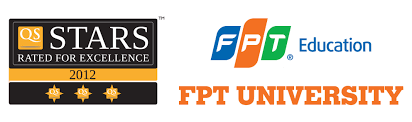
**FPT UNIVERSITY**

**CAN THO CAMPUS**

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**GRADUATION THESIS**

**Topic:**

**ANALYSIS OF FACTORS AFFECTING THE CHOICE OF USING PACKAGE LOGISTICS SERVICES IN CAN THO.**

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# **DECLARATION**

*I hereby declare that the thesis "Factors Affecting The Choice of Using Package Logistics Services in Can Tho" under the International Business program is the result of our research. The data presented in this thesis are collected from reality by our team. The scientific conclusions presented in this thesis have not been published in any other publication.*

***Authors of the thesis***

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*Despite the focused supervision from our instructors and our best efforts, we acknowledge that shortcomings are inevitable. Therefore, we would appreciate any feedback from our teachers and advisory board to make our thesis more thorough and relevant.*

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*Can Tho, April, 2023*

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# **ABBREVIATIONS & ACRONYMS LIST**

|  |  |
| --- | --- |
| RA | Responsiveness Ability |
| TA | Tangible Assets |
| CS | Customer Service |
| PR | Price |
| RP | Referral through the Third Party |
| SA | Safety |
| DL | Demand for Package Logistics Services |
| LSPs | Logistics Service Providers |
| IoT | The Internet of Things |
| VLR | Vietnam Logistics Report |
| SERVQUAL | Service Quality |
| SERVPERF | Service Performance |
| AI | Artificial Intelligence |
| IPA | Importance-level model Implementation |
| TPL/3PL | Third-party Logistics |
| ASEAN | Association of South East Asian Nations |
| ACTS | Transit Electronic Customs System |
| FTA | Free Trade Agreement |
| ASLN | ASEAN Smart Logistics Network |
| ICD | Inland Container Depot |
| VIFFAS | Vietnam Freight Forwarders Association |
| VLA | Vietnam Logistics Business Association |
| WTO | World Trade Organization |
| CPTPP | Comprehensive and Progressive Agreement for Trans-Pacific Partnership |
| EVFTA | European-Vietnam Free Trade Agreement |
| AHP | Analytic Hierarchy Process |
| EFA | Exploratory Factor Analysis |
| CR | Consistency Ratio |
| CI | Consistency Index |
| RI | Random Index |
| RCEP | Regional Comprehensive Economic Partnership Agreement |

# **ABSTRACT**

This study was conducted to determine the factors affecting the choice of using a package logistics service in Can Tho. A qualitative research was conducted with 10 experts who are lecturers at FPT Can Tho University for consultation and to come up with a research model. Research model has been proposed with variables including: Safety, Price, Tangible Assets, Responsiveness Ability, Customer Service, Referrals through 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. The results after analysis show that Responsiveness Ability, Tangible Assets, Referred through a third party (Intermediaries) are three factors that affect the choice of using package logistics services. Since then, the study can provided some suggestions to improve the management quality of enterprises.

# **CHAPTER I: INTRODUCTION**

*In this chapter, our thesis group provides some basic information about the Vietnam logistics industry and package logistics services. Clearly state the reason for choosing this research topic and form the basis for the formation of research objectives and research questions. Some relevant research situation are also presented to provide an overview. The research method, scope and contributions of the study are presented in this chapter.*

## **The urgency of the subject**

Vietnam's economic integration has opened a new growth phase with attractive opportunities and challenging obstacles. Any economy must recognize how crucial it is for the circulation of goods between domestic and international markets. Consequently, the logistics sector emerged as a connection and a thriving support industry for all other economic activity. Nearly the whole process of producing, moving, and distributing commodities is economically connected by logistics operations. Logistics operations provide for the correct and secure circulation and distribution of products, which allows for on-time consumer delivery. Many organizations today employ package logistics services for their export operations because of their convenience. Transport, cargo insurance, delivery, loading and unloading, warehousing and customs formalities are all offered in package logistics services. As a result, companies don’t need to hire additional staff and save time and energy looking for providers for each stage of the service. Businesses may now concentrate on their primary operations as a consequence. Can Tho City still be in its early phases of development. The traffic infrastructure has yet to satisfy the demands of synchronous and modern development. Can Tho City is still anticipated to be a significant regional logistics hub. Can Tho will eventually develop into a hub for producing, distributing, and consuming agricultural goods in the Mekong Delta. This opens up a vast possibility for companies that offer package logistics services. Logistics service providers must comprehend their consumers' demands and continually improve their offerings to draw in new business and keep existing clients. To do this, it is required to conduct in-depth research on the variables that influence the selection of package logistics services. From there, we can offer highly feasible proposals to any issue that influences the decision of which package logistics services to use for the exportation process. Because of the considerations above, we decided to choose the topic of our graduation thesis is "Analysis the factors affecting the choice of using package logistics services in Can Tho".

## **An overview of the relevant research situation**

The study of package logistics services has been the subject of several research by various writers. The previous writers were able to generalize a lot of theoretical and practical problems through came at the problem from so many various directions.

* + 1. ***Foreign studies***

Piotr et al. (2017) studied the factors affecting customer satisfaction with logistics services. The findings indicate that customers are concerned with the delivery schedule and shipping method during the transaction process. The degree of customer satisfaction is impacted by the handling of complaints in the last stage or after the transaction. Gupta et al. (2022) tested it in the context of Indian logistics service providers. According to research, five service quality constructs have a direct impact on customer satisfaction and a secondary impact on customer loyalty. Operational quality, resource quality, information quality, personnel contact quality, customisation, and innovation quality are five service quality structures that directly and indirectly influence customer satisfaction. Uvet (2020) conducted an empirical study to measure the quality factors of logistics services. According to the findings, customer happiness and choice are influenced by a variety of criteria, including staff quality contact, order condition, timeliness, management of order incongruity, and operational information sharing in logistics services. Lang (2020) researched and showed that perceived service cost and quality have an impact on consumer happiness, which influences their decision to purchase and loyalty. Hong et al. (2019) studied factors such as convenience, communication, integrity, responsiveness, and reliability. The findings demonstrate that consumer choice is influenced by convenience, communication, reliability, and responsiveness but not by integrity.

* + 1. ***Studies in Vietnam***

Nguyen (2015) found that the effectiveness of manufacturing enterprises' business performance in Quang Binh province is impacted by six elements. It included: the service quality of distributors, the service quality of raw material suppliers, the service quality of other logistics service providers, the level of actual service consumption, the degree of expanded service usage, and the level of trust in utilizing outsourced logistics services. The thesis also demonstrates how logistics services favourably impact the economic-technical metrics of manufacturing businesses, particularly costs, outcomes, and competitiveness. Nguyen and Le (2016) have shown that dependability, responsiveness, assurance, empathy, and tangibles are the five variables that should be considered when evaluating customer satisfaction with the quality of logistics services. Since then, the author has also advised companies that offer logistical services, including making technological investments, training qualified and experienced staff, and establishing connections between organizations that require attention. Ha (2017) showed that Vietnamese shippers thought carefully before picking on a logistics service provider because things were so challenging, and the number of imports and exports had drastically fallen. As a result, choosing the right logistics service provider for Vietnamese shippers during the COVID-19 epidemic is crucial for lowering risks and expenses at this challenging time. The author polled one hundred eighty managers of small and medium-sized export businesses. According to the findings, five elements influence how Vietnamese shippers choose their suppliers: dependability, responsiveness, brand image, cost, and Vietnamese brand. The cost element has the most significant influence of all of them. From there, the author also suggests ways to increase Vietnam's ability to compete in the logistical service sector during the Covid-19 epidemic. Tran (2018) studied the factors affecting the quality of logistics services of Saigon Newport Logistics Company. The results show that personnel quality, information quality, timeliness and order quality are the four main variables affecting logistics service quality. Vu and Pham (2021) demonstrated that organizations consider seven factors when selecting partners, including partner market share, geographical distance, applicability, information technology, transaction frequency, the reputation of customers, and the capacity of partners. The set of characteristics in which the factors that matter with the other three criteria are market share, distance from the target market, the use of information technology, and the reputation of the partners. A distinct perspective on the significance of the criteria above is held by the firms that provide transportation services compared to the other categories of businesses. Nguyen et al. (2021) developed a methodology to assess the company's service quality, which considers factors including delivery time, product safety, pricing, facilities, customer care, credibility, and brand image. The regression analysis approach findings indicate that customer care's importance in determining a company's service quality is crucial. The following are product safety, pricing, delivery time, brand image, credibility, and facilities. In Vietnam's studies, the authors have surveyed and pointed out the criteria for selecting logistics service providers. Some common factors such as: customer care, reputation, brand image, facilities, responsiveness and cost, ...

* + 1. ***Overview of results of published research works and issues that need to be further researched on logistics service provision***

From foreign studies and research in Vietnam by many authors, the thesis team found that the issues were investigated but most of them were studied according to the characteristics of enterprises, localities and regions. Most of the research papers only research on logistics services, not much research on package logistics services. Our thesis team has compiled a number of criteria, including factors such as price, reliability, reputation, brand image, facilities, delivery time, timeliness, convenience,...

The authors have focused their research on the following principal contents:

* The fundamental problems of logistics and logistics development have been identified.
* A number of studies have built a research framework on logistics services, as well as analyzing and evaluating research frameworks in that direction.
* The studies have raised the characteristics of the current logistics industry in Vietnam. Proposing experiences to develop the logistics industry.
* Provide suggestions to develop the logistics service industry, improve the quality of tourism products/services, and develop policies.

Through the literature review on factors affecting the choice of using logistics services, it can be seen that there exist a research "gap" for a number of issues as follows:

* Studies on logistics service development have built research models and factors affecting the choice of this type of service. However, our thesis team will clarify the factors affecting the choice of package logistics services.
* The research that proposes a package logistics service model for exporting enterprises is almost limited in quantity. Especially, there has been no research to propose a model of package logistics services for fruit exporters in Can Tho.

These are the gaps in previous studies that our the thesis team will clarify in this study.

## **Research objectives and research questions**

* + 1. ***Overall research objective***

The thesis objective is to analyze the factors affecting the choice of using the package logistics services in Can Tho.

* + 1. ***Specific research objectives***

To acquire a theoretical basis for a package logistics service in Can Tho.

