needed. Research that incorporates longitudinal data, behavioral insights from tenants, and post-pandemic trends would provide a richer and more adaptive understanding of rental dynamics.

Methodological diversity should be encouraged through the use of mixed-method designs that integrate thematic analysis with quantitative meta-synthesis or geospatial mapping. Expanding the geographical scope of analysis to include less-studied logistics regions—particularly in the Global South—will improve the generalizability and applicability of findings. Furthermore, greater focus should be placed on emerging determinants such as automation readiness, environmental certifications, and supply chain resilience, which are likely to shape warehouse markets in the coming decade.

For practitioners and policymakers, these findings underscore the importance of context-specific investment strategies, tenant-oriented service designs, and evidence-based regulatory frameworks. More sophisticated pricing models and market intelligence tools will help optimize warehouse development and operational planning in an increasingly dynamic logistics environment.

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