Received: May 2023 Accepted: June 2023 DOI: https://doi.org/10.58262/ks.v11i2.244

Package Logistics Services and its Impact Determinants in Can Tho City, Vietnam

Kiet Hong Vo Tuan Truong^{1*}, Khanh Tan Truong², Thien Chi Ngo, Dang Vo Gia Le, Truc Thanh Bao, Lan Thanh Kim Nguyen, Duc Huynh Lam, Hung Vu Nguyen, and An Huu Huynh

Abstract

This study was conducted to determine the factors affecting the choice of using a package logistics service for the fruit export process in Can Tho city. A research model has been proposed with variables including Safety, Price, Tangible Assets, Responsiveness Ability, Customer Service, and Referrals through a third party (Intermediaries). A survey was conducted and a questionnaire was developed. Survey subjects are logistics service providers, people working in the field of logistics, students, postgraduate students in the logistics industry, fruit distributors in Can Tho, and fruit wholesalers/retailers in Can Tho. Data were analyzed from more than 200 samples collected and processed on SPSS 20 software and structural equation modelling (SEM). The factors of Tangible Assets, Responsiveness, Customer Service, and Referrals through Third Parties (Intermediaries) affect the Demand for Package Logistics Services differently. Price and Safety have no impact on the Demand for Package Logistics Services. Thereby, we can see that Logistics service providers should prioritize the factors of Tangible Assets, Responsiveness, Customer Service, and Referrals through third parties (Intermediaries) to attract more customers. more customers. The research shows the factors affecting the Demand for Package Logistics Services in Can Tho. This greatly contributes to the growing Logistic activities in Can Tho, this is also an opportunity for those in this field to grasp and learn about these factors in order to improve their level and development ability.

Keywords: Package logistics services, Can Tho city, determinants.

1. Introduction

The logistics operations in Southeast Asian countries have been impacted by the Covid-19 pandemic, similar to other regions. Nevertheless, after a period of almost three years characterised by worsening circumstances, there are now indications of a gradual revival in the realm of logistics. The nations situated in Southeast Asia consistently attempt to devise novel approaches aimed at expediting the growth of their domestic logistics endeavours. This assertion is substantiated by the constant efforts of governments in the region to enhance their marine and land transport infrastructure, with the aim of leveraging their inherent benefits and facilitating the growth of the logistics industry. This action was undertaken with the intention of leveraging their strengths and fostering the development of the logistics industry. The transport sector is projected to see a compound annual growth rate (CAGR) of 8% from 2020

¹ Department of Business Administration, FPT University, Can Tho City, Vietnam

² Student in Department of Business Administration, FPT University, Can Tho City, Vietnam

^{*}Corresponding author: kietthvt@fe.edu.vn

to 2025. The Southeast Asian region has experienced significant benefits in its recovery from the Covivirus-19 pandemic due to the removal of trade barriers and the implementation of novel initiatives. Notably, the Regional Comprehensive Economic Partnership Agreement (RCEP) has played a crucial role in this process, alongside the promotion of the Association of South East Asian Nations (ASEAN) Transit Electronic Customs System (Kelvin, 2021). Furthermore, several countries have now shifted their focus towards prioritising the use of road networks for logistical activities, aiming to achieve cost reduction and enhance environmental sustainability. The use of vehicular means of transportation specifically contributes to the conservation of the natural environment. This is shown by the observation that opting for vehicular transport instead of air travel while commuting between Singapore and China leads to a significant decrease of around 83% in the quantity of carbon emissions generated. The nations situated in Southeast Asia have continually engaged in the development of logistical networks with the aim of augmenting the proportion of commodities delivered by rail.

The emergence of logistics services in Vietnam started throughout the 1990s, primarily concentrating on the provision of goods forwarding and logistics services. The Vietnam Freight Forwarders Association (VIFFAS), which underwent a subsequent transformation into the Vietnam Logistics Business Association (VLA) (Dong et al., 2021), was officially created as an entity in 1993. The logistics business has significant importance within the service sector as it plays a crucial role in supporting, integrating, and fostering socioeconomic development. Consequently, it enhances the competitive edge of the domestic economy. During the 1990s, Vietnam saw significant growth and progress in its logistics industry, which experienced rapid expansion and eventually emerged as a crucial driver of the economy (Vuong, 2022). During the specified time frame, Vietnam had a notable phase of substantial economic expansion. Dong et al. (2021) assert that the logistics business, as a service sector, has significant prospects for growth. However, it is important to enhance the current level of local competitiveness.