To obtain a rationale for Safety, Price, Tangible Assets, Responsiveness Ability, Customer Service, Referrals through third party (Intermediaries).

To obtain a model to study the factors affecting the choice of using package logistics services in Can Tho.

To determine the impact of each factor on the choice of using package logistics services in Can Tho; provide suggestions for businesses to enhance core values.

* + 1. ***Research question***

To clarify the topic "Analysis the factors affecting the choice of using package logistics services in Can Tho", the group posed research questions as the foundation. The research needs to provide a theoretical basis for package logistics services so that readers can have an overview of the problem. The focus of the thesis is Analysis of factors affecting the choice of using package logistics services in Can Tho. To analyze that problem, it is necessary to synthesize theoretical models from previous studies to propose a new theoretical model. Through surveying the subjects to see the level and location of factors affecting choices. In addition, the team provides recommendations for logistics providers. Therefore, our team posed research questions for the research paper, including:

* What are the factors affecting the choice of package logistics services? What is the theoretical model of factors affecting the choice of package logistics services?
* How do factors affect the choice of package logistics services in Can Tho?
* What are the suggestions for package logistics providers to improve service quality?

## **Object and scope of the study**

### *Research subjects*

The object of the study is the factors related to and affecting the choice of using package logistics services in Can Tho.

### *Research scope*

Place: administrative boundaries of Can Tho city and some provinces in Mekong Delta.

The factors belong to objective and subjective factors, from micro to macro of the economy.

## **Research method**

* + 1. ***Qualitative research***

Based on the research objectives in the thesis, our thesis group conducts literature research, and learns about previous research works of domestic and foreign authors related to the research topic in order to find and select relevant content as a scientific basis for setting up interview questions of 10 experts who are lecturers, have many years of experience and teach at FPT University Can Tho and discuss in groups to complete the model for preliminary research, determine the scale and observed variables.

* + 1. ***Preliminary quantitative research***

This study was conducted through a detailed survey questionnaire after discussing with ten experts from previous qualitative research. The questionnaire is designed and measured using a Likert scale of 1 to 5 points. The collected data is processed by SPSS software through the investigation of 100 subjects who are working in the logistics industry. The data is analyzed and processed by SPSS software to confirm the factors, values, and reliability of the factors affecting the choice of package logistics services for the fruit export process in Can Tho city. The size of this sample is 100, chosen by random sampling. This study aims to determine the scale's reliability and refine the observed variables to complete the scale and the official research model.

* + 1. ***Formal quantitative research***

This study aims to test the appropriateness of the scale, research model and research hypotheses.

The team used the interview method to conduct the research by using formal survey questions obtained from preliminary quantitative research results. This sample size is 200, chosen by random sampling method. Accordingly, the respondents are people working in the logistics industry. Collected data were entered and processed using SPSS 20.0 software. Accordingly, the concepts are tested by exploratory factor analysis techniques and a multivariate regression analysis model to test the research hypotheses. The study also uses the AHP method to analyze quantitatively to compare and select the optimal solution based on the analysis of comparative criteria.

## **Contributions**

The research results of the thesis have the following scientific contributions:

* Firstly, systematize the theoretical issues of package logistics and factors affecting the choice of using package logistics services in Can Tho.
* Second, propose a scale of factors affecting the choice of using package logistics services in Can Tho.
* Third, conduct experiments on the content and use the AHP method. From there, identify and evaluate the impact of factors on the choice of using package logistics in Can Tho.
* Four, provide suggestions for businesses to improve service quality.
* The research results are valuable references for managers, businessmen, logistics providers, researchers, lecturers and economics students in general.

## **Theoretical and practical significance of the thesis topic**

This is a meaningful scientific study in systematizing the point of view on package logistics but also in building an analysis model of factors affecting the choice of using package logistics services in Can Tho. The research results of the topic contribute to the theoretical knowledge of package logistics services, as well as the basis to help businesses improve and enhance business aspects. At the same time, this topic also provides practical knowledge for managers, businessmen, logistics providers, researchers, lecturers, economics students and those interested in the logistics field.

* 1. **Thesis structure**

This study is designed with five chapters:

* Chapter 1: Introduction
* Chapter 2: Literature Review
* Chapter 3: Research Methods
* Chapter 4: Data analysis and results
* Chapter 5: Conclusions and Recommendations

# **CHAPTER II: THEORETICAL BASIS AND RESEARCH MODEL**

*In this chapter, our thesis group provides a theoretical basis for logistics service. Logistics situation in ASEAN, Vietnam, Hai Phong, Can Tho is also presented to provide an overview. Then, previous research papers will be presented along with a qualitative research with experts as the basis for building research models and hypotheses.*

* 1. **Theoretical basis**
     1. ***Definition Logistics***

Logistics has several scholarly meanings. According to the Council of Supply Chain Management Professionals (CSCMP), logistics is "that part of supply chain management that plans, implements, and controls the efficient forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer requirements." The term "logistics" has been in use since the 1950s, primarily due to the expansion of supply and transportation in a globalized world, which calls for experts in the field.

Logistics is a vital component of the supply chain, encompassing all goods-related activities, such as packaging, transportation, storage, and preservation, until the goods are delivered to the end consumer (Vuong, 2022). It is one of the "logistics services" businesses, encompassing processes such as preparing goods, arranging, packing, labelling, conserving, delivering goods to the port, and carrying out export or import clearance procedures (Tao, 2020).

According to Christopher (1998), logistics involves strategically acquiring, transporting, and storing raw materials, parts finished goods inventory, and related information flows within an organizational framework. Logistics is not limited to handling or shipping but also includes activities such as communication, customer service, localization, logistics (Stock and Lambert, 2001), and related planning closely related to trading and production (Grant et al., 2006).

The logistics sector is significant for the entire economy, connecting the transportation of goods and services and maximizing the use of national resources. It is a concern for the government at the national level in many nations worldwide because of its crucial role in the economy's operation (Doan, 2009). Logistics form an economic and informational link that spans nearly the entire production, distribution, and circulation of goods, and it can only function efficiently and synchronously with the economy. Logistics directly impacts the economy's capacity and degree of integration. A country's ability to connect to the global logistics system and develop logistics activities will give it the best possible access to the world's markets and consumers (Tran and Trinh, 2022).

* + 1. ***Definition of Logistics service providers***

Logistics Service Providers (LSPs) are companies that perform logistics operations for third parties. Since their introduction in the 1980s, LSPs have gained popularity by providing logistics outsourcing activities such as transport and storage management, creating an entirely new industry known as third-party logistics or TPL/3PL (Van Laarhoven et al., 2000; Premkumar et al., 2020). A provider of logistics services that handles all or a portion of a client company's logistics function is generally referred to as an LSP (Coyle et al., 1996; Delfmann et al., 2002).

Globally, outsourcing of logistics has grown remarkably. Logistics service providers (LSPs) are growing as a result of manufacturing companies using logistics services more frequently (Jenkins, 2023). LSPs have gained significance as more businesses outsource their logistics operations (Jenkins, 2023). To quickly introduce new products and services to their markets, many manufacturers and retailers are looking to outsource their logistics operations to logistics service providers (LSPs) (Lai, 2004). Many LSPs have taken steps to broaden the scope of their services to fully satisfy the growing demand from customers for one-stop shopping (Murphy and Daley, 2001). Companies have delegated to LSPs not only conventional distribution operations like warehousing and transportation but also managerial tasks associated with the flow of goods and some production tasks. The LSPs have simultaneously expanded their service capabilities and improved their capacity to deliver solutions tailored to particular clients or clientele (Fabbe-Costes et al., 2009).

An essential step in the logistics outsourcing process is the assessment and choice of Logistics Service Providers (LSPs). According to Ho et al. (2012) and Ciravegna et al. (2013), logistics activities are among the primary tasks that can now be performed by a qualified third party without a company's direct involvement. There is also a plethora of other options available for logistics provision. Multiple environmental trends appear to have recently increased the need for logistics service providers (LSPs) to be more innovative (Busse and Wallenburg, 2011). LSPs with better service capabilities should be better able to meet customers' needs for a variety of logistics services and produce better service results (Lai, 2004).

On the other hand, complete logistics services, often called packages logistics services, are related to the entire spectrum of logistical services provided by an LSPs. They involve delivery, storage, inventory control, order fulfillment, and other associated tasks. Businesses that want to outsource their whole logistics operation to a single vendor sometimes choose full logistics services over handling individual logistical tasks with different providers.

Several variables impact the provision of logistics services, whether for packages or complete logistics services. These variables may include service quality, price, dependability, flexibility, and customer service (Tran and Do, 2021). Moreover, Karamaşa et al. (2020) discovered that delivery times, prices, and LSPs' reputation might influence decisions to outsource logistics tasks.

Logistics service providers can significantly impact the sustainability of the environment. For instance, Pan et al. (2020) discovered that an intelligent logistics policy could aid in lowering China's carbon emissions. Oláh et al. (2018) discovered that LSPs' success characteristics, such as their management techniques, may also affect how other companies compete with them.

* + 1. ***Current logistics situation in ASEAN***

The situation of logistics activities in Southeast Asian countries during the Covid-19 epidemic is no exception. However, logistics activities are gradually showing a positive development trend after about 3 years of being affected at present. Southeast Asian countries are constantly coming up with methods to enhance the development of local logistics activities. This is reflected in the fact that countries in the region have continuously promoted their seaport and road transport systems to capitalize on their advantages and promote the growth of the logistics industry. In terms of trucking, this market is predicted to have a CAGR of over 8% in the period 2020-2025. The easing of trade barriers and the implementation of new initiatives in Southeast Asia, such as promoting the Association of South East Asian Nations (ASEAN) Transit Electronic Customs System and the Regional Comprehensive Economic Partnership Agreement (RCEP), have really brought benefits to the countries in the region when recovering strongly after the Covid-19 pandemic (Kelvin, 2021). The improved ASEAN Transit Electronic Customs System (ACTS) is considered one of the most important improvements. This improvement has allowed businesses to declare only once to transport goods across ASEAN countries. Road transport has also been assessed by Mr. Thomas Tieber, managing director of DHL global forwarding in Southeast Asia, as an important contributor to long-distance transportation because of its high economic benefits. Currently, countries have also implemented the promotion of logistics activities by road to save costs and promote sustainability. In particular, the use of road transport also brings environmental protection value. This is demonstrated by the fact that road transport from Singapore to China reduces carbon emissions by 83% compared to air transport. Regarding rail transport, Southeast Asian countries have continuously built logistics chains to increase the proportion of rail transport. In general, compared to other economic regions, the markets of ASEAN countries have grown better and are less affected by inflation. Besides, thanks to other advantages such as geographical location, preferential tariffs by the Free Trade Agreement (FTA), ASEAN has become an attractive region that is attracting many import-export businesses. Although countries in Southeast Asia have not yet reached a consensus on developing logistics systems, the birth of the ASEAN Smart Logistics Network (ASLN) has promoted connectivity and integration within ASEAN. This has been shown by the groundbreaking of two projects: the Vinh Phuc inland container depot (ICD) Logistics Center in Vietnam (regarded as a super port between Singapore and Vietnam); and the Phnom Penh Logistics Complex in Cambodia (Viet, 2023). Thus, it can be seen that, with all the efforts of the countries of Southeast Asia, the logistics situation has gradually improved and is promoting the economies of the countries.

