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The impact of logistics management on logistics service performance: A study on maritime transportation services in Oman

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A B S T R A C T

This study aims to investigate the impact of logistic management on maritime transportation Service Performance in Oman. According to the resource-based view theory, firms with an inward organizational focus believe that performance stems from unique resources and capabilities specific to the firm. Based on this premise, successful companies aim to cultivate distinctive capabilities, often of intangible nature, to drive future competitiveness. This descriptive study examines the impact of logistic management on maritime transportation service performance. Based on a non-probability sample of 200 respondents from logistics and maritime transport service companies. The relationship between variables was analyzed using structural calculation modeling. The results showed that five out of the nine hypotheses were all positively and significantly supported (supply to services quality, transportation to cost, transportation to services quality, transportation to time and warehousing to cost). While the relationship between (supply to cost, supply to time, warehousing to service quality, warehousing to time) were not supported. The study focuses on the one maritime service provider in Oman, thus precluding the generalizability of findings to other logistics service or logistics areas.

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1. Introduction

As the commercial maritime transport sector faces challenges in the region and Arab countries, the logistics services sector in Oman continues to attract local and foreign investments, contributing to economic diversification (Al-Arabi, Ayman & Hatem, 2022). By developing a robust logistics network encompassing import, export, storage, supplies, and mail services, Oman aims to enhance its competitiveness and solidify its position as a key player in the global logistics industry. This study aims to explore the impact of logistics management (LM) and maritime transportation service performance on customer satisfaction, focusing on key dimensions such as service quality, time efficiency, cost effectiveness, and overall service excellence. Effective logistics services are crucial in ensuring customer satisfaction and driving businesses towards success. Companies can leverage logistics to streamline transportation, expedite product delivery, navigate economic fluctuations, and mitigate potential challenges such as disasters (Massoudi, 2018). By excelling in logistics, companies can gain a competitive edge, outperform their rivals, and secure customer loyalty (Khader, 2015). Through the implementation of strategic concepts and tailored business solutions, organizations can exceed customer expectations and solidify their position in the market (Al-Wahaibi, 2019). Logistics operations management stands out as a vital aspect of modern business management, integrating supply and physical distribution activities to optimize organizational performance. The ability to respond promptly to market demands and deliver goods and services efficiently is key to achieving competitive advantages and success. By focusing on logistical activities, organizations can enhance customer satisfaction, reduce costs, and strengthen their market position in the long run. (Justavino-Castillo et al., 2023).

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The COVID-19 pandemic has underscored the significance of the maritime industry in global trade, prompting shipping companies to prioritize sustainability and customer-centric strategies. In Oman, the establishment of the Omani International Logistics Group ("ASYAD") reflects the country's commitment to maximizing economic opportunities and attracting investments. ASYAD has emerged as a leading provider of integrated logistics services in the Middle East and North Africa, playing a pivotal role in driving economic growth and meeting the needs of clients from both local and international markets (Alwahaibi, 2019). Previous research has extensively examined the impact of supply chain management strategies on the performance of supply chains across diverse industries and facets. For instance, Hamid and Ibrahim (2015) scrutinized how supply chain management practices influence industrial company performance, emphasizing efficient information flow, integration, and Responsiveness as dimensions for supply chain practices and effectiveness and efficiency for supply chain performance. Their study advocated exploring novel supply chain management dimensions to enrich performance evaluations. Similarly, Umair et al. (2019) investigated logistics' influence on customer satisfaction in retail, focusing on inventory management and lead time. Ghoumrass and Tigu (2017) explored logistics management's impact on customer satisfaction through transportation, handling, packaging, production, and facility network design. Georg (2013) examined the Impact of Logistics Management (Transportation, warehousing and procurement) on Customer Satisfaction.

In maritime transport, Oyama et al. (2024) underscored the criticality of quality maritime services encompassing safety, insurance, timely delivery, and continuous support. This study addresses prevalent issues in Oman's maritime transport sector. Given logistics management's pivotal role in enhancing customer satisfaction and overcoming challenges, this research aims to examine how dimensions such as warehousing, supply operations, and transportation impact key satisfaction factors including service quality, time efficiency, and cost-effectiveness.