Can Tho is a prominent urban hub situated in the Mekong Delta region of Vietnam. It plays a vital role in facilitating various commercial services, transportation operations, processing industries, high-tech applications, educational and training endeavours, healthcare services, expertise development, research and technological advancements, cultural activities, and sports engagements (Khanh, 2022). The city of Can Tho derived its name from the Can River, which traverses the urban area. In order to establish itself as a logistics centre in the Mekong Delta, Can Tho necessitates the implementation of a comprehensive connectivity system, the cultivation of reliable human resources, and the development of a robust logistical infrastructure, among other essential factors. It is anticipated that Can Tho City will continue to evolve into a significant regional logistics centre in the foreseeable future. In the foreseeable future, Can Tho has the potential to become a significant hub in the Mekong Delta region for agricultural activities including production, distribution, and consumption. This presents a significant market opportunity for firms specialising in offering services pertaining to package logistics. In order to retain existing customers and attract new ones, providers of logistics services must possess a comprehensive understanding of their clients' needs and continuously enhance their offerings. In order to achieve success in this undertaking, it is important to conduct a comprehensive examination of the many aspects that influence the decision-making process pertaining to the logistics of package delivery. From this perspective, we possess the capability to provide highly practical answers to any issue that may influence the selection of package logistics services for the exportation process. Consequently, a research study entitled "Determinants of Package Logistics Services in Can Tho, Vietnam" is under underway to

examine the many elements that contribute to the demand for package logistics services in Can Tho city, Vietnam. Our primary objective is to establish the correlation between these elements.

2. Methodology

2.1 Sampling technique

Before the formulation of the questionnaire, a group of eleven highly experienced professors from universities in Can Tho city, who possess extensive knowledge in the field of academia, were consulted on the essential factors that should be included in the analysis of the Demand for package logistics services. As a consequence of the acts undertaken by these professionals, an analysis is conducted on the six criteria mentioned below: Safety, Responsiveness Ability Customer Service, Price, Tangible Assets, and Third-Party Referral. In order to conduct this study, data was gathered from a sample of 200 respondents who had expertise in the field of logistics. This was accomplished via the administration of a meticulously designed questionnaire. The respondents were chosen based on their vast knowledge and experience in the field, as well as their active participation in the development, implementation, and management of numerous logistics and supply chain projects. The questionnaire is structured into three distinct sections, namely the control variables portion, the demographics section, and the general questions section. Regarding the categorical measures, the control variables included the gender, age, and educational level of the subjects. A five-point Likert scale was used across all key components, where a rating of 1 indicated strong disagreement and a rating of 5 indicated strong agreement. The first section of the essay included a comprehensive examination of 23 distinct variables used for the quantification of demand for package logistics services. The aforementioned components were categorised as follows: Safety (DAT), Responsiveness Ability (KNDU), Customer Service (DVKH), Price (GC), Tangible Assets (PTHH), and Third-Party Referral (GT), with each category consisting of three distinct aspects. The software applications SPSS 24.0 and AMOS 24.0 are used for the processing of the collected data.

2.2 Literature Review

As stated by Christopher (1998), logistics refers to the systematic approach of procuring, transporting, and warehousing essential resources, parts, and finished products within the confines of an organisational structure. Additionally, it encompasses the concomitant information exchanges that are associated with those activities. The area of logistics encompasses several aspects such as management, shipping, communication, customer service, localization, and logistical operations (Stock & Lambert, 2001). This subject also encompasses the activities related to localization and logistics. Logistics plays a crucial role within the supply chain, including all activities related to the movement and management of goods until their final delivery to the end consumer (Vuong, 2022). The aforementioned operations include the processes of packaging, transporting, storing, and safeguarding the commodities. The firm in question offers logistical services, including a range of tasks including product preparation, organisation, packaging, labelling, preservation, transportation to the port, and the facilitation of export or import clearance processes (Tao, 2020). This organisation is classified as one of the organisations specialising in logistics services.

Logistics service providers, often referred to as LSPs, are entities responsible for managing the logistical operations on behalf of other organisations. Logistics service providers (LSPs) have

gained significant significance since their establishment in the 1980s, mostly due to their provision of logistics outsourcing services, including transport and storage management (Van Laarhoven et al., 2000; Premkumar et al., 2020). Consequently, the emergence of a new enterprise, referred to as Third-Party Logistics (TPL) or Third-Party Logistics Providers (3PLP), has ensued. According to Coyle et al. (1996) and Delfmann et al. (2002), an LSP may be defined as an entity that provides logistical services and has the authority to manage either the whole or a portion of the logistics function for a client organisation. An LSP, often known as a 3PL (third party logistics), is sometimes denoted as such. During the course of outsourcing logistics, a critical phase involves evaluating and choosing logistics service providers (LSPs). According to Ho et al. (2012) and Ciravegna et al. (2013), competent third parties have the potential to assume primary responsibility for logistics-related activities without direct engagement from corporations. The provision of logistics encompasses a wide range of additional choices. Busse and Wallenburg (2011) assert that there has been an increasing need for logistics service providers (LSPs) to exhibit more creativity in response to various environmental trends seen in recent years. According to Lai (2004), logistics service providers (LSPs) who have enhanced their service skills are expected to exhibit an improved ability to meet customers' requirements for various logistical services and provide superior service outcomes. Several variables may influence the availability of logistics services, including both shipment-specific services and broader logistics operations. Tran and Do (2021) suggest that the aforementioned attributes include several elements such as service quality, price, dependability, adaptability, and customer service. Furthermore, the study conducted by Karamaşa et al. (2020) revealed that several variables, including but not limited to delivery delays, cost considerations, and the reputation of logistics service providers (LSPs), might influence the decision-making process regarding the outsourcing of logistical tasks.

