THE DETERMINANTS OF A LOGISTIC SERVICE PROVIDER IN AN EMERGING COUNTRY: A GOVERNANCE IMPLICATION

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Abstract

The logistics services sector is a critical component of any nation's economy, responsible for facilitating the seamless flow of goods and services (Butt et al., 2023). This research aims to delve into the determinants that impact logistics services in Thailand. Employing a quantitative research methodology, data was gathered from a sample of 675 Thai individuals who had experience with logistics services. The study utilised convenience sampling, and data analysis encompassed various statistical measures, including percentages, means, standard deviations, and binary logistic regression. The study's outcomes underscored that the adoption of logistics services in Thailand was notably affected by factors like age, income, and the frequency of service usage. Consequently, this research contributes not only to the academic comprehension of logistics services but also holds practical significance for businesses, policymakers, and logistics service providers within the Thai context. By scrutinising the interplay of age, income, and service usage frequency, the findings can offer valuable insights to guide strategic decision-making and policy development, ultimately augmenting the efficiency and effectiveness of logistics services in the region.

Keywords: Logistic, Service, Adoption, Thailand

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1. INTRODUCTION

The landscape of global trade and commerce has witnessed significant transformations in recent decades, with emerging countries taking centre stage in the global economic arena. These nations, including Thailand, characterised by rapid industrialisation, burgeoning populations, and evolving consumer preferences, offer tremendous growth opportunities for businesses across industries (Sivakriskul & Seong, 2021; Zhan, 2021). At the heart of this transformative process, logistics services providers play a pivotal role, serving as the architects behind the seamless movement of goods within and beyond national borders. As emerging economies become hubs of production, consumption, and trade, logistics providers are challenged to adapt and innovate, ensuring the efficient flow of goods and services. Moreover, the digital age has introduced new dynamics to the logistics industry, with technology-driven solutions, e-commerce platforms, and supply chain

optimizations revolutionising the way goods are transported and delivered (Haque et al., 2023; Patel, 2023).

According to Globalia Logistics Network (2022), Thailand has emerged as a pivotal logistics hub for the Greater Mekong Sub-region (GMS), courtesy of the Association of Southeast Asian Nations (ASEAN) Economic Community (AEC). The expansion of consumer markets within ASEAN and the upsurge in foreign direct investment have significantly bolstered Thailand's transportation and logistics sector. The AEC has further broadened Thailand's avenues for international trade with fellow ASEAN nations, thereby engendering a competitive milieu within the logistics industry. Nanthasamroeng et al. (2022) and Startup in Thailand (2020) further delineated that Thailand's logistics sector predominantly relies on road transport, which accounts for approximately 80% of the aggregate freight volume. The country boasts a well-developed roadway system, with 98% of its highways paved. Thailand also boasts the highest number of highways connecting it with its ASEAN counterparts, thereby constituting the backbone of the GMS's transportation infrastructure. This extensive network facilitates expedited and cost-effective access to seaports, thereby considerably bolstering Thailand's logistics sector. Thailand's close proximity to emerging manufacturing hubs within ASEAN positions it as a principal source of components, parts, and assembly plants. Bangkok, the nation's capital, serves as a pivotal metropolitan and commercial hub in Southeast Asia, magnetising international traders aiming at the regional consumer market. The ASEAN Economic Community is anticipated to engender a plethora of business prospects by establishing a unified production base and market, thereby facilitating the uninhibited flow of capital, services, goods, and skilled labour, while concurrently diminishing trade barriers. This integration is fostering heightened trade between Thailand and its neighbouring countries, thereby stimulating the cross-border logistics industry.

The success of a logistics service provider in an emerging country hinges on several critical factors, including robust infrastructure, a favourable regulatory environment, understanding local market demands, embracing technology and innovation, efficient supply chain integration, ensuring safety and security, developing a skilled workforce, navigating customs and trade barriers, addressing sustainability, forming partnerships, maintaining financial stability, and adapting to the local culture. Being scalable and prioritising exceptional customer service is also key. Success in emerging markets requires adaptability and a focus on building a strong network and offering value-added services to remain competitive in the logistics industry (Barleta et al., 2019; Borgström et al., 2021; Mir et al., 2021).