2. literature review

Logistics operations are foundational to achieving organizational objectives, delivering high-quality services, expanding market presence, driving profitability, and ensuring customer satisfaction. Senior management's recognition of logistics' pivotal role underscores its critical importance in modern business strategy (Haj, 2016). Haj (2016) emphasizes logistics as indispensable for achieving customer contentment and ensuring timely delivery, positioning it as a cornerstone of strategic business planning. Nour El-Din (2019) further elucidates the criticality of logistics management (LM) in strategizing, executing, and overseeing the movement of goods, optimizing storage efficiencies, and managing associated information systems. Effective LM entails meticulous planning, execution, and monitoring of goods, services, and information flows to optimize resources, stabilize prices, and enhance transportation efficiency (Elti et al., 2023). Key components of LM—warehousing, supply management, and transportation—are pivotal for ensuring product safety, cost efficiency, and customer satisfaction (Nour El-Din, 2019). Continuous improvement in these areas is essential for achieving market success and leadership (Nour El-Din, 2019). Strategic decision-making within logistics includes assessing various options across activities such as selecting storage facilities and transportation modes while maintaining consistent service levels (Jodlbauer et al., 2023). This strategic approach aligns organizational goals with customer expectations, often referred to as the "attack strategy" to outperform competitors. Logistics also plays a pivotal role in balancing production and consumption dynamics, with storage's economic value lying in its ability to meet market demand and maintain product availability (Bin Khatem, 2021). Bin Khatem (2021) underscores logistics operations management as a contemporary facet capable of addressing economic and technological challenges. It promotes an integrated management model that fosters advanced and cohesive logistics practices, facilitating scalability and rapid response to market demands. Moreover, maritime logistics significantly enhances trade by integrating international logistics activities such as transportation, procurement, and storage, thereby contributing to global economic integration (Bin Khatem, 2021). Supply management within logistics focuses on seamless material flow from production to distribution channels, aiming to enhance customer satisfaction (Lele, Nyathani, & Singh, 2023). Logistics management in supply chains supports competitiveness and adaptability to market fluctuations through effective procurement, storage, and distribution (Ristovska, Kozuharov, & Petkovski, 2017). Logistics management (LM) is a pivotal contemporary concept that integrates various activities crucial for organizational success, including procurement, storage, transportation, distribution, handling, packaging, and customer service (Tien & Anh, 2020). Seamless coordination of these activities is indispensable for delivering products and production inputs punctually, to the correct destination, and in the required condition (Nilsson, 2019). In short, LM is not merely operational logistics but a strategic function that aligns with organizational goals to enhance overall efficiency, cost-effectiveness, and customer satisfaction. It serves as a foundational element in modern business strategy, facilitating competitive advantage through streamlined operations and effective resource management. Embracing innovative practices and technological advancements in logistics management is crucial for organizations aiming to adapt and thrive in dynamic market environments.

2.1 Logistics management dimensions

Effective logistics operations encompass strategic warehousing, supply, and transportation management to optimise resource utilisation, enhance customer satisfaction, and maintain competitive advantage in dynamic markets. Embracing technological advancements and innovative practices in logistics management is essential for addressing contemporary challenges and achieving sustainable growth in the global marketplace. Logistics activities are divided according to how important they are

in customer service into basic and supporting activities of the logistics process; the basic activities are determining customer service standards, transportation, Inventory Management, order processing and order operation, supply-related information and communication systems (Amin, & Shahwan, 2020). Warehousing, Supply Management, and Transportation are foundational pillars within logistics operations, collectively ensuring efficient management of resources and seamless delivery of goods to meet customer demands. Each component plays a crucial role in enhancing supply chain efficiency and overall organizational effectiveness (Islam, Monjur & Akon, 2023).

Warehousing: Warehousing serves as a cornerstone of the supply chain, providing systematic storage for raw materials and finished goods (Cheng, 2022). Storage is the primary activity of warehousing, and it defines the site where products or items are deposited and kept until they are required for usage. Because items have many different shapes and sizes, there are also different rates of storage space utilization, which poses different problems (Koster, 2022). Effective warehousing management is essential for maintaining product integrity and optimizing shipping and distribution processes. Cheng (2022) emphasizes the importance of identifying optimal storage methods, ensuring security, and maintaining suitable conditions to reduce costs and enhance overall supply chain efficiency. Mastery in storage management not only ensures operational efficiency but also secures a competitive advantage in the market (Hosseinzadeh et al., 2023).