* + 1. ***Current logistics situation in Viet Nam***

Logistics services in Vietnam started developing in the 1990s, mainly focusing on freight forwarding and logistics services. The Vietnam Freight Forwarders Association (VIFFAS), the predecessor of the Vietnam Logistics Business Association (VLA), was officially established in 1993 (Dong et al., 2021). Logistics is a significant service sector that supports, connects, and promotes socio-economic development, enhancing the competitiveness of the national economy. The logistics industry in Vietnam started to form and grow in the 1990s, and it quickly proliferated and gradually asserted a crucial economic position (Vuong, 2022). With Vietnam joining the World Trade Organization (WTO) in 2007, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) in 2016, and the European-Vietnam Free Trade Agreement (EVFTA) in 2019, it created significant development opportunities for many industries and the Vietnamese economy, especially import and export activities. Logistics is a service industry with immense potential for development, but the current state of domestic competitiveness still needs to be improved (Dong et al., 2021).

According to statistics, there are currently 30,000 businesses operating in the logistics industry nationwide. Sixty-nine large and medium-sized logistics centres draw investment from various industries. More than 5,000 businesses operate in international logistics, including major companies like DHL, FedEx, Maersk Logistics, APL Logistics, etc. Most businesses are small and medium-sized, offering 2 to 17 different logistics services, focusing on forwarding, inland transportation, seaport and airport operation, cargo management, and international transportation, among other things. The logistics system in Vietnam places the most importance on transportation (Vuong, 2022). Vietnam's logistics industry is well-regarded, ranking 64 out of 160 countries in terms of development and fourth in the ASEAN (after Singapore, Malaysia, and Thailand). Vietnam's logistics services are still superior to some Eastern European nations like Bulgaria (51), Russia (99), Ukraine (73), and the majority of other African nations when compared to some European nations (Quynh, 2022). The logistics sector in Vietnam has grown by about 14–16% over the past few years, accounting for about 4-5% of the GDP, according to the Vietnam Logistics Business Association (VLA) (Vuong, 2022).

The government aims to turn the area around the country's harbour into a logistical hub by incorporating best practices from the most advanced industrialized nations regarding networking, loading and unloading, warehousing, administrative processes, and maritime and land transportation. However, technical infrastructure and traffic systems must be improved and upgraded shortly. Planning investments are necessary for equipment purchases, specialized technology, and expanding logistics facilities serving the seaport system. The world's advanced, utilizing information technology, automatic electronics, and science and technology in logistics service stages (Le, 2018). Additionally, insufficient and unsynchronized legal provisions on logistics service activities impact many restrictions and weaknesses of Vietnamese logistics enterprises. Despite investments and upgrades, the logistics infrastructure must have connectivity and meet development requirements. There has been little progress in the logistics industry's digital transformation, and training facilities must pay more attention to comprehensive logistics training (Quynh, 2022).

* + 1. ***Current logistics situation in Hai Phong***

Hai Phong has been the most significant city in Vietnam for over a century, being a major port city in the northern region. With the largest seaport cluster in the North, Hai Phong is connected to the entire nation through various modes of transportation, including road, rail, waterway, and air. It also boasts an advanced industrial park system. Combined with goods from Northern cities and provinces, Hai Phong Port now has a plentiful source of goods for import and export operations. This has provided Hai Phong with the right conditions to develop its logistics service sector, acting as a catalyst for the Northern critical economic region (Hong, 2019). The development plan for the logistics service system aims to build Hai Phong into a regional logistics service hub with a crucial role in the movement and distribution of goods, aiding in the nation's socioeconomic development.

The city and the Northern region have four logistics zones, including the central area, the northern area, the west, and the south of the city, with a scale of more than 150 hectares in 2020-2025 and up to 300 hectares in 2030. These zones provide services such as loading and unloading cargo, warehousing and storing goods, and other ancillary services (Le, 2018). However, the activities of Hai Phong's logistics businesses mainly revolve around delivering and removing goods from ports. Due to the irrational organization of transportation, primarily by road, and the organization of freight forwarders, logistics services are expensive. The administrative processes are time-consuming, and the quality of warehousing services could be improved. The logistics transportation time in Hai Phong has not been reduced to the maximum extent due to inefficient transportation planning (primarily by road), administrative processes, delivery, and delivery, and the application level of science, technology, and technology still needs to be improved (Le, 2018).

According to Ngo (2017), the seaport in the Hai Phong area has significantly aided in the growth of Hai Phong City. However, some planning and infrastructure investment restrictions exist, including social inefficiency and environmental law violations. To address these challenges, economical solutions should be offered concurrently, including synchronous construction of the port system and port traffic connection, reform of procedures, administration, technology, human resource training promoting solutions, international cooperation, prevention and response to risks and incidents, and mechanisms and policies to protect the environment.

* + 1. ***Current logistics situation in Can Tho***
       1. *Current situation*

Can Tho is a city situated in the Mekong Delta region of Vietnam, which serves as a significant trading services, logistics, processing industry, high-tech applications, education and training, healthcare, expertise, science and technology, culture, and sports center (Khanh, N, 2022).

However, for Can Tho to become a logistics hub in the Mekong Delta, certain prerequisites such as a connectivity system, reliable human resources, and a logistical infrastructure are necessary. Despite being a significant economic center, the highways are overloaded, and the inland waterways and railways are underutilized. As a result, the transportation and movement of goods between Can Tho and other Mekong Delta provinces are low. In addition, due to the fragmentation of the warehouse system, low technology, lack of connection and requirement for connection, there are frequent local shortages, redundancies, and below-average logistics efficiency. This is why many businesses still send their products directly to the Southeast region for processing or export, rather than using Can Tho as a logistics hub in the Mekong Delta. Cai Cui has been designated as a Mekong Delta logistics hub, and currently, about 20 million tons of the region's exported goods pass through Southeast ports, which is expensive and time-consuming (VLR, 2022).

* + - 1. *Prospects*

Can Tho's logistics industry are promising. In June 2019, the Vietnam Airlines Corporation (Vietnam Airlines) and the Can Tho City People's Committee discussed plans to establish an aviation logistics center in Can Tho city. The aviation logistics center in Can Tho city is expected to cover approximately 30 hectares, with an estimated cost of about 82.9 million USD. The project has three phases: phase 1 from 2019 to 2020, phase 2 from 2021 to 2022, and phase 3 from 2023 to 2024. The facility is expected to serve as an expanded and leased cargo terminal service location for distributing commodities (VLR, 2019).

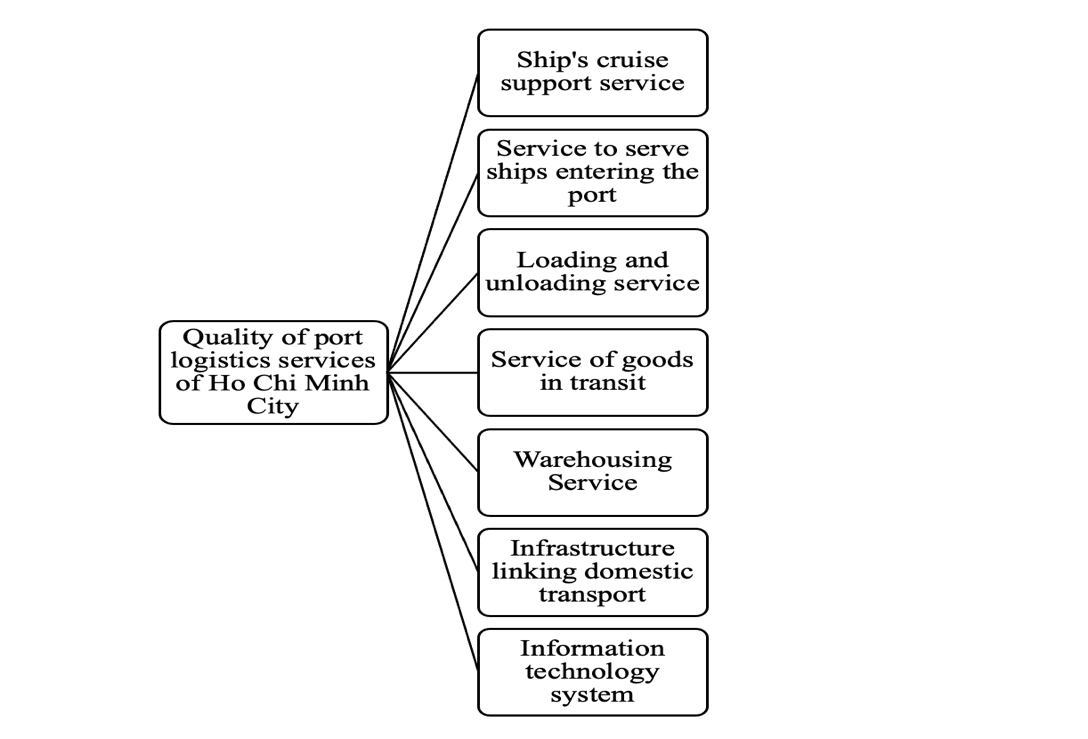
The Can Tho logistics and aviation industrial zone project is also underway, with a scale of approximately 1,650 hectares, and phase 1 covering 350 hectares as of the end of June 2021. Sovico Group, joint stock corporation, conducted a survey and research (VLR, 2021).