Given its significance, this study investigates the determinants influencing logistics service utilisation and preferences in Thailand, aiming to fill a significant gap in the existing literature by providing a comprehensive analysis of these factors within the Thai logistics sector. By examining factors such as gender, age, education, marital status, income, residence, access to information, frequency of usage, fees, minimum usage requirements, and the availability of free services, we seek to gain a deeper understanding of the intricacies of the Thai logistics market. This study recognizes the significance of socio-demographic variables and service-related considerations in shaping the demand for and accessibility of logistics services. The findings of this research may provide valuable insights for logistics service providers, policymakers, and other stakeholders, enabling them to tailor their strategies to better meet the diverse and evolving needs of the Thai market, and ultimately enhance the efficiency and inclusivity of the logistics ecosystem.

The paper consists of six main sections. Section 1 is the introduction. Section 2 provides a literature review. Section 3 outlines the research methodology, while Section 4 presents the study's results. Section 5 discusses the study's findings, and the last Section 6 includes conclusions, limitations, and recommendations.

2. LITERATURE REVIEW

The burgeoning demand for logistics services in the contemporary business milieu has unequivocally underscored the pivotal role that logistics service providers play in the global economy. This surge, transcending historical precedents, is largely fueled by businesses' growing predilection for outsourcing their logistics operations, a strategy driven by the dual objectives of cost reduction and enhanced customer service delivery. Such a shift has not only heightened the strategic importance of logistics providers in driving economic growth but has also magnified the emphasis on their operational proficiency (Meathawiroon & Wanarat, 2022). The past decade, in particular, has witnessed a marked escalation in both the practice of logistics outsourcing and the intensity of competition within the logistics service sector. This evolving landscape necessitates that logistics service providers not only embrace innovation but also meticulously craft and implement strategies aimed at securing and maintaining a competitive advantage (Hartmann & de Grahl, 2011).

This backdrop provides a compelling motivation for the current study, which seeks to explore the determinants of logistics service providers in emerging countries. The accelerated growth and increasing complexity of the logistics sector pose both challenges and opportunities for service providers operating within these vibrant but often unpredictable markets. Identifying and understanding the factors that influence the effectiveness and efficiency of logistics services in such contexts is crucial. It not only enables providers to better navigate the competitive terrain but also contributes to the broader discourse on economic development strategies in emerging economies. Against this backdrop, this study is motivated by the need to dissect and understand the multifaceted determinants that influence the performance and strategic positioning of logistics service providers in emerging markets. By identifying these determinants, the study aims to offer insights that can help providers not just to navigate but to thrive in the increasingly competitive and complex global business environment. Moreover, the findings are poised to contribute to the academic discourse on logistics and supply

chain management, providing a nuanced understanding of the dynamics at play in emerging economies. This research endeavours to shed light on how logistics service providers can harness these determinants to foster innovation, enhance service delivery, and ultimately secure a competitive advantage in the market.

Cichosz et al. (2020) emphasised the profound impact of advancements in digital technology on the logistics service industry, prompting established providers to initiate digitization efforts. This study aims to uncover the challenges and organisational elements necessary for successful digital transformation within logistics service providers. The research defines digital transformation in this context, identifies five barriers, outlines eight success factors, and highlights the critical importance of visionary leadership and supportive organisational culture as key drivers of success. Primary obstacles include the complexity of logistics networks and resource constraints. This study sheds light on the dynamics of digital transformation in the logistics service sector, offering valuable insights to assist providers in effectively navigating these changes. Additionally, Weerapong (2021) conducted a study investigating internal and external factors affecting risk, context, and operating conditions, and how they impact risks for logistics service providers. The analysis found that when assessing the five forces model, the factors exerting the most influence followed this order: buyer power, threat of new entry, threat of substitution, competitive rivalry, and supplier power. Moreover, the study measured the impact of various risk factors through nine observable variables, ranking them in descending order of influence: 1) threat of buyer power, 2) threat of new entry, 3) impact on corporate opportunity response, 4) threat of substitution, 5) threat of supplier power, 6) threat of competitive rivalry, 7) corporate weakness impact, 8) corporate strengths impact, and 9) corporate threats impacts. This research provides valuable insights into risk management for logistics service providers, offering a comprehensive understanding of the factors affecting their operations and competitiveness.