This article is a comprehensive examination of the factors that contribute to the calibre of seaport logistics services in Ho Chi Minh City, Vietnam. The analysis is based on a research model and proposal created by Nguyen and Vo in 2022. The conceptual framework encompasses the concepts of logistics, seaport logistics, and port logistics. The authors have formulated a set of criteria that impact the overall quality of seaport logistics services, based on their own experiential knowledge and input from industry experts. Vu and Nguyen (2022) used a theoretical framework to examine the data in their investigation of service quality models within the logistics services industry. The primary area of interest for the researchers was the transportation of goods by maritime freight. The research model integrates three distinct models that focus on service quality: Service Quality (SERVQUAL), Service Performance (SERVPERF), and Importance-level model Implementation (IPA). The objective of this research is to examine the efficacy of the SERVPERF model in evaluating logistics service activities, while also exploring the advantages that the SERVPERF model offers in comparison to the SERVQUAL model. The SERVQUAL approach, developed by Parasuraman and Leonard (1988), evaluates service quality based on five key dimensions: dependability, responsiveness, service personnel capability, empathy, and tangible resources. In their study, Ha (2020) investigates the influence of selecting a logistics service provider on the effectiveness of global logistics channels. The author's primary emphasis lies in examining the decision-making process used by Vietnamese exporters in response to the COVID-19 pandemic, given that the population of Vietnam has been directly impacted by this global health crisis. The authors provide a comprehensive analysis consisting of five hypotheses and 31 illustrative criteria that are believed to influence the selection of a logistics service provider. The research offers a theoretical framework that facilitates comprehension of the factors influencing the selection of a logistics service provider by Vietnamese carriers amidst the COVID-19 pandemic. The framework is introduced within the context of comprehending the selection process of a logistics service provider by carriers in Vietnam.

Nguyen et al. (2021) used the Antecedent and Intermediate Model, which was first formulated by Dabholkar et al. (2000), as the theoretical foundation for their study. The aforementioned model is usually acknowledged as the most comprehensive and suitable framework for evaluating the quality of logistics services provided by the company. This model incorporates the factors related to customer service and the elements influencing the firm's service offerings. The authors of this paper have modified the model proposed by Dabholkar et al. (2000) to include seven essential components that are pertinent to the topic under investigation. The aforementioned factors include elements such as customer service, cargo security, pricing, delivery time, availability of human resources and technology, and feedback from past customers. The study conducted by Tran and Do (2021) seeks to identify the factors that influence consumers' choice of logistics service providers (LSPs), using a theoretical framework as the foundation for their analysis. The selection of Logistics Service Providers (LSPs) is influenced by several aspects, as shown by the study results. These criteria include the competency of the organisation, the quality of its customer service, and its overall reputation. The study model incorporates three underlying assumptions that are derived from the many variables influencing the selection of Logistics Service Providers (LSPs). Based on the research results, it is essential for a management strategy to be effective and for the perceived value of the service to be enhanced, that a comprehensive comprehension of the customer's selection of Logistics Service Providers (LSPs) be included. The primary objective of the research's theoretical framework is to examine the specific elements inside the customer's decision-making process that pertain to the selection of Logistics Service Providers (LSPs). Based on the results of the investigation, it is important to take into account three key factors: aptitude, client assistance, and organisational standing.

2.3 Research Hypothesis

This research examines the correlation between logistical practises and activities throughout the supply chain, as documented in the relevant literature. In their study, Vu and Nguyen (2022) used a theoretical framework to examine the service quality models employed within the logistics services industry. The SERVQUAL approach, developed by Parasuraman and Leonard (1988), evaluates service quality based on five key dimensions: dependability, responsiveness, service personnel competence, empathy, and tangibles. The study of Ha (2020) examines the impact of logistics service provider selection on the effectiveness of international logistics channels. Nguyen et al. (2021) used a theoretical framework derived from the Antecedent and Intermediate Model proposed by Dabholkar et al. (2000). The model in question is commonly acknowledged as the most comprehensive and suitable framework for evaluating the quality of logistics services offered by a company.

H1: Responsiveness ability influences positively on package logistics services demand

Stank et al. (1998) provide a definition of responsiveness as the capacity to promptly react when activities depart from the expected outcome. The ability to achieve this capability is facilitated by the synchronising of departments with customers. The ability of a logistics service provider to efficiently gather and oversee goods is a crucial factor to take into account when selecting said provider for a shipment, as it leads to reductions in both expenses and time (Ha, 2020). The effectiveness of document management plays a pivotal role in determining the

overall levels of customer satisfaction within the logistics industry. According to the findings of Richey et al. (2010), enhancements in information management have the potential to positively impact the performance of supply chains.