Supply Management: Supply management is critical for driving logistics efficiency by ensuring seamless material flow from production points to distribution channels (Lele, Nyathani, & Singh, 2023). This involves managing material and goods requirements while selecting suppliers capable of delivering optimal quality at minimal cost. Effective supply management orchestrates transportation, storage, and distribution processes to ensure swift and accurate delivery, ultimately enhancing customer satisfaction. Logistics management in supply chain operations plays a pivotal role in fostering competitiveness and adaptability to market challenges (Ristovska, Kozuharov, & Petkovski, 2017). Embracing technology and innovation in supply-side logistics management confers a robust competitive advantage and supports sustainable growth strategies.

Transportation: Transportation management is equally vital for efficient distribution, leveraging advanced technologies and methodologies to ensure cost-efficient and prompt service delivery (Aloui, 2021; Shamsuzzoha et al., 2011) . Adopting advanced technologies and methodologies in transportation management is key to achieving cost-efficient and prompt service delivery. This includes meticulous planning, method selection, and precise timing of operations execution. Furthermore, effective transportation management involves evaluating and selecting reliable shipping partners, closely monitoring shipments, and promptly addressing any encountered issues (Shamsuzzoha et al., 2011). The strategic management of transportation profoundly influences enterprise success, impacting overall customer satisfaction (Salam, 2023). Therefore, staying updated with the latest methods, techniques, and technologies is crucial for optimizing transportation operations and ensuring efficient distribution of goods and products (Berawi, Miraj, & Perdana, 2023). In short, the effective integration of warehousing, supply management, and transportation within logistics operations is paramount for enhancing supply chain efficiency, meeting customer expectations, and sustaining competitive advantage in dynamic market environments. Each component contributes uniquely to operational success, underscoring the importance of strategic management and technological innovation in modern logistics practices.

2.2 Logistics Service Performance

Logistics service performance is increasingly acknowledged as a critical determinant of competitive advantage in today's business landscape (Hamid et al., 2022). Efficient management of goods and services across the supply chain—from origin to consumption—encompasses vital aspects such as product quality, customer service, adherence to delivery timelines, and cost efficiency. These factors collectively influence organizational success, impacting market share, export competitiveness, and international trade dynamics (Hamid et al., 2021). Scholars such as (Stank et al.2003; Larson; 2021; Ding et al. 2022; Luttermann et al. 2020), and Irak and En (2021) advocate for a comprehensive evaluation of logistics service quality, emphasizing the integration of cost considerations and performance metrics. According to Kempa et al. (2020), logistics service quality is synonymous with meeting customer demands, underscoring the centrality of customer satisfaction in this domain. In maritime transportation services, critical factors include ensuring product quality, minimizing costs, expediting shipping processes, and optimizing storage and shipment procedures (Rane, Achari, & Choudhary, 2023). Customer satisfaction is not merely desirable but essential for sustained business success (Salam, 2023). Companies must prioritize delivering high-quality services tailored to customer needs, emphasizing prompt and accurate delivery to instill confidence and satisfaction among clientele (Oyama et al., 2024). Service quality emerges as a pivotal factor influencing customer contentment, with customers often willing to pay a premium for superior services that meet their expectations (Thai, 2008; Nitin, Achari, Choudhary, 2023). Achieving and maintaining customer satisfaction necessitates seamless service integration and continuous improvement efforts, enabling companies to differentiate themselves in competitive markets. Cost reduction strategies also play a crucial role in enhancing customer satisfaction, particularly in cost-sensitive industries like maritime transport (Thai, 2008). Companies that offer superior services at competitive prices are better positioned to attract and retain customers, thereby strengthening their market position. Effective cost management not only improves service affordability but also enhances overall customer preference and satisfaction levels (Rane, Achari, & Choudhary, 2023). Therefore, implementing robust cost reduction measures represents a strategic imperative for enhancing customer satisfaction and

ensuring sustainable business success in the fiercely competitive maritime transport sector. In conclusion, logistics service performance, encompassing quality management, cost efficiency, and customer-centric service delivery, is crucial for gaining competitive advantage and achieving sustained business growth. Emphasizing customer satisfaction through high-quality service provision and effective cost management strategies is essential for navigating competitive markets and fostering long-term success in logistics and maritime transport industries.