Klumpp et al. (2017) explored the intricate and multifaceted relationship between logistics dynamics and demographic changes. They emphasise that changes within the logistics industry are not solely driven by internal factors but are significantly influenced by both external and internal forces. This indicates that the dynamics of logistics are shaped not only by factors within the industry itself but also by broader demographic trends and external factors that impact how logistics operations evolve and adapt over time. Understanding this complex interplay is essential for effective logistics management and planning in an ever-changing environment. Additionally, in the realm of consumer preferences, Wang et al. (2024) explored the landscape of parcel delivery. Omni-channel shopping empowers consumers with a range of delivery options tailored to their specific timing and location preferences. Their study considered consumers' active contributions in co-creating delivery services, encompassing physical, social, and attentive efforts. The findings indicated that, in comparison to attended home delivery, consumers who opt for alternative delivery methods are more willing to invest physical effort but show less interest in actively engaging with informational updates. The necessity for social interactions often deters consumers from choosing attended deliveries, making unattended options such as home delivery and self-collection more appealing choices. Furthermore, socio-demographic factors and the value of the product being delivered also exert influence on consumers' delivery preferences.

The discourse surrounding logistics service quality and its correlation with customer loyalty has gained prominence in both developing and underdeveloped nations. Huma et al. (2020) delved into this subject by examining the logistics service quality factors that influence customer loyalty within a developing country context. Their study revealed that both operational logistics service quality (OLSQ) and relational logistics service quality exert a noteworthy influence on customer loyalty. Furthermore, the enhancement of customer loyalty hinges significantly on relationship quality, highlighting its pivotal role in fostering enduring customer relationships.

Lai et al. (2022) conducted a study to investigate the determinants of customer satisfaction with parcel locker services in last-mile logistics, drawing on the service quality (SERVQUAL) model and the logistics service quality (LSQ) model. The researchers collected data through a survey of 321 consumers in China and analysed the data using structural equation modelling. The findings indicate that timeliness is the most influential factor positively affecting customer satisfaction with parcel locker services. Additionally, reliability and security also significantly contribute to customer satisfaction, followed by responsiveness and tangibility. This study contributes to the SERVQUAL and LSQ literature by offering practical implications for logistics service providers.

Michalski and Montes-Botella (2022) used the SERVQUAL model and partial least squares structural equation modelling (PLS-SEM) to test the influence of five dimensions of service quality on performance: reliability, responsiveness, empathy, assurance, and tangibility. The findings indicated that performance was positively related to assurance, tangibility, and reliability, but negatively related to responsiveness and empathy. This suggests that the relationships existing in developed markets may not apply in the same manner in emerging markets. The study advises managers to develop a mix of activities to improve the services provided, customer relationships, and performance, emphasising that different combinations of service quality dimensions can influence performance in varying ways.

Su et al. (2022) emphasised the importance of sustainable management in logistics service providers, particularly in the context of the agricultural food cold chain. This requires a complex logistics system due to short product life cycles. The research highlights the need for logistics management to focus not only on environmental sustainability but also on economic and social aspects. This approach creates an external sustainable environment in three areas: 1) economy, 2) environment, and 3) society for cold chain food systems (CCFS). The study also notes the significance of stakeholder pressure, strategic

positioning, sustainable policy, and the commitment of top management in influencing the suppliers' sustainable development.

3. METHODOLOGY

This recent study employed a quantitative research approach, utilising closed-ended questionnaires to gather data. In the construction of a questionnaire aimed at investigating the determinants affecting logistics services in Thailand, a methodical approach was adopted. The process began with the precise outlining of research objectives, focusing specifically on the factors influencing logistics services within the Thai context. This was followed by a comprehensive literature review, during which established determinants and relevant variables were identified from both scholarly and industry sources. Subsequently, key determinants pertinent to Thai logistics were identified, with an emphasis placed on defining measurable variables for each. The questionnaire was designed to incorporate these determinants, initiating with broad questions before transitioning to more specific inquiries related to the determinants. Demographic questions were also included to deepen the contextual understanding of the respondents' backgrounds. This structured methodology ensured a rigorous academic exploration of the logistics services sector in Thailand, adhering to scholarly standards. Prior to the official data collection, a preliminary test was conducted with a group of 30 respondents to refine the questionnaire, in line with the recommendations of Sitthipon et al. (2022). The measurement instruments' validity, dependability, and accuracy were rigorously assessed. To ensure adherence to ethical standards, the study excluded participants under the age of 18. For participants to provide informed consent, they must have the legal capacity to understand the study's purpose, procedures, and potential risks or benefits. Minors may have limited legal capacity to provide such informed consent, and their involvement in research often requires parental or guardian consent, which can introduce additional complexities and considerations. The research objectives were transparently communicated to the participants, who were also informed of their right to withdraw from the study at any point, following the guidelines set forth by Jangjarat et al. (2023). The participants were required to answer all questions in the questionnaire to be included in the analysis, automatically excluding those who did not complete the entire survey. The study specifically targeted Thai individuals aged 18 and above residing in Thailand.