H2: Customer service influences positively on package logistics services demand

Based on the findings of Kavaliauskeine et al. (2014) and Zairi (2000), it can be argued that the customer has paramount importance in the context of service-sector businesses, with the firm's prosperity being contingent upon its clientele. Furthermore, according to Kavaliauskeine et al. (2014), the customer has paramount importance in the context of service-sector enterprises. Nguyen et al. (2021) believe that the integration of 4.0 technology software by logistics service providers facilitates the accurate provision of shipment schedules to consumers, hence enhancing the degree of customer happiness. Roberts (1994) asserts that service competency is a crucial determinant that influences the quality of logistical services. Service competence encompasses several dimensions, including the proficiency, degree of civility shown by employees, and the ability to establish a sense of trust with consumers. Lastly, it is important to conduct logistics monitoring for package delivery, which encompasses the tracking of containers and shipments throughout their primary logistical hubs and movements (Tran & Do, 2021). This aids in guaranteeing that logistics services meet the expectations of customers.

H3: Tangible assets influences positively on package logistics services demand

According to the research conducted by Vu and Nguyen (2022), the degree of satisfaction among customers using logistics services is significantly influenced by the availability of physical assets. Konig et al. (2018) assert that the logistical assets possessed by service providers, such as physical facilities including warehouses and transportation equipment, provide several opportunities for the advancement of logistics services. Nguyen (2022) asserts that the warehouse system plays a crucial role as a fundamental connector within the important logistical channels. According to Shabani et al. (2012), the attainment of the utmost level of quality in terms of utilisation would be achieved. According to the study conducted by Nguyen et al. (2021), In the process of transportation, it is essential to equip newly acquired forklifts, automobiles, and containers with the necessary apparatus to efficiently meet customer demands in a timely manner. According to Nguyen and Vo (2022), prioritising investments in state-of-the-art electronic technology may facilitate the expansion of logistics services.

H4: Price influences positively on package logistics services demand

Anderson et al. (2011) assert that the pricing of services offered by a logistics business is a critical factor that directly influences the quality of these services. According to the research conducted by Bhatnagar and colleagues in 1999, The consideration of pricing by purchasers is a significant aspect in their decision-making process when selecting logistics service providers. According to Lukassen and Wallenburg (2010), The inclusion of a citation is necessary to support the claim being made. Service providers are only permitted to make modifications and enhancements to their products that are deemed absolutely necessary. Any specific expenditures must prioritise the consumer's demands. As Stock's (1990) findings, the potential reduction in storage costs via information technology may be attributed to the replacement of physical assets (e.g., inventories, buildings, and equipment) with highly coordinated information flows. According to the studies conducted by Ha (2020) and Nguyen et al. (2020), it is essential for logistics enterprises to use novel pricing strategies in order to maintain competitiveness and effectively manage costs.

H5: Safety influences positively on package logistics services demand

Marucheck et al. (2011) assert that safety and security are among the fundamental challenges in the realm of logistics. For the establishment of a track and trace capability, it is essential that consumers be provided with a system or technology via which they may get access. During the course of the shipping procedure, it is the responsibility of the company to ensure that the client is regularly informed on the progress of their things and promptly notified in the event of any incidents or damages that may have transpired Nguyen et al. (2021). In order to streamline shipping processes and optimise resource allocation, it is essential to store goods in accordance with industry standards. This practise not only facilitates the transportation of goods but also yields substantial time and financial benefits for the organisation.

H6: Referrals through a third party (Intermediaries) influences positively on package logistics services demand

In a study done by Chen and Paulraj in 2004, it was shown that companies assign significant importance to the suggestions provided by individuals in close proximity to them while making choices about the selection of Logistics Service Providers (LSPs). This phenomenon may be attributed to the fact that recommendations put forward by authoritative sources have significant influence and are seen as more reliable compared to information acquired from alternative sources. Furthermore, the use of personal recommendations aligns with the principles of the social exchange theory, as presented by Blau (1964), which suggests that individuals engage in resource exchange activities predicated on social connections and trust. This argument is substantiated by the observation that the use of personal recommendations aligns with the utilisation of personal recommendations.

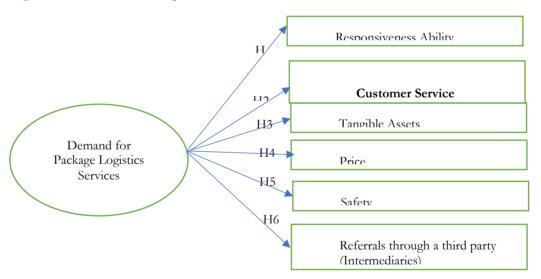


Figure 1. The research hypothesis

3. Results and Discussion

Contemporary statistical methodologies, such as Structural Equation Modelling (SEM), enable researchers to derive estimations on the interrelationships among variables (Wang & Rhemtulla, 2021). In order to evaluate the validity of hypotheses, the researchers used structural equation modelling (SEM) with the assistance of AMOS 24.0 software. In order to assess the reliability and validity of the data, a confirmatory factor analysis (CFA) was conducted. The information pertaining to the loading intervals and reliability estimations for each construct is shown in Table 1. The Alpha Cronbach values for the variables "Safety," "Price," "Tangible Assets," "Responsiveness Ability,"

"Customer Service," and "Referrals through a Third Party" (Intermediaries) were found to be 0.858, 0.773, 0.764, 0.759, and 0.716, respectively. Based on the findings of Hair et al. (2009), it can be inferred that the correlations between the observable and latent variables are reliable, as shown by the Alpha Cronbach alpha values above 0.6 for each variable.