3. Hypotheses Development

Given the pivotal role of logistics practices in optimizing efficiency, previous studies extensively examine the impact of LM practices on enhancing operational performance (Amin & Shahwan, 2020). Yorulmaz and Birgün (2017) conducted a comprehensive investigation into the relationship between maritime logistics service capabilities and financial as well as customer service performance, revealing a significant correlation. This underscores the critical importance of specialized logistics capabilities in shaping performance outcomes, particularly within sectors such as maritime transport. Based on the literature reviewed, and building upon this evidence, the following hypotheses are formulated to explore the relationships between supply chain management (SCM), transportation, warehousing, and various dimensions of logistics service performance:

H_1: *There is a positive relationship between supply chain management and logistics service performance.*

Sub-hypotheses related to supply chain management:

- **H_{1a}:** *There is a significant association between supply chain management and cost reduction*.
- **H_{1b}:** *There is a significant association between supply chain management and service quality*.
- **H_{1c}:** *There is a significant association between supply chain management and time reduction.*

H_2: *There is a positive relationship between transportation and logistics service performance.*

Sub-hypotheses related to transportation:

- **H_{2a}:** *There is a significant relationship between transportation and cost reduction.*
- **H_{2b}:** *There is a significant relationship between transportation and service quality*.
- **H_{2c}:** *There is a significant relationship between transportation and time reduction*.

H_3: *There is a positive relationship between warehousing and logistics service performance.*

Sub-hypotheses related to warehousing:

- **H_{3a}:** *There is a significant relationship between warehousing and cost reduction.*
- **H_{3b}:** *There is a significant relationship between warehousing and service quality.*
- **H_{3c}:** *There is a significant relationship between warehousing and time reduction.*

These hypotheses aim to investigate how different aspects of logistics management—supply management, transportation, and warehousing impact key dimensions of logistics service performance (cost reduction, service quality, and time efficiency). Each sub-hypothesis specifies a particular relationship that will be empirically tested.

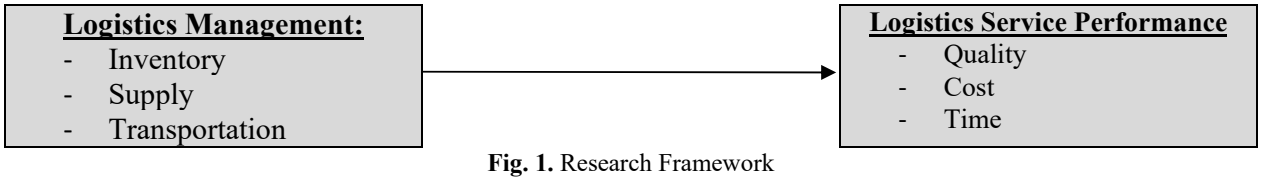

Fig. 1. Research Framework

4. Methodology

In this study, the descriptive method was used as the appropriate method, as it aims to understand the phenomenon, its characteristics, and the factors affecting it. It also includes collecting, classifying, and tabulating data and attempting to interpret and analyze it to draw results, control them, and predict the behavior of the phenomenon under study.

4.1 Population and sample

According to the objectives of this study, which seeks to identify the logistics management in the performance of maritime transport services on a sample of users of maritime logistics services, the study population consists of all institutions and companies that receive maritime transport services in the Sultanate of Oman, and as a result of the lack of comprehensive and accurate statistics on some types Companies have decided to rely on the convenience sampling method. The companies that deal with maritime services provided by ASYAD Company, which manages the Sultanate's ports and the logistics sector, were selected for their economic contribution to developing the local economy and providing logistical services.

A primary data-gathering tool, the questionnaire, is structured into two main sections:

- The first section addresses the demographic profile of the sample population, including gender, age, educational attainment, and monthly income.
- The second section focuses on the dependent variable, namely customer satisfaction, which is divided into three dimensions: quality, time and cost.

Responses are recorded on a five-point Likert scale ranging from "1 - strongly disagree" to "5 - strongly agree". Statistical Package for the Social Sciences (SPSS -PLS) software is utilized to process the data collected from maritime transport customers of ASYAD in Oman.