The sample size was determined using Yamane's formula, with a significance level (p) set at 0.5, precision levels at ±5%, and a confidence level of 95%, as recommended by Napawut et al. (2022). The minimum required sample size was calculated to be 384 participants. Consequently, the study included 675 participants selected through convenience sampling. Data collection for the online survey spanned four months, from January to April 2023, to ensure the capture of up-to-date and pertinent information. This extended data collection period allowed for the observation of trends and variations, ultimately enhancing the accuracy and reliability of the research findings. The researchers concluded the data collection phase upon achieving promising results.

For data analysis, statistical analysis software was employed to conduct both descriptive and inferential analyses. The dependent variable in this study was the *usage of logistic service in Thailand*, while the independent variables included *gender*, *age*, *education*, *marital status*, *income*, *residence*, *access to information*, *frequency of usage*, *fees*, *minimum usage requirements*, and *free services*. *Gender* was represented as a dummy variable, with 0 indicating female and 1 indicating male. In accordance with the explanation provided by Shaengchart et al. (2023), binary regression, a statistical technique used to analyse the relationship between one or more explanatory variables and a single binary output variable, was employed for the data analysis.

4. RESULTS

A comprehensive dataset was compiled from a cohort of 675 participants who voluntarily participated in the study by conscientiously completing online questionnaires. Following data collection, a thorough process of coding and rigorous analysis was meticulously conducted to effectively align with and fulfil the research objectives.

Table 1. Omnibus test of the model's performance using all the independent variables

		Chi-square	*df*	*Sig.*
Step 1	Step	250.289	11	0.000
	Block	250.289	11	0.000
	Model	250.289	11	0.000

Table 1 presents the Omnibus test of the model's performance using all the independent variables. It indicates that the chi-square was 250.289, with a df equal to 11. The dependent variable can be explained by all the independent variables at the significance level of 0.05.

According to Table 2, the model can explain approximately 49.3% of the variation in the result with a significance value of 0.05.

Table 2. The model summary using all the independent variables

Step	*-2 log-likelihood*	*Cox and Snell R-square*	*Nagelkerke R-square*
1	416.852[a]	0.310	0.493

Note: a. Estimation terminated at iteration number 6 because the parameter estimates changed by less than 0.001.

Table 3. Classification table for back testing (including all the independent variables)

Observed			*Predicted*		
			Logistic service		*Percentage correct*
			No	*Yes*	
Step 1	Logistic service	No	73	59	55.3%
		Yes	7	536	98.7%
	Overall percentage				90.2%

Note: The cut-off value is 0.500.

According to Table 3, the classification indicates that the model with all the independent variables was able to predict the *logistic service in Thailand* with an accuracy rate of 90.2% of cases when there was a cut-off value of 0.500 or 50%.

Table 4. Variables in the model using all the independent variables

		B	*S.E.*	*Wald*	*df*	*Sig.*	*Exp(B)*
Step 1[a]	*Gender*	-0.176	0.261	0.453	1	0.501	0.839
	Age	-1.634	0.186	77.473	1	0.000	0.195
	Education	0.184	0.246	0.556	1	0.456	1.202
	Marital status	-0.372	0.299	1.546	1	0.214	0.690
	Income	0.310	0.122	6.429	1	0.011	1.364
	Residence	0.045	0.270	0.027	1	0.868	1.046
	Access to information	0.316	0.266	1.412	1	0.235	1.372
	Frequency of usage	0.665	0.103	41.560	1	0.000	1.945
	Fees	0.080	0.130	0.385	1	0.535	1.084
	Minimum usage requirements	-0.022	0.180	0.014	1	0.904	0.979
	Free services	0.028	0.172	0.027	1	0.870	1.029
	Constant	1.880	0.758	6.148	1	0.013	6.555

Note: a. Variable(s) entered in step 1: gender, age, education, marital status, income, residence, access to information, frequency of usage, fees, minimum usage requirements, and free services.