Table 1. Factor loading and the Cronbach's α estimates (Cronbach's Alpha)

1 abic 1.	Safety (Cronbach's Alpha)	0.858		
-		0.000		
DAT1	The logistics service provider ensures that the goods are not damaged during transportation			
DAT2	The logistics service provider has technology and techniques to monitor goods	0.793		
DAT3	The logistics service provider has good technology that ensures information security			
	and safety, particularly with regard to documents	0.777		
DAT4	The logistics service provider ensures compensation for any losses of goods due to the company's fault	0.811		
Price (Cro	nbach's Alpha)	0.773		
GC1	The logistics service provider ensures pricing that is commensurate with the quality of service provided by the company	0.672		
GC2	The logistics service provider commits to keeping additional costs low	0.756		
GC3	The logistics service provider offers flexible and transparent pricing for each type of	0.719		
	Service			
GC4	The logistics service provider offers payment methods that are suitable, easy, quick, and flexible for each customer	0.722		
Tangible A	Assets (Cronbach's Alpha)	0.764		
PTHH1	The logistics service provider has a wide warehousing system	0.681		
РТНН2	The logistics service provider has a warehouse with adequate conditions for storing	0.724		
РТНН3	The logistics service provider has various types of supporting vehicles (forklifts	0.651		
РТНН4	The logistics service provider utilizes modern electronic devices to expedite the processing and reduce the time required	0.763		
Responsiv	eness Ability (Cronbach's Alpha)	0.759		
KDNU1	The logistics service provider has the capability to consolidate goods and monitor	0.698		
VDMI12	The logistics service provider has a wide geographic/international coverage	0.611		
KDNU2	The desisting coming appointed by the completition to transport points and thinks and on the	0.611		
KDNU3	The logistics service provider has the capability to transport using multiple modes of transportation	0.826		
KNDU4	The logistics service provider delivers precise and comprehensive information and documents in accordance with the business's requirements	0.631		
Customer	Service (Cronbach's Alpha)	0.716		
DVKH1	The logistics service provider offers e-commerce services and electronic documentation	0.652		
DVKH2	The logistics service provider ensures on-time delivery as promised	0.661		
	The logistics service provider ensures on time derivery as promised. The logistics service provider has the ability to resolve issues effectively.	0.621		
	The locieties coming annuity approach light collective in acceptance and for delicating	0.021		
DVKH4	goods	0.681		
Referrals t	hrough third party (Intermediaries) (Cronbach's Alpha)	0.703		
GT1	The logistics service provider is known through referrals from competitors	0.649		
GT2	The logistics service provider is known through the professional partners of the customers	0.689		
GT3	The Logistic service provider is known through the Management/Staff of the company	0.659		
_	E' 110 D . 2000			

Source: Field Survey Data, 2023

Based on the studies conducted by Al-Lozi et al. (2018) and Sung et al. (2019), it is generally acknowledged that factor loading values over 0.5 in Table 2 are considered to be indicative of accuracy. In their study, Rimkeviciene et al. (2017) put up a comparison technique as a method for evaluating the discriminant validity of covariance-based structural equation modelling (SEM). The Kaiser-Meyer-Olkin (KMO) test, a statistical tool used to assess the adequacy of factor analysis for measuring relationship performance, revealed that all scores above the threshold of 0.5, indicating their suitability for further investigation. This assertion was substantiated by the observation that all of the scores above the threshold of 0.5. In the aforementioned research, a KMO value more than 0.5 was deemed noteworthy, with a specific value of 0.733. Furthermore, the researchers excluded any component with an eigenvalue above one thousand. The test devised by Bartlett facilitates the assessment of the potential relationship between variables of the components. The statistical analysis of Bartlett's test reveals a substantial correlation between the variables identified in the factor (p < 0.05, Bartlett's Test statistic = 0.00). The observation that all six factor loading coefficients above 0.50 indicates a substantial association between the factors and the observed variables.

Table 2. Scale of factors and test parameters in Exploratory Factor Analysis (EFA)

T4			Fa	ctors					
Items	F1	F2	F3	F4	F5	F6			
DAT3	0.875								
DAT4	0.851								
DAT2	0.849								
DAT1	0.687								
GC1		0.825							
GC3		0.763							
GC4		0.759							
GC2		0.695							
РТНН3			0.827						
PTHH1			0.798						
РТНН2			0.737						
PTHH4			0.636						
KNDU2				0.854					
KNDU4				0.811					
KNDU1				0.752					
KNDU3				0.530					
DVKH3					0.815				
DVKH2					0.699				
DVKH1					0.669				
DVKH4					0.637				
GT3						0.848			
GT2						0.713			
GT1						0.712			
		Parameters							
Kaiser-Meyer-Olkin Measure of Sampling Adequacy. Bartlett's Test of Sphericity (Sig.)					·	0.733			
						0.000			