Furthermore, a workshop titled "Strengthening connectivity to improve the value chain of agricultural and fishery products in the Mekong Delta" was held on April 23, 2022, in collaboration with the Vietnam Logistics Business Association (VLA). Almost 200 representatives from central and local state management agencies, industry groups, businesses that produce and trade agricultural and aquatic products, businesses in the transport and logistics sector, and businesses attended the conference. On this occasion, domestic businesses could interact and exchange ideas with companies that import and export fish, agricultural and aquatic products, and hard commodities through Pyeongtaek Port (VLR, 2022).

When the center to link production, processing, and consumption of agricultural products in the Mekong Delta (in Can Tho city) becomes operational, along with the ongoing dredging of the Dinh An channel, it will create substantial development opportunities for the Mekong Delta. In particular, it will be beneficial for the logistics and seaport industries to make a breakthrough, connecting the Mekong Delta to Ho Chi Minh City, Ca Mau, Chau Doc (An Giang), and other regions (VLR, 2022).

* 1. **Logistics service research models**
     1. ***Research model 1***

Nguyen and Vo (2022) research model and propose this article to analyze the factors affecting the quality of seaport logistics services in Ho Chi Minh City, Vietnam (see figure 2.1). The theoretical framework includes the definition of logistics and seaport logistics, as well as the concept of port logistics. The authors also draw upon practical experience and expert consultation to propose a set of factors that affect the quality of seaport logistics services. The research model consists of seven elements, including three scales.



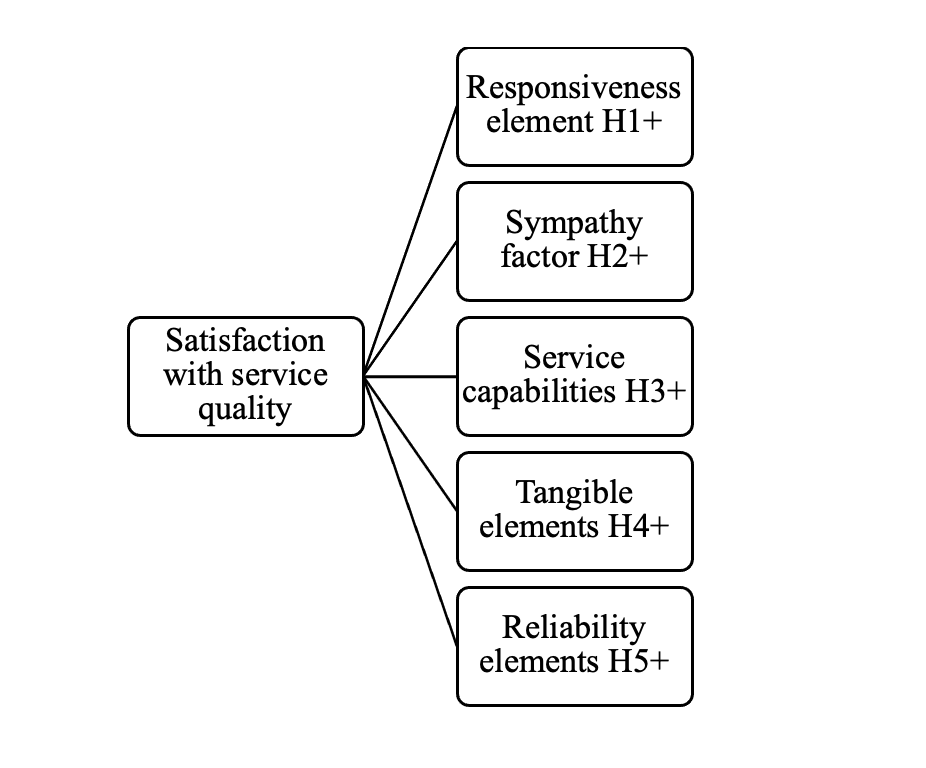
**Figure 2.1 Research model Analysis of factors affecting the quality of seaport logistics services of Ho Chi Minh City**

Source: Nguyen and Vo (2022)

Overall, this research model provides a comprehensive framework for analysing the factors affecting the quality of seaport logistics services and can be used as a guide for future studies in this area.

* + 1. ***Research model 2***

Vu and Nguyen (2022) used theoretical framework to evaluate service quality models in the logistics services industry, particularly in sea freight transport (figure 2.2). The research model includes three service quality models: Service Quality (SERVQUAL), Service Performance (SERVPERF), and Importance-level model Implementation (IPA). The paper highlights the advantages of the SERVPERF model over the SERVQUAL model and the effectiveness of SERVPERF in evaluating logistics service activities. The SERVQUAL model proposed by Parasuraman and Leonard (1988) comprises five criteria to evaluate service quality: reliability, responsiveness, the ability of the service force, empathy, and tangible means.



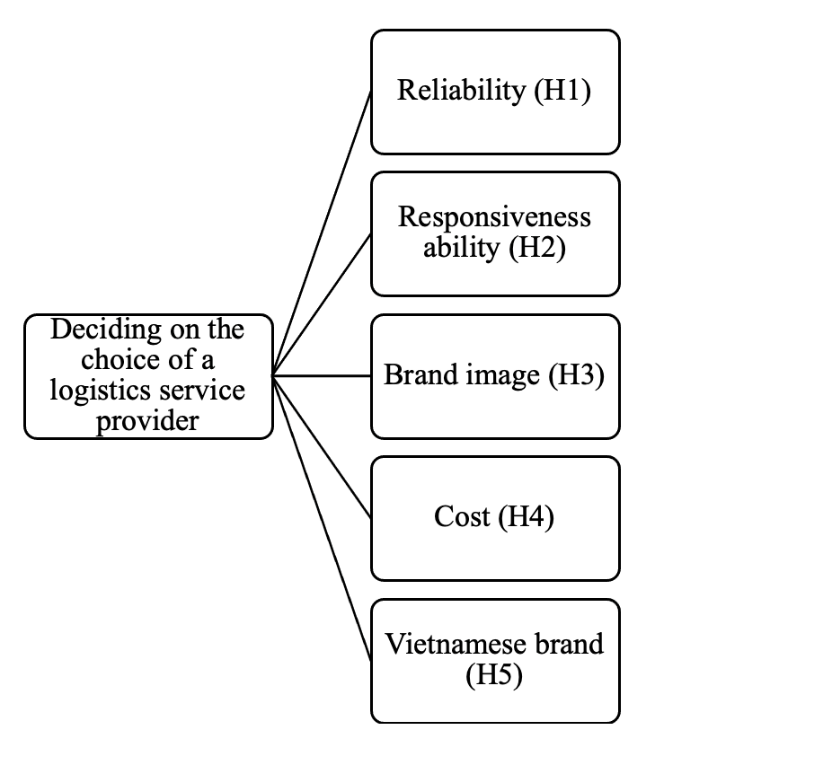
**Figure 2.2 Research model Analysis of factors affecting customer satisfaction towards logistics service quality in Northern Vietnam**

Source: Vu and Nguyen (2022)

The SERVPERF model, a variation of SERVQUAL, measures service quality only by customer perception, omitting the question about expectations. The paper's research focuses on the sea freight transport industry and shows analytical results comparing SERVPERF with SERVQUAL analysis results. The research identified five significant factors affecting customer satisfaction: tangible means, reliability, assurance, empathy, and responsiveness. Each factor has its essential criteria that contribute to overall customer satisfaction. According to Figure 2.2, the SERVPERF model is a more effective method for evaluating logistics service activities because of its ease of use and accuracy in data collection.

* + 1. ***Research model 3***

Ha (2020) explores the impact of choosing a logistics service provider on the efficiency of international logistics channels, focusing on the decision-making process of Vietnamese shippers during the COVID-19 pandemic. The authors propose five theories with 31 representative factors that affect the choice of a logistics service provider. Overall, the paper provides a theoretical framework for understanding the factors that influence the choice of a logistics service provider among Vietnamese shippers during the COVID-19 pandemic. The research model is mentioned in figure 2.3.



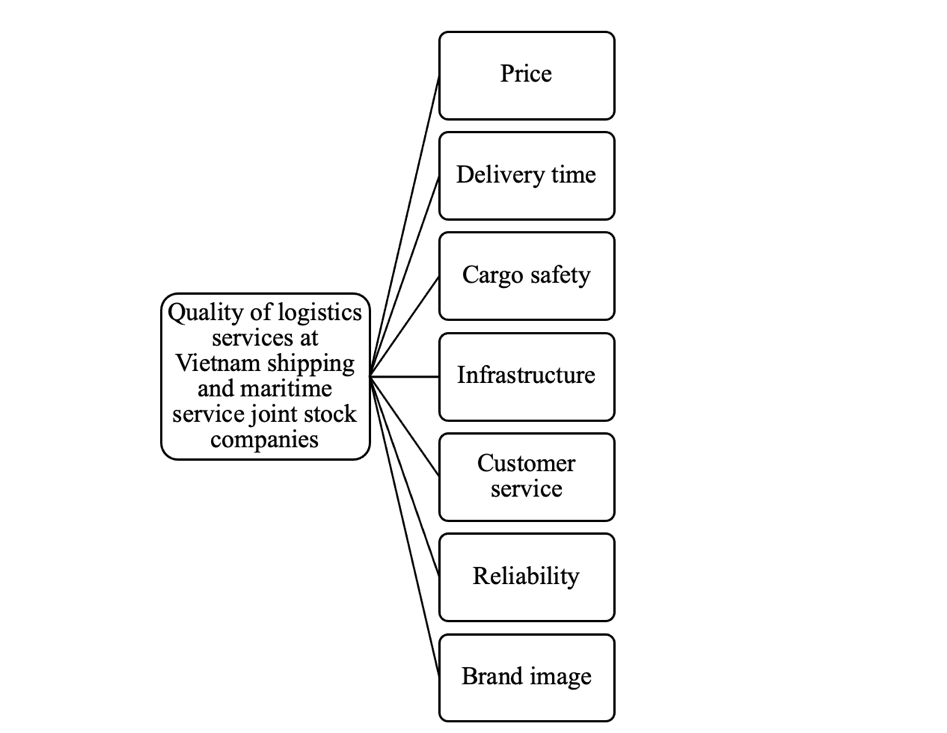
**Figure 2.3 Research model Analysis of Factors Affecting the Choice of Logistics Service Suppliers of Vietnam’s Goods Owners in the Covid-19 Pandemic**

Source: Ha (2020)

The authors draw on previous research to develop their understanding of reliability, responsiveness, brand image, cost, and Vietnamese brands and propose hypotheses to guide future research.