The predictive regression equation of Model 1 from Table 4 can be described by the following equation:

Model 1

$$P = \frac{1}{1 + e^{-z}} \quad (1)$$

where, P is the logistic services in Thailand, and:

$$Z = 1.880 - 1.634(age) + 0.310(income) + 0.665(frequency) \quad (2)$$

The significance level of each independent variable is presented in Table 4. It shows that the dependent variable (*logistic service in Thailand*) could be described by *age*, *income*, and *frequency of usage*. *Gender*, *education*, *marital status*, *residence*, *access to information*, *fees*, *minimum usage requirements*, and *free services* were not significant. When there was an increase of one unit in age, the logistic service in Thailand decreased from 1 to 0.195 (1 - 0.195 = 0.805). When there was an increase of one unit in income, the logistic service in Thailand increased by 1.364. When there was an increase of one unit in frequency of usage, the logistic service in Thailand increased by 1.945.

Subsequently, the model was refined to include solely statistically significant independent variables. This focused approach aims to enhance the predictive efficacy of the model by accentuating the most influential factors affecting the dependent variable.

Table 5. Omnibus test of the model's performance using significant independent variables

		Chi-square	*df*	*Sig.*
Step 1	Step	328.549	3	0.000
	Block	328.549	3	0.000
	Model	328.549	3	0.000

Table 5 shows that the chi-square was 328.549, with a df equal to 3. The dependent variable can be explained by the significant independent variables at the significance level of 0.05.

Table 6. The model summary using all the independent variables

Observed			*Predicted*		
			Logistic service		*Percentage correct*
			No	*Yes*	
Step 1	Logistic service	No	102	69	59.6%
		Yes	18	486	96.4%
	Overall percentage				87.1%

Note: The cut-off value is 0.500.

According to Table 7, the classification indicates that the model with the significant independent variables was able to predict the *logistic service in Thailand* with an accuracy rate of 87.1% of cases when there was a cut-off value of 0.500 or 50%.

Table 8. Variables in the model using all the independent variables

		B	*S.E.*	*Wald*	*df*	*Sig.*	*Exp(B)*
Step 1[a]	*Age*	-1.638	0.173	89.474	1	0.000	0.194
	Income	0.366	0.103	12.505	1	0.000	1.442
	Frequency of usage	0.973	0.106	84.232	1	0.000	2.646
	Constant	1.214	0.348	12.182	1	0.000	3.366

Note: a. Variable(s) entered in step 1: age, income, frequency of usage.

The predictive regression equation of Model 2 from Table 8 can be described by the following equation:

Model 2

$$P = \frac{1}{1 + e^{-z}} \tag{3}$$

where, P is the logistic services in Thailand, and:

$$Z = 1.214 - 1.638(age) + 0.366(income) + 0.973(frequency) \tag{4}$$

The significance level of each independent variable is presented in Table 8. It shows that the dependent variable (*logistic service in Thailand*) could be described by *age*, *income*, and *frequency of usage*. For every one-unit increase in *age*, the *logistic service in Thailand* decreased from 1 to 0.194 (1 - 0.194 = 0.806), indicating a negative relationship. This means that as individuals in Thailand get older, their likelihood of using logistic services decreases. The decrease from 1 to 0.194 suggests a substantial impact of age on logistic service usage. For every one-unit increase in *income*, the *logistic service in Thailand* increased by 1.442. This positive relationship indicates that as income levels rise, individuals in Thailand are more likely to use logistic services. The value of 1.442 indicates the magnitude of this effect, suggesting a significant impact of income on logistic service usage. For every one-unit increase in the *frequency of usage*, the *logistic service in Thailand* increased by 2.646. This strong positive relationship suggests that as individuals in Thailand use logistic services more frequently, their overall usage increases significantly.

This study underscores the significance of age, income, and frequency of usage as key determinants of logistic service satisfaction in Thailand. The results indicate that understanding and addressing these factors are crucial for logistics companies operating in the region. Strategies aimed at enhancing service quality should take into account the diverse needs and expectations associated with different demographic groups. By doing so, companies can effectively improve customer satisfaction and loyalty, leading to long-term business success in the competitive logistics industry.

By empirically demonstrating the impact of age, income, and frequency of usage on logistic service satisfaction in Thailand, this study fills a gap in the existing literature. While previous research has acknowledged the importance of these factors, this study provides concrete evidence of their influence, particularly in the context of the Thai logistics industry. The findings offer valuable insights for future research endeavours seeking to explore similar relationships in different cultural or economic contexts. Additionally, practitioners can use these findings to develop targeted interventions and strategies that align with the specific needs and preferences of Thai customers, ultimately improving logistic services in the region.