Source: Field Survey Data, 2023

The research used Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) techniques, with the statistical software tool SPSS AMOS version 24.0. The objective of these studies was to assess the degree of compatibility between the survey data sets and the model. The study yielded a structural model that was built using a fitting process. The model exhibited a p-value of 0.000, which is less than the significance level of 0.01, indicating a statistically significant relationship. Additionally, the chi-square value for the model was determined to be 1.345. The provided values, namely a Tucker-Lewis index (TLI) of 0.940 (exceeding 0.900), a comparative fit index (CFI) of 0.949 (higher than 0.900), and a root mean

square error of approximation (RMSEA) of 0.044 (less than or equal to 0.080), serve as further instances of acceptable values. The research model underwent rigorous testing in response to these findings, and the outcomes provide substantiation that the model is satisfactory (Table 3).

Table 3. Model fit indicators in SEM

Indicators	Cut-off values	Calculated values	Conclusion
Chi-square/df	≤ 3.000	1.345	Fit
CFI	≥ 0.900	0.949	Fit
TLI	≥ 0.900	0.940	Fit
RMSEA	≤ 0.080	0.042	Fit

Source: Field Survey Data, 2023

Note: Cut-off values adopted from Yu et al. (2013)

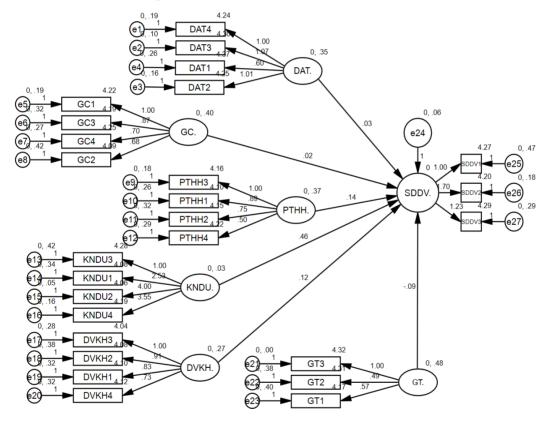


Figure 2. SEM result

The equation shown above demonstrates that there are four distinct components, namely Tangible Assets, Customer Service, Responsiveness Ability, and Referrals through Third-Party remarkable impact on the demand forpackage logistics services. The acquisition of a bundle is necessary. Based on the outcome of the first sample, whereby a value of 0.141 was assigned, it can be inferred that Tangible Assets have the most significant positive influence on the demand for package logistics services. This is due to the fact that clients are more likely to be attracted to and experience a greater sense of satisfaction from practical methods that are observable to them.

Table 4. Impact analysis of the factors

Relationship	Estimate β	S.E	C.R	P – value	Hypothesis Result
SDDV ← GC	0.021	0.041	0.497	0.619	Not accepted
SDDV ← PTHH	0.141	0.053	2.659	0.008	Accepted
SDDV ← KNDU	0.115	0.043	2.665	0.008	Accepted
SDDV ← DVKH	0.118	0.059	2.000	0.045	Accepted
SDDV ← DAT	0.024	0.039	0.603	0.547	Not accepted
SDDV ← GT	-0.086	0.042	-2.066	0.039	Accepted
$R^2 = 0.194 \text{ (EP)}$					

Note: *, **, and *** are levels of significance at P < 0.05, P < 0.01, and P < 0.001, respectively

EP = 0.141 PTHH - 0.118 DVKH - 0.115 KNDU - (-0.086) GT

Consider a hypothetical scenario in which a logistics provider offers services that need utmost transparency, efficiency, and risk mitigation, while minimising the emission of dangerous gases. In some circumstances, people may be more prone to receiving preferential treatment in relation to employment prospects. The findings of the research on logistics tasks suggest a significant correlation between the choice of a logistics service provider and their competency and responsiveness. These findings align with a previous study conducted by Jazairy and von Haartman (2020), which demonstrated that managerial decision-making regarding the selection of the most suitable service provider is enhanced when they evaluate the responsiveness of different logistics providers and make comparisons between them.

This study, which received support from previous research done by Chu et al. (2018), illustrates that organisations exhibit higher levels of satisfaction with the quality of logistics services and the consequential influence on business performance when logistics enterprises exhibit prompt and positive responsiveness. These businesses also exhibit a preference for obtaining services from the logistics supplier that is most relevant to their needs. The satisfaction of the approval requirements for the GT factor has been seen as a result of the data obtained from the structural equation modelling (SEM) examination. Specialists have discovered that this phenomenon occurs when a customer is first exposed to a logistics service provider via a third party. If this scenario holds true, it signifies that the supplier has great quality and capabilities. Consequently, the customer will experience heightened confidence in their selection to use logistics services for further requirements.

The current study also holds significance for the decision-making process in selecting logistics services, as it offers a framework for making informed choices regarding logistics service providers. This framework is based on several key criteria, including tangible assets, responsiveness capability, customer service, and referrals facilitated by third-party intermediaries. Furthermore, the current research has significant implications for the process of selecting logistics services, as it offers a comprehensive framework for making informed decisions in choosing a logistics service provider. This framework is based on a set of predetermined criteria.