* + 1. ***Research model 4***

Nguyen et al. (2021) use theoretical framework is based on the Antecedent and Intermediate Model of Dabholkar et al., (2000), considered the most comprehensive and appropriate model for analysing the quality of logistics services provided by the company. This model takes into account the variables that affect the services provided by the company as well as the service factors related to customers. The paper's authors have adjusted the content of the Dabholkar et al., (2000) model into seven essential elements relevant to the research topic. These elements include customer service, cargo safety, price, delivery time, human resources, technology, and customer feedback. The research model is mentioned in figure 2.4.

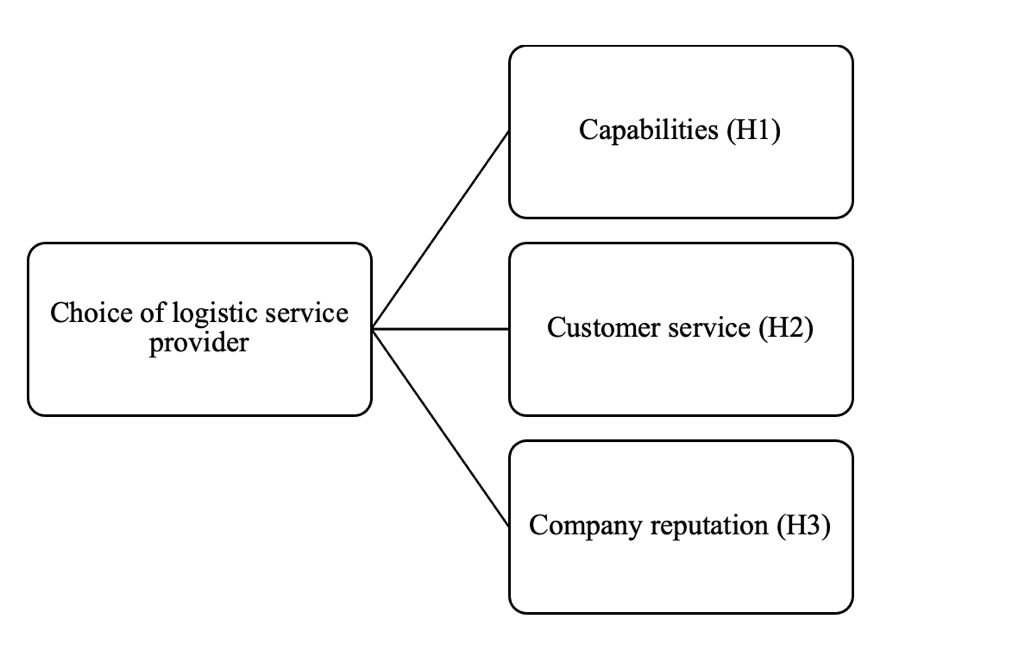


**Figure 2.4 Research model Analysis of Factors affecting the quality of Logistics services Provided by the supply chains and Agency Services joint stock companies**

Source: Nguyen et al. (2021)

* + 1. ***Research model 5***

Tran and Do (2021) based on the theoretical framework aims to identify the factors influencing customers’s choice of logistics service providers (LSPs). The study proposes three factors that affect the selection of LSPs: capabilities, customer service, and company reputation. The research model includes three hypotheses based on the factors affecting the choice of LSPs. The study suggests that understanding the customer's choice of LSPs is critical to successful management and improving the perceived value of the service offering. In summary, the study's theoretical framework focuses on the factors influencing the customer's choice of LSPs. The study proposes three factors: capabilities, customer service, and company reputation. The research model is mentioned in figure 2.5.



**Figure 2.5 Research model Critical Factors Affecting the Choice of Logistics Service Provider: An Empirical Study in Vietnam**

Source: Tran and Do (2021)

The study suggests that improving enterprises capabilities, upgrading human resources, modernising the modes of transportation, expanding business geographically, and developing new technologies are essential for competitiveness in the logistics industry.

* 1. **Proposing a new research model**
     1. ***Responsiveness Ability***

According to Stank et al. (1998), customer relationships are achieved by anticipating client expectations and measuring how closely actual results match anticipated results. Responsiveness refers to the ability to react quickly if activities deviate from the desired outcome, which is naturally aided by the synchronization of departments with customers. This allows for quick and comprehensive implementation of information exchange between parties and can prevent potential delays associated with mediated communication methods such as emails and phone calls. When measuring the factors for choosing package logistics services, responsiveness is reflected in the ability to update freight information and continuously collect and monitor goods. The ability to collect and monitor goods is a crucial factor in selecting a logistics service provider for a package as it saves both costs and time (Ha, 2020). Vast geographic coverage capacity indicates that a shipping network or container port portfolio covers many geographies. Location may have a significant role in logistics processes. Yang et al. (2022) investigated spatiotemporal location determinants of logistics facilities and discovered that elements such as proximity to clients, accessibility, and transportation infrastructure might affect logistics facilities' locations. At the same time, the distribution of capacity across those regions matches the global demand for container shipping (Tran and Do, 2021). Multimodal transport is a logistics operation that involves transporting goods to different locations using a combination of at least two modes of transport without changing the container for the goods. The wide geographical coverage suggests that the shipping network or container port portfolio covers many different geographies and the allocation of capacity between those regions is in line with the global demand for container shipping (Tran and Do, 2021). In addition to the LSP's physical capabilities, such as shipping and warehousing, LSPs must also provide accurate and timely information and documents to their customers. Tan et al. (2016) found that effective document management is a key driver of customer satisfaction in the logistics industry. According to Richey et al. (2010) show that improved information management can lead to better supply chain performance. Service providers with decision-making policies address several aspects of input responsiveness (Meijers et al., 2019). The flexibility of the service chain can be altered to suit the demands of the client with the development of responsiveness. This demand also highlights the necessity of accurate logistics services that can react quickly and prevent the lag caused by a crowded market. Logistics providers appeal to a variety of sectors because they include dynamic components and are more consistent in their responsiveness when choosing a logistics service provider. Several third parties are also considered for supply chain management to guarantee responsiveness. The competitive marketplaces for logistics service providers are created with a variety of limits (König et al., 2019). These service providers are built for competitive, fragmented marketplaces, and organizations must make necessary organizational efforts to adhere to their obligations in the food business.

H1: Responsiveness ability affects the demand for using package logistics services in Can Tho.

* + 1. ***Customer Service***

As competition in the service industry continues to develop, the ability of logistics businesses to understand their clients and ensure their satisfaction with the services provided is becoming increasingly important. According to Kavaliauskeine et al. (2014) and Zairi (2000), the client is the most significant aspect of any firm in the service sector, and the company's performance depends on its clients. Therefore, logistics service providers must emphasize customer service and guarantee that their clients receive high-quality services to attract and retain consumers, improve customer retention, and gain a competitive edge. Logistics service providers may establish a strong, passionate, and experienced workforce that can promptly respond to client inquiries, maintain their information transportation securely, and keep customers informed about the status of their route. Adopting 4.0 technology software can enable logistics service providers to report the shipment schedule accurately to consumers, enhancing customer satisfaction (Nguyen et al., 2021). Furthermore, logistics service providers should fully explain import and export procedures and establish personal connections with consumers by offering policies and gifts on holidays and birthdays. Roberts (1994) reported that service competency, which includes the expertise, politeness level of personnel, and ability to build trust with clients, is another crucial component that impacts the quality of logistical services. Having friendly and courteous employees can make clients feel comfortable when being serviced, thus enhancing customer satisfaction (Vu and Nguyen, 2022). Regarding expenses, logistics service providers should consider direct and indirect transport costs, including holding costs for items en route, inventory costs due to buffering, the uncertainty of delivery dates, and preparation costs associated with shipment size. Punctual time performance is also critical to the effectiveness of logistics system operation. Third-party logistics (3PL) service provision ability, which includes transportation, warehousing, inventory management, distribution, and other value-added services such as pick-and-pack, assembly, repairs, and re-conditioning, is another critical factor that affects the quality of logistics services. Finally, logistics tracking which includes tracking containers and parcels throughout their key logistics hubs and movements, is vital in delivering parcels, ensuring that logistics services meet consumer expectations (Tran and Do, 2021). Customer service, service competency, timeliness, 3PL service-providing ability, logistics tracking, and problem-solving ability are significant factors determining the quality of logistics services provided by logistics service providers. By emphasizing these elements, logistics service providers can deliver exceptional customer service, establish strong connections with clients, and ensure their logistics services meet consumer expectations, achieving a competitive edge in the market.

H2: Customer service affects demand for package logistics services in Can Tho.

* + 1. ***Tangible Assets***

The element of tangible assets is reflected in the appearance of facilities, equipment, etc. The element of tangible assets is confirmed to play an important role in improving the satisfaction of business customers when using logistics services (Vu and Nguyen, 2022). The capabilities of companies providing services in terms of physical facilities (e.g., logistics assets such as warehouses, transportation-related equipment they own) create numerous opportunities for developers providing logistics services (König et al., 2018). One of the basic links of the main logistics channels is the warehousing system (Nguyen, 2022). Therefore, in order to develop business well, the development of large warehouses is extremely necessary for businesses providing logistics services (Nguyen et al., 2021). In the logistics service industry, warehousing plays a very important role. Because most shippers and ship owners are especially concerned with issues such as how the quality of goods is preserved at the transshipment port (Nguyen and Vo, 2022). Warehousing qualified to preserve goods is also one of the important factors in the tangible assets of a package logistics service provider. Cold storage and the ability to operate and flexibly adjust storage conditions will contribute to ensuring the freshness of goods. In particular, goods will achieve the highest value of use quality (Shabani et al., 2012). New forklifts, trucks and containers need to be equipped with equipment to promptly meet the needs of customers during transportation (Nguyen et al., 2021). In order to save time and increase logistics efficiency, businesses apply information technology to production and business activities. Focusing on investing in modern electronic equipment will contribute to meeting the development of Logistics services (Nguyen and Vo, 2022). Tangible assets include factors such as warehouses, supporting vehicles, electronic equipment, etc. Will have an impact on customers' choice of logistics services, especially for the service provision industry logistics service package.

H3: Tangible assets affect the demand for package logistics services in Can Tho.