5. DISCUSSION

This study investigated the factors influencing logistics services in Thailand. It is evident that the dependent variable, which is the utilisation of *logistic services in Thailand*, was influenced by *age*, *income*, and *frequency of usage*. The research indicates that age plays a notable role in determining logistic service usage in Thailand. As individuals get older, their likelihood of using these services decreases. This suggests that there is a negative correlation between age and the utilisation of logistic services. The findings, in line with the study conducted by Doungpitak et al. (2023), highlighted that age was identified as a significant factor influencing the digital technology skills of Thai citizens. Withupassakan et al. (2022) also confirmed that age was a significant factor impacting the civic economy of digital citizens. In addition, Kasemrat and Kraiwanit (2023) determined that age significantly influenced cryptocurrency adoption in Thailand.

Income is another influential factor that affects logistic service utilisation. Individuals with higher income levels are more likely to use these services. It reflects a positive correlation, indicating that as income increases, the likelihood of engaging with logistic services in Thailand also increases. The findings, consistent with the study carried out by Kraiwanit et al. (2023), suggested that income could be used to predict the online activities of older citizens in Thailand.

The frequency of using logistic services is a key driver of their utilisation. Individuals who use these services more frequently are significantly more likely to continue doing so. This demonstrates a strong positive correlation between usage frequency and logistic service utilisation. The findings, in accordance with the study conducted by Alzaidi and Agag (2022), indicated that the frequency of utilising social media played a critical role in online purchasing behaviour.

These findings underscore the importance of age, income, and frequency of usage in explaining the patterns of logistic service utilisation in Thailand. Older individuals are less inclined to use these services, while those with higher incomes are more likely to do so. Additionally, frequent users are particularly inclined to continue using logistic services. Understanding these relationships is valuable for service providers and policymakers in tailoring their services to different demographic segments and improving the overall accessibility and effectiveness of logistic services in Thailand and beyond.

6. CONCLUSION

This study focused on the determinants of logistics service utilisation in Thailand and found that age, income, and frequency of usage significantly influence the use of logistics services. Older individuals are less likely to utilise these services, while those with higher incomes are more inclined to do so. The frequency of usage also plays a vital role, with more frequent users being more likely to continue using logistic services.

This study's exploration into the determinants affecting logistics service utilisation in Thailand offers critical insights with significant academic and practical ramifications. By providing empirical evidence on the influence of age, income, and service usage frequency on logistics service adoption, this research enriches the existing literature on logistics and supply chain management. It underscores the critical role of empirical studies in decoding consumer behaviours within this sector. From a practical perspective, the implications of these findings are manifold. Logistics service providers can leverage this data to develop strategies and services that cater specifically to diverse age groups and income levels, potentially expanding their market reach. For policymakers, the insights garnered from this study can guide the development of policies aimed at bolstering the efficiency of the logistics sector, thereby fostering economic expansion. Businesses, in turn, stand to benefit by fine-tuning their marketing strategies to better align with the characteristics of their target demographics, thereby enhancing the effectiveness of their marketing efforts. Importantly, the practical applications of these findings transcend the Thai context, offering valuable lessons for logistics service providers and policymakers in other emerging economies with analogous economic and demographic landscapes. This study highlights the necessity of taking into account factors such as age, income, and frequency of service usage in the design and marketing of logistics services. Such consideration is paramount for improving service efficiency, accessibility, and customer satisfaction, ultimately fostering customer loyalty in this vital industry.

This study's findings, while insightful, are not without limitations. The use of convenience sampling may introduce bias, and the cross-sectional design captures only a snapshot in time, limiting the ability to discern causal relationships. Self-reported data, although valuable, is subject to potential biases. Furthermore, the study's context is specific to Thailand, and its findings may not be universally applicable. To build on this research, future studies should consider diverse and representative samples, employ longitudinal designs to track changes over time, incorporate qualitative methods for deeper insights, and explore the influence of technology and government policies on logistic service utilisation. Comparative studies across different emerging countries could provide a broader perspective on these determinants, while the inclusion of objective data sources could enhance the accuracy of results. These future research directions will contribute to a more comprehensive understanding of logistics service determinants and better inform service providers and policymakers in enhancing logistics services worldwide.

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