4. Conclusion

The existing knowledge on the determinants of package logistics service demand in Can Tho City has been enriched by extensive study undertaken across many academic disciplines. As

part of the study project, a conceptual model is developed and evaluated to examine the relationship between the demand for package logistics services in Can Tho City and various influencing factors. These factors include pricing, safety, physical assets, customer service, responsiveness, and third-party referrals. Prior studies in this domain mostly concentrated on examining the impact of various variables on the demand for logistics services in developed areas. This research enhances the comprehension of the logistical protocols that need to be adhered to at a place like Can Tho, which is on the verge of providing logistical services. This will serve as the fundamental basis for the future development and expansion of the firm.

This research serves to confirm existing assumptions about the factors that impact the demand for logistics services, while also adding to our empirical understanding of the demand for package logistics services in Can Tho City, with a focus on pervasive features. The results of this research provide a valuable contribution to the current scholarly literature and indicate that organisations might get significant advantages by prioritising tangible assets, responsiveness capability, customer service, and referrals facilitated by third-party intermediaries. The logistics services industry is seeing growth in Can Tho city. Based on the research results, no significant correlation was seen between the variables of pricing, safety, and demand for package logistics services in Can Tho city. This observation demonstrates that customers tend to assign more importance to the physical attributes of a product or service, as opposed to the intangible contributions provided by providers. Hence, in order to educate clients about intangible attributes that may potentially benefit them, enterprises must expand their outreach and enhance their repertoire of abilities. If these challenges are successfully addressed, organisations will be able to enhance operational efficiency and bolster their capacity to efficiently manage supply chains.

Funding: This research received no external funding.

Conflicts of interest: The authors declare no conflicts of interest.

References

- Al-Lozi, M. S., Almomani, R. Z. Q., & Al-Hawary, S. I. S. (2018). Talent Management Strategies as a Critical Success Factor for Effectiveness of Human Resources Information Systems in Commercial Banks Working in Jordan. *Global Journal of Management and Business Research*, 18(1), pp. 31–43.
- Anderson, E.J., Coltman, T., Devinney, T.M. and Keating, B. (2011). "What drives the choice of a Third-Party Logistics Provider?". *Journal of Supply Chain Management*, vol. 47, pp. 97-115. Doi: <doi.org/10.1111/j.1745-493X.2011.03223.x>.
- Bhatnagar, R., Sohal, A.S., & Millen, R. (1999). "Third party logistics services: a Singapore perspective". *International Journal of Physical Distribution & Logistics Management*, vol. 29, pp. 569-587.
- Blau, P. M. (1964). Exchange and power in social life. John Wiley & Sons.
- Busse, C., & Wallenburg, M.C. (2011). Innovation management of logistics service providers Foundations, review, and research agenda. *International Journal of Physical Distribution & Logistics Management*, vol. 41(2), pp. 187-218.
- Chen, I. J., & Paulraj, A. (2004). "Towards a theory of supply chain management: the constructs and measurements". *Journal of operations management*, vol. 22(2), pp. 119-150.
- Christopher, M. (1998). "Logistics and Supply Chain Management: Strategies for Reducing Cost and Improving Service". Financial Times, London: Prentice-Hall.