* + 1. ***Price***

Price is a crucial factor that directly impacts the services provided by logistics companies (Anderson et al., 2011). Customers mainly consider the price when deciding whether to use a logistics company's product or service. Therefore, logistics firms must offer excellent customer service, including timely delivery, efficient communication, and practical problem-solving (Da Silveira, 2005). Companies must provide accurate and appropriate quotations for each service to help customers choose the best option for their goods. To remain competitive in the logistics industry, companies must ensure consistency in their business costs while providing high-quality services. Inappropriate pricing models may hinder the growth of the relationship. Service providers may only undertake necessary changes and improvements to their services, ignoring specific investments that primarily benefit the customer (Lukassen and Wallenburg, 2010). The price offered by logistics service providers is also among the prerequisites for customers to choose from (Bhatnagar et al., 1999). Logistics firms can attract more customers by demonstrating their advantages over competing transportation businesses. Furthermore, companies can improve customer satisfaction by implementing appropriate and quick payment mechanisms. Logistics companies can leverage emerging technologies such as blockchain, artificial intelligence, and the Internet of Things (IoT) to streamline processes and reduce costs. For example, predictive analytics driven by AI can help businesses forecast demand and optimize their supply chains, while blockchain technology can increase the security and transparency of logistics transactions (Nguyen et al., 2021). Information technology can also reduce warehousing costs by substituting highly coordinated information flows for assets (e.g., inventories, facilities, and equipment) (Stock, 1990). However, the COVID-19 pandemic has posed several challenges for the logistics industry in Vietnam. Logistics firms have had to deal with increased demand for essential goods, labor shortages, transit restrictions, and supply chain delays. These challenges have impacted the pricing of logistics services, leading to increased expenses and delays in logistical operations. Consequently, logistics companies must adopt new pricing strategies to remain competitive while managing costs effectively (Ha, 2020; Nguyen et al., 2021).

H4: Price affects demand for package logistics services in Can Tho.

* + 1. ***Safety***

The business should keep the client informed about the state of their goods throughout the transportation process and provide prompt notification in case of any incidents or damages. Depending on the extent of the damage, the corporation may decide to make up for it if it cannot be rectified. Because loss can damage the business and the client, it is essential to ensure strict safety requirements are followed when packaging and transporting goods. Since moving must be gentle, the primary reason for the items collision, breakage, and distortion, they are correctly preserved during loading and unloading. Encourage customers to purchase transportation insurance for their goods. Goods must be professionally kept to facilitate transportation without the company having to spend much time and money (Nguyen et al., 2021). With additional specialist guidance and adjustment, the use of cutting-edge technology and strategies to help better logistics businesses that need to enhance performance while tracking and ensuring items products are not harmed. Implement the tools, software, apps, and hardware required to improve visibility and control over logistical operations. This might involve automated loading and packing systems, GPS tracking, and temperature and humidity sensors.  Safety and security is a fundamental issue in logistics (Marucheck et al., 2011). A system or technology must be available for a track and trace capability to be in place for customers. It can satisfy the track and trace demand of customers. Its capability can be further enhanced with secured and safe technology services for the LSPs customers.

H5: Safety affects demand for package logistics services in Can Tho.

* + 1. ***Referrals through a third party (Intermediaries)***

Experts said that third-party referrals form perceptions about logistics service providers or LSPs. Recommendations from rivals in the same industry are valuable since they signify a vote of confidence in the reliability and trustworthiness of the logistics service provider. For LSPs, referrals from rival companies can significantly impact customer acquisition and retention. Additionally, rival referrals can increase prospects for cooperation and partnership between LSPs. With rivals, referrals can foster trust and respect, potentially fostering alliances and collaborations that are mutually beneficial. It is crucial to remember that not all referrals from rival businesses are created equal. To receive recommendations from rivals with comparable industry experience and a solid reputation, LSPs must continue to deliver high-quality services and satisfy their clients. LSPs are only sometimes easy to find or assess, especially for clients needing more in-depth industry knowledge. Because of this, consumers frequently look to professional partners, such as consultants, trade journals, and industry groups, for assistance in locating and choosing the right LSPs for their requirements. Industry experts say customers rely on skilled partners to find and assess LSPs for several reasons: First, there are many distinct types of LSPs, each with unique strengths and weaknesses, and the logistics sector is complicated. Consumers may need more knowledge or resources to assess LSPs independently, so they turn to business partners who can provide unbiased, qualified assistance.

Second, new business strategies and technological advancements are continually being made in logistics. Professional partners may assist clients in staying current on the newest trends and innovations in the business as they are frequently at the forefront of these changes. Finally, experienced partners can guide clients through the frequently challenging process of choosing and collaborating with LSPs. They can advise clients on matters like price, contract details, and service-level agreements and can assist clients in negotiating advantageous terms with the LSPs of their choice. Finding a reliable logistics service provider is critical to ensuring the smooth operation of the supply chain. Businesses can seek recommendations from their management and staff when looking for LSPs. These individuals will likely have firsthand experience working with LSPs and can provide valuable insights into their performance and reliability. Research has shown that personal recommendations are highly influential in the decision-making process of businesses when selecting LSPs (Chen and Paulraj, 2004). This is because recommendations from trusted sources carry significant weight and are perceived as more reliable than information from other sources. Furthermore, using personal recommendations is consistent with the social exchange theory, which posits that people exchange resources based on social relationships and trust (Blau, 1964). In this context, businesses may rely on the recommendations of their management and staff as a form of social exchange, where the exchange of information helps to build trust and foster relationships between individuals. When seeking LSPs, businesses should consider seeking recommendations from their management and staff. These individuals will likely have firsthand experience with LSPs and can provide valuable insights into their performance and reliability. Personal recommendations can effectively build trust and foster relationships between businesses and LSPs.

H6: Referrals through a third party (Intermediaries) affects the demand for package logistics services in Can Tho.

* 1. **Theorical models**

According to the articles and research models that have been reviewed, the influencing factors have been statistically basic and presented in table 2.1, including major factors and dimensions.

**Table 2.1 Scale of components**

|  |  |  |
| --- | --- | --- |
| **Code** | **Measurement criteria** | **Recommended by** |
| **Responsiveness ability** | | Stank et al. (1998), Ha (2020), Tran and Do (2021), Tan et al. (2016),  Richey et al. (2010), Meijers et al. (2019), König et al. (2019), Yang et al. (2022) |
| RA1 | The logistics service provider has the capability to consolidate goods and monitor them | Ha (2020) |
| RA2 | The logistics service provider has a wide geographic/international coverage | Ha (2020) |
| RA3 | The logistics service provider has the capability to transport using multiple modes of transportation | Tran and Do (2021) |
| RA4 | The logistics service provider delivers precise and comprehensive information and documents in accordance with the business's requirements | Tran and Do (2021) |
|  | | |
| **Customer service** | | Kavaliausjeiné et al. (2014), Zairi, (2000), Nguyen et al. (2021), Vu and Nguyen (2022), Tran and Do (2021), Roberts (1994) |
| CS1 | The logistics service provider offers e-commerce services and electronic documentation | Nguyen et al. (2021) |
| CS2 | The logistics service provider ensures on-time delivery as promised | Tran and Do (2021), Nguyen et al. (2021) |
| CS3 | The logistics service provider has the ability to resolve issues effectively | Tran and Do (2021), Nguyen et al. (2021) |
| CS4 | The logistics service provider ensures high reliability in receiving and/or delivering goods | Vu and Nguyen ( 2022), Tran and Do (2021), Nguyen et al. (2021) |
|  |  | |
| **Tangible assets** | | Vu and Nguyen (2022), König et al. (2018), Nguyen (2022), Nguyen et al. (2021), Nguyen and Vo (2022), Shabani et al. (2012) |
| TA1 | The logistics service provider has a wide warehousing system | Nguyen et al. (2021), Nguyen and Vo (2022) |
| TA2 | The logistics service provider has a warehouse with adequate conditions for storing goods | Nguyen et al. (2021) |
| TA3 | The logistics service provider has various types of supporting vehicles (forklifts, specialised trucks, etc.) | Nguyen et al. (2021) |
| TA4 | The logistics service provider utilises modern electronic devices to expedite the processing and reduce the time required | Nguyen and Vo (2022), Nguyen et al. (2021), Vu and Nguyen (2022) |
|  | | |
| **Price** | | Ha (2020), Nguyen et al. (2021), Anderson et al. (2011), Da Silveira (2005), Lukassen and Wallenburg (2010), Bhatnagar et al. (1999), Stock (1990) |
| PR1 | The logistics service provider ensures pricing that is commensurate with the quality of service provided by the company | Ha (2020), Nguyen et al. (2021) |
| PR2 | The logistics service provider commits to keeping additional costs low | Ha (2020), Nguyen et al. (2021) |
| PR3 | The logistics service provider offers flexible and transparent pricing for each type of service | Nguyen et al. (2021) |
| PR4 | The logistics service provider offers payment methods that are suitable, easy, quick, and flexible for each customer | Nguyen et al. (2021) |

In addition to sifting through factors from domestic and foreign authors, our team also consulted a number of experienced and knowledgeable experts in the logistics industry in Can Tho. Experts have added two actual factors that they think affect the decision to choose a logistics service provider: Safety (04 dimensions) and Referrals through a third party (Intermediaries) (03 dimensions).

This is a research model Demand for Package Logistics Service in Figure 2.6.