5. Data analysis

Convergent validity, which assesses the degree of agreement among multiple items measuring the same construct, was evaluated using factor loadings, composite reliability, and average variance extracted (AVE), as recommended by Hair et al. (2010). All items demonstrated factor loadings exceeding the threshold of 0.7, indicating robust convergent validity (Hair et al., 2010). Additionally, composite reliability values were above 0.7, suggesting internal consistency among the items measuring the construct. The AVE values also exceeded 0.5, indicating that the items shared more variance with the construct they measure than with measurement error. These results affirm strong convergent validity, supporting the reliability and validity of the measurement Table 1.

Table 1
The results of the factor loading

Variables	Cost	Services quality	Supply	Time	Transportation	Warehousing
Cost1	0.812					
Cost3	0.767					
Cost4	0.775					
Cost5	0.758					
Services quality2		0.785				
Services quality4		0.793				
Services quality5		0.762				
Supply2			0.828			
Supply5			0.778			
Supply6			0.710			
Time1				0.874		
Time3				0.897		
Transportation1					0.754	
Transportation2					0.710	
Transportation3					0.712	
Transportation4					0.793	
Transportation5					0.786	
Warehousing1						0.809
Warehousing3						0.809
Warehousing5						0.708

The composite reliability values, displayed in Table 1, indicate how effectively the indicators of the construct represent the underlying latent construct. These values ranged from 0.810 to 0.879, surpassing the recommended threshold of 0.7 (Hair et al., 2010). This suggests strong internal consistency among the items measuring the construct. Furthermore, the average variance extracted (AVE), which measures the proportion of variance in the indicators explained by the latent construct, ranged from 0.496 to 0.785. All AVE values exceeded the suggested threshold of 0.5 (Hair et al., 2010), indicating that a significant amount of variance in the indicators is attributable to the construct they are intended to measure. These findings provide robust evidence of convergent validity for the measurement instrument used in this study. The strong composite reliability and high AVE values affirm the reliability and validity of the construct measurement, supporting the credibility of the research findings.

Table 2
Construct reliability and validity

Dimensions	Composite reliability (rho_c)	Average variance extracted (AVE)
Cost	0.860	0.606
Services quality	0.810	0.496
Supply	0.872	0.773
Time	0.879	0.785
Transportation	0.867	0.566
Warehousing	0.820	0.603

5.1 Discriminant validity of constructs

Following the assessment of convergent validity, the study proceeded to evaluate discriminant validity, which assesses how well a measure distinguishes itself from other variables. Weak correlations between the measure under study and other constructs indicate strong discriminant validity (Cheung & Lee, 2010). This assessment typically involves examining squared correlations among different constructs and comparing them with the average variance extracted (AVE) for each construct (Fornell & Larcker, 1981). As depicted in Table 3, the squared correlations between each pair of constructs are lower than the AVE values of the constructs, confirming robust discriminant validity. This indicates that each construct in the measurement model shares more variance with its own indicators than with indicators of other constructs, thereby demonstrating clear differentiation between constructs. In summary, the measurement model exhibits satisfactory levels of both convergent and discriminant validity. The strong composite reliability, high AVE values, and low squared correlations between constructs affirm the reliability, validity, and distinctiveness of the measurement instrument used in this study. These findings enhance confidence in the accuracy and credibility of the research outcomes.

Table 3
Discriminant validity

Dimensions	Cost	Services quality	Supply	Time	Transportation	Warehousing
Cost	0.778					
Services quality	0.651	0.780				
Supply	0.720	0.683	0.773			
Time	0.642	0.596	0.558	0.886		
Transportation	0.814	0.761	0.799	0.703	0.752	
Warehousing	0.684	0.554	0.677	0.521	0.662	0.777