- Chu, Z., Feng, B., & Lai, F. (2018). "Logistics service innovation by third party logistics providers in China: Aligning guanxi and organizational structure". *Transportation Research Part E: Logistics and Transportation Review*, vol. 118, pp. 291-307, ISSN 1366-5545, https://doi.org/10.1016/j.tre.2018.08.007>.
- Ciravegna, L., Romano, P. and Pilkington, A. (2013), "Outsourcing practices in automotive supply networks: An exploratory study of fullservice vehicle suppliers". *International Journal of Production Research*, vol (51), pp. 2478-2490.
- Dabholkar, P. A., Shepherd, C. D., Thorpe, D. I. (200). "A comprehensive framework for service quality: An investigation of critical conceptual and measurement issues through a longitudinal study". *Journal of Retailing*, pp. 131-9.
- Daugherty, P.J., Stank, T.P., and Ellinger, A.E. 1998. "Leveraging Logistics/ Distribution Capabilities: The Effect of Logistics Service on Market Share." *Journal of Business Logistics*, vol. 19(2), pp. 35–51.
- Ha, M. H. (2020). "A Study on Factors Affecting the Choice of Logistics Service Suppliers of Vietnam's Goods Owners in the Covid-19 Pandemic". Commerce Science University of Finance and Marketing, vol. 8(2), pp. 101-115.
- Hair, J., Black, W., Babin, B., & Anderson, R. (2009). *Multivariate data analysis*. London: Prentice Hall.
- Ho, W., He, T., Lee, C. K. M. and Emrouznejad, A. (2012), "Strategic logistics outsourcing: An integrated QFD and fuzzy AHP approach". *Expert Systems with Applications*, vol. 39 (12), pp. 10841-10850.
- Jazairy, A., & Haartman, R. (2020). "Analysing the institutional pressures on shippers and logistics service providers to implement green supply chain management practices". *International Journal of Logistics Research and Applications*, vol. 23, pp. 44-84.
- Karamaşa, Ç., Demir, E., Memiş, S., & Korucuk, S. (2020). Weighting the factors affecting logistics outsourcing, 4 (1), pp. 19-32.
- König, C., Caldwell, N., & Ghadge, A. (2018). "Service provider boundaries in competitive markets: the case of the logistics industry". *International Journal of Production Research*, vol. 57, pp. 5624 5639.
- Lai, K. (2004). "Service capability and performance of logistics service providers". *Transportation Research Part E-logistics and Transportation Review*, vol. 40, pp. 385-399.
- Lukassen, P.J.H., & Wallenburg, C.M. (2010). "Pricing Third-Party Logistics Services: Integrating Insights from the Logistics and Industrial Services Literature". *Transportation Journal*, vol. 49, No. 2, pp. 24–43. Retrieved from: http://www.jstor.org/stable/40904872.
- Marucheck A., Greis N., Mena C., & Cai L. (2011). Product safety and security in the global supply chain: Issues, challenges and research opportunities. *Journal of Operations Management*, 29 (2011), pp. 707–720.
- Nguyen, D. N., & Le, T. H. (đa). "Evaluating the satisfaction of customers to Logistics Services quality of express delivery business in Hanoi". *Journal of science and technology Hung V uong University*, vol. 23, No. 2, pp. 11-22.
- Nguyen, T. H. (2022). "Develop logistics sustainably in Vietnam in the context of the Industrial revolution 4.0". *Journal of Science and Transport Technology*, vol. 2, No. 2, pp. 35-46.
- Nguyen, T.B., Le, C.D., & Mai, T.H. (2021). "Factors affecting the quality of Logistics services Provided by the supply chains and Agency Services joint stock companies". *Industry and Trade Magazine*, vol. 5, pp. 65-71.
- Nguyen, X. Q., & Vo, T. D. H. (2022). "Quality of port logistics services of Ho Chi Minh City". *Journal of Science, Technology, and Food*, vol. 22, No. 3, pp. 451-462.

- Parasuraman, A.V.Z. & Leonard, B. (1988), "SERVQUAL: a multi-item scale for measuring consumer perception of service quality", *Journal of Retailing*, Vol. 64, No. 12, pp. 12-40.
- Richey R., Roath S., Whipple M., & Fawcett E. (2010). Governing Supply Chain Integration: Facilitators and Barriers. *Journal of Business Logistics*, 31(1), pp. 237-256.
- Roberts, K. (1994), "Choosing a quality contractor", Logistics Supplement, pp. 4-5.
- Shabani, A., Saen, R.F. & Torabipour, S.M.R. 2012. "A new benchmarking approach in Cold Chain". *Applied Mathematical Modelling*, Vol. 36, No. 1, pp. 212–224.
- Stock & Lambert (2001). "Strategic Logistics Management, 4th Edition". New York: McGraw Hill.
- Stock, J.R. (1990), "Managing computer, communication, and information technology strategically: opportunities and challenges for warehousing", *Logistics and Transportation Review*, vol. 26, No. 2, pp. 133-48.
- Sung, K.-S., Yi, Y. G., & Shin, H.-I. (2019). Reliability and validity of knee extensor strength measurements using a portable dynamometer anchoring system in a supine position. *BMC Musculoskeletal Disorders*, 20(1), 320. https://doi.org/10.1186/s12891-019-2703-0
- Tao, T. H. (2020). "Developing Da Nang port city with Logistics Services in the decade 2020 2030", National Science Conference 2020, Ho Chi Minh City National University Publishing House, pp. 526-534.
- Tran, T., T., & Do, Q., H. (2021). "Critical Factors Affecting the Choice of Logistics Service Provider: An Empirical Study in Vietnam". *The Journal of Asian Finance, Economics and Business*, Vol. 8, No. 4, pp. 145–150.
- Vu, T. H., & Nguyen, T. B. (2022). "Analysis of factors affecting customer satisfaction towards logistics service quality in Northern Vietnam". *Journal of International Business and Economics*, Vol 2, No. 4, pp. 44-61.
- Wang, Y. A., & Rhemtulla, M. (2021). Power Analysis for Parameter Estimation in Structural Equation Modeling: A Discussion and Tutorial. *Advances in Methods and Practices in Psychological Science*, 4(1), 251524592091825. https://doi.org/10.1177/2515245920918253
- Yu, W., Chavez, R., Feng, M., & Wiengarten, F. (2013). Integrated green supply chain management and operational performance. *Supply Chain Management*, 19(5/6), 683-696. https://doi.org/10.1108/SCM-07-2013-0225
- Zairi, M. (2000). "Managing customer satisfaction: a best practice perspective". *The TQM Magazine*, Vol. 12, No. 6, pp. 389–394. doi:http://dx.doi.org/10.1108/09544780010351670.