**Figure 2.6 Research model Demand for Package Logistics Service**

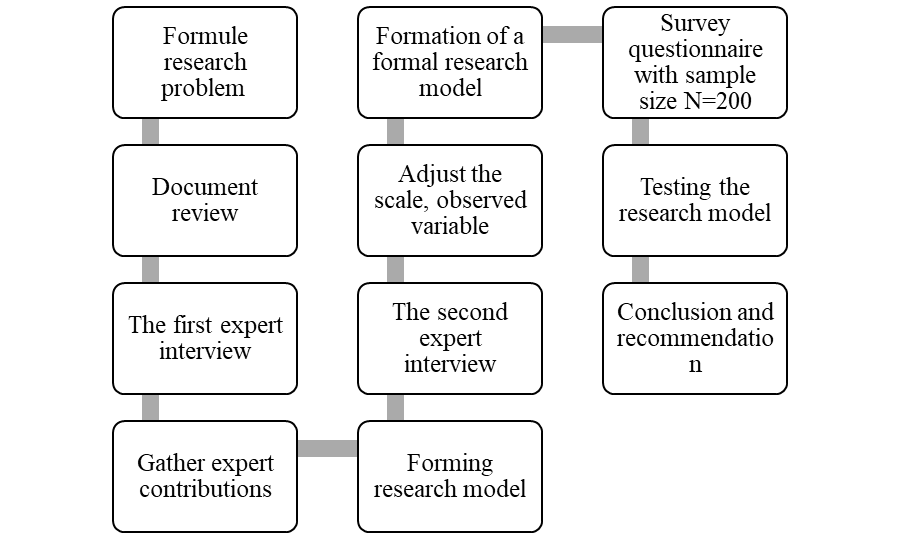
# **CHAPTER III: RESEARCH DESIGN**

*In this chapter, our thesis group presents relevant research methods and arguments for choosing the appropriate research philosophy, research approach, research strategy, and research method. The researcher also presents the primary and secondary data collection process and how to process and process the collected data.*

* 1. **Research Process**
     1. ***A sequence of research steps***

To achieve the stated goal, this research process is designed to include the following two steps:

* Step 1 qualitative research: Studying relevant documents as a scientific basis for proposing a theoretical research model, thereby completing the preliminary scale.
* Step 2 quantitative research: Formal investigation of subjects, (1) Descriptive statistics; (2) Cronbach's Alpha test confirms the reliability of the scale; (3) EFA exploratory factor analysis to evaluate the value of the scale to ensure convergent and discriminant validity; (4) Pearson Correlation Analysis to check the linear relationship between observed variables; (5) Analyze Multivariable Linear Regression and test regression assumptions about normal distribution, linear relationship and variance to confirm research results; (6) Analytic Hierarchy Process (AHP). The concepts in the research model are evaluated and tested on the basis of survey data with a sample size of 200. The research sequence is implemented through the contents shown on the figure 3.1.



**Figure 3.1 Research process framework**

* + 1. ***Specific steps of the research process framework***

**Step 1: Qualitative Research:**

First of all, we study documents related to factors affecting the choice of using package logistics services as a scientific basis for building and establishing research models. Theory of specific tourism product development. The study of documents is to find out the previous research of domestic and foreign authors related to the content of the thesis. In addition, the synthesis of previous studies is an essential issue of the research process to find the gaps in the research of previous studies, thereby orienting us to carry out the research. Research through reviewing and studying documents, we have the scientific basis to discover the factors and attributes related to the research topic and conduct expert interviews and discussions. Next is the exchange, expert interviews, and surveys with 10 experts in the field of research, including lecturers who teach in the fields of economics and logistics at the university. This is an essential step in developing and designing the questionnaire before conducting formal research (quantitative research). The purpose of interviewing experts is to collect their opinions on the factors affecting the choice of package logistics services in Can Tho. At the same time, the expert interview is also to discover and adjust the content of the elements and attributes of the research topic. After interviewing experts, we set up a questionnaire. We surveyed research subjects to examine the factors that affect the choice of using package logistics services in Can Tho.

**Step 2: Quantitative Research:**

The main contents carried out in this formal research step include:

* Descriptive statistics.
* Cronbach's Alpha test for official research confirms the reliability of the scale.
* Pearson Correlation Analysis to check the linear relationship between observed variables.
* Analyze Multivariable Linear Regression and test regression assumptions about normal distribution, linear relationship, and variance to confirm research results.
* Analytic Hierarchy Process (AHP) is used to sort decision alternatives and select an alternative that satisfies the given criteria.
  1. **Research Methods**
     1. ***Qualitative research***
        1. *Qualitative research methods*

Qualitative research aims to confirm and supplement assessment criteria, adjust scales, and build questionnaires. Creswell (2009) believes that qualitative research means exploring and understanding human and social problems through groups and individuals. This is a valuable research method that describes and explains the phenomena investigated by interviews and observations (Cyriacoa et al., 2017). According to (Bellenger et al., 2011), qualitative research is often used to explore or diagnose events in nature. In addition, (Tho, 2011) said that qualitative research is often used to build scientific theories based on inductive processes and is commonly used in the business field. Qualitative research includes a set of methods such as in-depth interviews, group discussions, and participatory observations,... (Nong, 2009). To conduct this study, we contacted 10 experts in the logistics field by contacting them in advance, then we sent the documents and questionnaires to the experts in advance via email. The comments of the experts are recorded and synthesized by us, this is the basis for us to adjust the questionnaire for the next steps of investigation and interview.

* + - 1. *Qualitative research analysis*

In quantitative research, the process of data collection and analysis are two separate steps, while the process of data collection and analysis in qualitative research are not separate from each other. It is a reciprocal process: Researchers exchange and discuss with research subjects to collect and analyze data, i.e. Find out the meaning of data, then continue to discuss and analyze data find out what it means. This process continues when saturation is reached – there is nothing more to dig deeper into (Tho, 2011).

Qualitative data analysis will often go through three basic and closely related processes: To (Tho, 2011), the process of analyzing raw data helps researchers get an overview of the data. At this stage, the author conducts interviews with experts that have been planned in advance with questionnaires and content related to the research problem.

After completing the raw data processing, the author proceeds to classify the collected data. Sorting and classifying data into groups with common characteristics and comparing them with each other aims to organize the data in a systematic way (Tho, 2011).

After grouping the data from the expert interviews, the author will summarise the outstanding ideas that are agreed upon by many experts to present at the focus group discussion. Based on the discussion results, the author summarises the important factors that affect the factors affecting the choice of using package logistics services in Can Tho.

* + - 1. *Qualitative research results*

After discussing, synthesizing, and reviewing documents as well as previous studies related to the thesis topic, we have identified the factors and attributes, thereby proposing a research model for the thesis. the time to conduct the construction of interviews with the planned interviewees.

After synthesizing a lot of opinions of experts in the group discussion in this study, the results show that the experts agree with the factors but also suggest some new elements for the research paper be more specialized.

Synthesise documents related to factors affecting the choice of using package logistics services, including factors:

(1) Responsiveness ability (4 observed variables);

(2) Customer service(4 observable variables);

(3) Tangible assets (4 observed variables);

(4) Price (4 observed variables);

(5) Safety (4 observed variables);

(6) Referrals through a third party (intermediate) (3 observed variables)

In the process of conducting a survey of experts to supplement and adjust the scale, and complete the observed variables, the author has collected and synthesized experts opinions on the research model, the basic in this paper, experts highly agree with the proposed model with 26 observed variables, of which 23 initially observed variables belong to 6 groups of independent factors, and 3 observed variables belong to dependent factors. Qualitative research results are the basis for us to build a research model.

* + 1. ***Quantitative research methods***

To test and identify factors that influence the use of package logistics services in Can Tho, researchers employed quantitative research methods. This involved assessing the reliability, validity, and relevance of scales, testing research models, and hypotheses, as well as determining the degree of influence of each factor. Data was collected through questionnaires and analyzed using SPSS 20 software. A 5-point Likert scale was used in the questionnaire design and sample size was determined based on the minimum size and the number of measurement variables included in the analysis (Hair et al., 2006). The scales were further tested using the Cronbach Alpha coefficient and the Bartlett test. The linear regression method was used to evaluate the impact of each factor. Finally, the AHP method was employed, which is a flexible tool for analyzing decisions with many criteria, allowing for both qualitative and quantitative analysis (Truong, 2020). Based on the pairwise comparison principle, the AHP method can be described with 3 main principles: analysis, evaluation, and synthesis.

According to Saaty (2008), a consistency ratio (CR) less than or equal to 10% is acceptable, indicating that there is a 10% chance that the experts answered the questions randomly. If the CR is greater than 10%, the assessment needs to be re-evaluated and recalculated as it indicates inconsistency (see function 1)

(1)

CR: consistency rate; CI: consistency index; RI: random index

- Determine the consistency index CI in function (2)

(2)

λmax is the maximum eigenvalue of the pairwise comparison matrix (n x n), the maximum eigen value is always greater than or equal to the number of rows or columns n. The more consistent the statement, the closer the calculated value of is to n (which is the size of the calculation matrix) in function 3.

(3)

- Random index (RI): determined from the given number in table 3.1.

**Table 3.1 Random indexes**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **N** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| **RI** | 0.00 | 0.00 | 0.58 | 0.90 | 1.12 | 1.24 | 1.3-2 | 1.41 | 1.45 |

# **CHAPTER IV: ANALYSIS OF RESEARCH RESULTS**

*In this chapter, our thesis group implements several quantitative data analysis techniques that better understand the demographic characteristics of the respondents and their agreement or disagreement with each of the respondents' statements. The quantitative impact of each key factor on the choice of a package logistics service will be assessed in detail, and then the most crucial factor will be highlighted.*

3. 1. **Research sample information**

The research sample information was collected from January 2023 to March 2023. Through direct interviews with survey respondents who are Logistics service providers who are working in the field of logistics, students, undergraduate students in Logistics field, fruit distributors in Can Tho, fruit wholesalers/retailers in Can Tho. Sampling scope in industrial zones in Mekong Delta and wholesale markets in Can Tho city 300 survey samples were sent out to the subjects in the range mentioned above. In which, 250 samples were collected, then screened and kept 200 survey samples for research. The parameters of the Education be showed in table 4.1.

**Table 4.1 Research sample information**

|  |  |  |
| --- | --- | --- |
| **Information** | | |
|  | **Quantity** | **Ratio %** |
| **Total sample** | **200** | **100%** |
| 1. **Education** | **200** | **100%** |
| * High school | 18 | 9% |
| * Intermediate | 3 | 1,5% |
| * College | 7 | 3,5% |
| * University | 158 | 79% |
| * Master’s degree | 14 | 7% |

Table 4.1 shows that, Education of survey respondents: 18 people at high school level (9%), 3 people at the intermediate level (1.5%), 7 people at the college level (3.5%), at the university level. There are 158 students (79%), graduate students have 14 (7%). Thus, the number of survey respondents with university education dominates. In terms of occupation, including: student group has 1 person (0.5%), undergraduate group has 30 people (15%), public servants and public employees with 46 people (23%), group workers - employees have 74 people (37%), business groups have 42 people (21%) and housewives have 7 people (3.5%). In terms of income, there are 7 people with income under 1 million (3.5%), 44 people with income from 1 to 5 million (22%), and 85 people with income from 5 million to 10 million (42 .5%), income from 10 to 20 million has 54 people (27%) and income over 20 million has 10 people (5%).