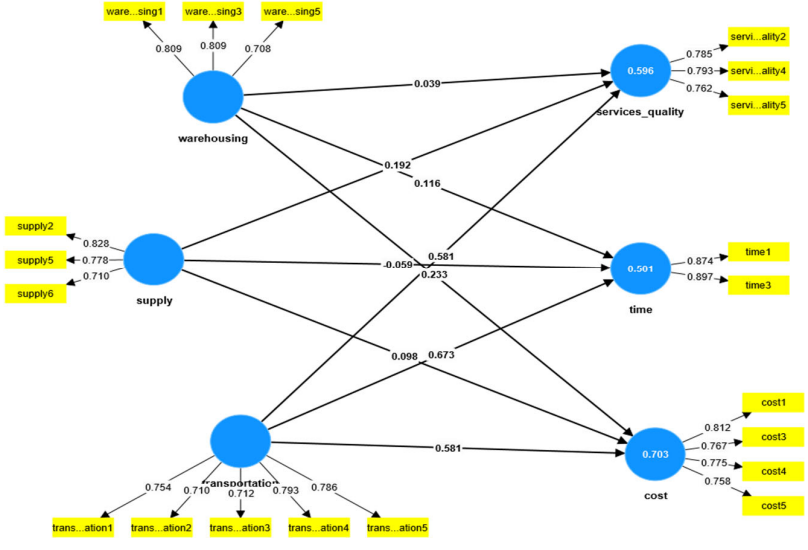

Fig. 2. The results of the SEM implementation

The structural model was evaluated to test the hypotheses outlined in Figure 1, with detailed results summarized in Table 4. Out of the nine hypotheses proposed, five received empirical support based on the analysis:

1. The relationship between supply and service quality (0.192, $p < 0.04$) was found to be positive and significant, supporting H2.
2. The relationship between transportation and cost (0.581, $p < 0.00$), supporting H4.

3. The relationship between transportation and service quality (0.581, $p < 0.00$), supporting H5.
4. The relationship between transportation and timeliness (0.673, $p < 0.00$), supporting H6.
5. The relationship between warehousing and cost (0.233, $p < 0.01$), supporting H7.

However, the following hypotheses did not receive support from the data:

1. The relationship between supply and cost (0.098, $p > 0.28$), indicating no significant relationship and not supporting H1.
2. The relationship between supply and timeliness (-0.059, $p > 0.62$), also showing no significant relationship and not supporting H3.
3. The relationship between warehousing and service quality (0.039, $p > 0.63$), indicating no significant relationship and not supporting H8.
4. The relationship between warehousing and timeliness (0.116, $p > 0.36$), again showing no significant relationship and not supporting H9.

In summary, the structural model analysis confirmed significant positive relationships between supply chain management and service quality, transportation and cost, transportation and service quality, transportation and timeliness, as well as warehousing and cost. These findings underscore the importance of these factors in influencing logistics service performance within the context of the study. Conversely, the lack of significant relationships in other hypotheses suggests areas where further investigation or refinement of the model may be necessary to fully understand the dynamics of logistics management's impact on service outcomes.

Table 4
Path coefficients

Variables	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Supply → Cost	0.098	0.101	0.091	1.080	0.280
Supply → Services quality	0.192	0.192	0.097	1.973	0.049
Supply → Time	-0.059	-0.069	0.122	0.484	0.628
Transportation → Cost	0.581	0.586	0.116	4.991	0.000
Transportation → Services quality	0.581	0.568	0.106	5.508	0.000
Transportation → Time	0.673	0.669	0.122	5.535	0.000
Warehousing → Cost	0.233	0.223	0.091	2.562	0.010
Warehousing → Services quality	0.039	0.045	0.083	0.474	0.636
Warehousing → Time	0.116	0.129	0.127	0.915	0.360

6. Results and Discussion

The findings of this study reveal a nuanced relationship between supply chain management (SCM) practices and logistics service performance, as well as varying impacts across different dimensions.

6.1 Logistics management and Logistics Service Performance

The analysis indicates a diverse pattern in the relationship between logistics management LM and logistics service performance. Notably, while LM did not show a significant association with cost reduction in this study, existing research typically emphasizes SCM's role in achieving cost efficiencies (Lenny Koh et al., 2007). It is suggested that achieving cost and time reduction may require a more integrated approach that encompasses various LM dimensions beyond supply alone. Factors such as robust resource planning, flexibility, and accurate forecasting are crucial for realizing time-saving benefits in LM practices (Geng, Mansouri, & Aktas, 2017). Moreover, the study highlights that LM strategy itself may not be as predictive of supply chain performance outcomes compared to specific SCM practices (Sukatia et al., 2012). Conversely, the positive relationship observed between supply chain management and logistics service quality aligns with prior research, underscoring SCM's critical role in enhancing customer value and satisfaction (Waiyawuththanapoom & Wararatchai, 2021; Venetis & Ghauri, 2004). SCM capabilities contribute significantly to improving supply service performance, benefiting both customers and suppliers alike (Politis, Giovanis, & Binioris, 2014).

6.2 Transportation and Logistics Service Performance

Transportation emerges as a strong contributor to all three dimensions of logistics service performance—cost, service quality, and timeliness. This finding is consistent with existing literature that emphasizes the importance of efficient transportation in enhancing supply chain performance across these metrics (Ibrahim & Hamid, 2012; Khalaf & Mohadem, 2019; Hamid & Ibrahim, 2015). The integration of advanced information systems further enhances logistics performance by optimizing transportation processes and ensuring timely delivery (Lai et al., 2020).

6.3 Warehousing and Logistics Service Performance

The relationship between warehousing and logistics service performance shows a partial positive association, specifically impacting cost reduction. This finding supports the notion that SCM practices, including effective warehousing strategies, can streamline logistics operations by reducing inventory levels and improving demand forecasting accuracy (Geng, Mansouri & Aktas, 2017). However, no significant relationships were observed between warehousing and service quality or timeliness. Reducing lead times remains a crucial logistics performance indicator influenced by strategic approaches, storage practices, and information systems integration among supply chain partners (Abdulla & Musa, 2021). The complexity of aligning all stakeholders to achieve consistently high-quality logistical services may explain the absence of a significant relationship between warehousing and service quality in this study (Buzu, 2021).

7. Theoretical Implications

This study investigated the logistics performance for maritime service in Oman context which show interesting findings that confirm the implication logistics management on maritime side due to the high focus on other areas of logistics this research highlights a new area for the future research. Also, this study paves the way for further exploration into LM within modern transportation contexts. It highlights the critical role of LM in meeting customer demands and operational efficiency within maritime transport. Future research could expand on these insights to explore emerging trends and challenges in LM across various sectors and global markets.

8. Practical Implications

Practically, the study underscores the significance of effective LM practices in fulfilling transportation requirements and enhancing customer satisfaction. By elucidating the impact of SCM on logistics service quality and efficiency, the study provides actionable insights for practitioners and policymakers in optimizing logistical operations. This understanding can guide strategic investments in technology, infrastructure, and workforce development to improve supply chain performance.

9. Limitations & Recommendations for Future Research

The study's limitations are noteworthy. Firstly, it exclusively examines Logistics management practices within a single company in Oman, limiting generalizability across different sectors and geographical locations. The narrow focus on three dimensions of logistics service performance—cost reduction, time reduction, and service quality—also restricts the broader applicability of findings to other performance metrics and industries. Future research should aim for a more diverse sample and encompass a wider array of performance indicators to enhance robustness and applicability. based on the above limitation, future research could include these areas: sampling type and technique conducting comparative studies across multiple sectors and regions to capture diverse LM practices and their impacts on logistics performance. Logistics service performance dimensions and measurement expansion of performance metrics: Exploring additional dimensions of logistics service performance beyond cost, time, and service quality to provide a comprehensive assessment.

10. Conclusion

This study highlights the multidimensional impact of supply chain management practices, transportation, and warehousing on logistics service performance. While SCM practices exhibit a mixed relationship with performance indicators such as cost reduction, they consistently enhance service quality. Transportation emerges as a critical determinant across all dimensions of performance, emphasizing its pivotal role in improving logistics efficiency. Conversely, although warehousing positively influences cost reduction, further exploration is needed to optimize its impact on service quality and timeliness within logistics operations. These findings underscore the complexity of SCM dynamics and underscore the necessity for integrated strategies to comprehensively optimize logistics service performance. Future research could delve deeper into specific SCM practices and their differential impacts across diverse industry contexts to further refine logistics management strategies. Despite its limitations, this study provides valuable insights into the role of logistics management (LM) practices, particularly within the maritime transport context in the Sultanate of Oman. The study's focus on cost reduction, time efficiency, and service quality contributes to a foundational understanding of how SCM practices influence logistics service performance within this specific organizational setting. While acknowledging its limitations, this study contributes substantially to the understanding of logistics management in maritime transport contexts. By emphasizing the strategic and practical implications of SCM practices, it offers a foundation for future research endeavors aimed at advancing LM knowledge and enhancing logistical efficiency in a sustainable manner. Addressing these recommendations can further enrich the field of logistics management and its broader implications for global trade and environmental stewardship.

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