The specific content of the factors of occupation and income will be shown in Table in Appendix.

* 1. **The reliability of the scale in the official research**
     1. ***The process of testing the scale in the main study by analysing Cronbach's Alpha coefficient***

The order of dimensions is arranged based on the reliability parameter of the dependent variable shown in Table 4.2.

Testing the scale of the dependent factor with 03 observed variables. The analysis results for the Cronbach's Alpha coefficient of the factor that depends on the demand for using package logistics services (DL) include 03 observed variables as 0.726 > 0.6 with the total variable correlation coefficient ranging from 0.454 to 0.695 > 0.3 .Thus, the scale is built to achieve good use for the demand factor of using package Logistics services in Can Tho.

**Table 4.2 Observable Variable of the Service Usage element**

|  |  |
| --- | --- |
| **Dimensions** | **Observed variables** |
| Logistics services help customers save time | DL2 |
| Customer's intention to continue using | DL3 |
| Logistics services bring convenience to customers | DL1 |

Conduct formal testing of the scale of independent factors with 200 samples.

The coefficient of testing Cronbach's Alpha scale for the independent factor of safety, including four observed variables, is 0.858 > 0.6. The correlation coefficient of the total variable ranges from 0.536 to 0.799 > 0.3, so the value of this Cronbach's Alpha coefficient allows using an excellent scale.

The analysis results for Cronbach's Alpha coefficient for the independent factor price is 0.773 > 0.6, including four observed variables. The correlation coefficient of the total variable ranges from 0.505 to 0.659 > 0.3. Therefore, the scale achieves good use for the price factor of package logistics services.

The coefficient of testing Cronbach's Alpha scale for the independent factor of tangible assets is 0.764 > 0.6, including five observed variables. The correlation coefficient of the total variable ranges from 0.450 to 0.665 > 0.3, so the value of this Cronbach's Alpha coefficient allows using a suitable scale.

The coefficient of testing Cronbach's Alpha scale for the independent factor of responsiveness ability, including five observed variables, is 0.759 > 0.6. The total variable correlation coefficient ranges from 0.31 to 0.715. With the above value of Cronbach's Alpha coefficient, it is possible to use a relatively good scale.

The analysis results for Cronbach's Alpha coefficient of the independent factor customer service is 0.716 > 0.6, including five observed variables. The correlation coefficient of the observed variables' total variables ranges from 0.457 to 0.557 > 0.3. With the value of Cronbach's Alpha coefficient as above, it is possible to use a reasonable scale.

The analysis results for the Cronbach's Alpha coefficient of the independent factor referrals through a third party (intermediate) with three observed variables are 0.697 > 0.6. The total correlation coefficient of the observed variables ranges from 0.442 to 0.626 > 0.3. With this value of Cronbach's Alpha coefficient, it is possible to use a reasonable scale.

Thus, the authors set up a new set of variables for factors affecting the choice of package logistics services in Can Tho. The order of dimensions is arranged based on the reliability parameter of the independent variable shown in Table 4.3.

**Table 4.3 Observable Variables of Independent Factors**

|  |  |
| --- | --- |
| **Safety** | |
| * The logistics service provider has good technology that ensures information security and safety, particularly with regard to documents | SA3 |
| * The logistics service provider has technology and techniques to monitor goods | SA2 |
| * The logistics service provider ensures compensation for any losses of goods due to the company's fault | SA4 |
| * The logistics service provider ensures that the goods are not damaged during transportation | SA1 |
|  | |
| **Price** |  |
| * The logistics service provider ensures pricing that is commensurate with the quality of service provided by the company | PR1 |
| * The logistics service provider offers flexible and transparent pricing for each type of service | PR3 |
| * The logistics service provider offers payment methods that are suitable, easy, quick, and flexible for each customer | PR4 |
| * The logistics service provider commits to keeping additional costs low | PR2 |
|  | |
| **Tangible assets** |  |
| * The logistics service provider has various types of supporting vehicles (forklifts, specialised trucks, etc.) | TA3 |
| * The logistics service provider has a wide warehousing system | TA1 |
| * The logistics service provider has a warehouse with adequate conditions for storing goods | TA2 |
| * The logistics service provider utilises modern electronic devices to expedite the processing and reduce the time required | TA4 |
|  | |
| **Responsiveness ability** |  |
| * The logistics service provider has a wide geographic/international coverage | RA2 |
| * The logistics service provider delivers precise and comprehensive information and documents in accordance with the business's requirements | RA4 |
| * The logistics service provider has the capability to consolidate goods and monitor them | RA1 |
| * The logistics service provider has the capability to transport using multiple modes of transportation | RA3 |
|  | |
| **Customer Service** |  |
| * The logistics service provider has the ability to resolve issues effectively | CS3 |
| * The logistics service provider offers e-commerce services and electronic documentation | CS1 |
| * The logistics service provider ensures on-time delivery as promised | CS2 |
| * The logistics service provider ensures high reliability in receiving and/or delivering goods | CS4 |
|  | |
| **Referrals through a third party (Intermediary)** |  |
| * The Logistics service provider is known through the Management/Staff of the company | RP3 |
| * The logistics service provider is known through referrals from competitors | RP1 |
| * The logistics service provider is known through the professional partners of the customers | RP2 |

After testing the safety of the scale, 07 sets of scales were determined in the initial research model, including 01 dependent factor - Demand for Package Logistics services. 03 observed variables and 06 independent factors: Tangibles assets (04 observed variables), Customer service (04 observed variables), safety (04 observed variables), Responsiveness ability (4 variables observed), Price (4 observed variables), Referrals through a third party (Intermediaries) (3 observed variables).

Through the above analysis, in actual work, AHP can be used as an evaluation model for outsourcing logistics service. Based on rating systems including Safety (SA), Responsiveness Ability (RA), Customer Service (CS), Price (PR), Tangible Assets (TA) and Referral through the Third Party (Intermediaries) (RP) are more targeted and doable.

In this paper, the evaluation and selection of outsourced logistics service providers is made based on AHP and learns the real case of a fruit business in Can Tho area. It provides a reference for a business to choose a logistics outsourcing service provider.

**Table 4.4 AHP structural model**



Table 4.5 below is an Criteria Weights data analysis of the dimensions in independent variable.

**Table 4.5 Criteria Weights of Safety (SA)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **A1** | **A2** | **A3** | **A4** |  |  | **A1** | **A2** | **A3** | **A4** | **Criteria Weights (Wi)** |
| **A1** | 1.00 | 3.00 | 7.00 | 5.00 |  | **A1** | 0.60 | 0.67 | 0.58 | 0.36 | 0.55 |
| **A2** | 0.33 | 1.00 | 3.00 | 7.00 |  | **A2** | 0.20 | 0.22 | 0.25 | 0.50 | 0.29 |
| **A3** | 0.14 | 0.33 | 1.00 | 1.00 |  | **A3** | 0.09 | 0.07 | 0.08 | 0.07 | 0.08 |
| **A4** | 0.20 | 0.14 | 1.00 | 1.00 |  | **A4** | 0.12 | 0.03 | 0.08 | 0.07 | 0.08 |
| **SUM** | 1.68 | 4.48 | 12.00 | 14.00 |  |  | | | | | |

With the number of criteria is 4, the random index RI = 0.9

Lamda max = 1.68\*0.55 + 4.48\*0.29+12\*0.08+14\*0.08 = 4.19

CI = (4.19-4)/(4-1) = 0.06 và CR = 0.06/0.9 = 7% < 10% (qualified)

In the criterion of **Safety (SA)**, we can see that the weight of A1 is the largest, proving that "The logistics service provider ensures that the goods are not damaged during transportation" has the highest priority in the criteria of the Safety Scale.

**Criteria Weights of Price (PR)**

With the number of criteria is 4, the random index RI = 0.9

Lamda max = 1.68\*0.57 + 4.67\*0.24+9.33\*0.13+14\*0.07 = 4.18

CI = (4.18-4)/(4-1) = 0.07 và CR = 0.07/0.9= 7% < 10% (qualified)

The weight of B1 with the highest value proves that the criterion “The logistics service provider pricing that is commensurate with the quality of service provided by the company” has the most interest of service users in the criteria Price.

**Criteria Weights of Tangible Assets (TA)**

With the number of criteria is 4, the random index RI = 0.9

Lamda max = 1.73\*0.56 + 5.33\*0.19+7.33\*0.17+12\*0.08 = 4.17

CI = (4.17-4)/(4-1) = 0.06 và CR = 0.06/0.9= 6% < 10% (qualified)

The weight of C1 with the highest value proves that the criterion "The logistics service provider has a wide warehousing system" has the most interest of service users in the Tangible Assets criterion.

**Criteria Weights of Responsiveness Ability (RA)**

With the number of criteria is 4, the random index RI = 0.9

Lamda max = 1.81\*0.51 + 4.48\*0.3+7.33\*0.14+18\*0.05 = 4.25

CI = (4.17-4)/(4-1) = 0.09 và CR = 0.09/0.9= 9% < 10% (qualified)

The weight of D1 with the highest value proves that the criterion "The logistics service provider has the capability to consolidate goods and monitor them" has the most interest of service users in the Responsiveness Ability criterion.

**Criteria Weights of Customer Service (CS)**

With the number of criteria is 4, the random index RI = 0.9

Lamda max = 2.67\*0.36 + 2.67\*0.36+7.33\*0.17+10\*0.1 = 4.19

CI = (4.17-4)/(4-1) = 0.07 và CR = 0.07/0.9= 7% < 10% (qualified)

In the Customer Service criterion, we can see that the weight of E1, E2 is the highest, proving that “The logistics service provider offers e-commerce services and electronic documentation”, “The logistics service provider ensures on-time delivery as promised” has the highest priority in the criteria of the scale Customer Service.

**Criteria Weights of Referral through the Third Party (Intermediaries) (RP)**

With the number of criteria is 3, the random index RI = 0.58

Lamda max = 2.2\*0.48 + 2.33\*0.41+9\*0.11 = 3.04

CI = (3.04-3)/(3-1) = 0.03 và CR = 0.03/0.58= 3% < 10% (qualified)

In the criterion Referrals through a third party (Intermediaries), we can see that the weight of F1 is the highest, proving that "The logistics service provider is known through referrals from competitors" has the highest priority in the criteria of the scale Through Third Party Referral.

* + 1. ***Testing the research model through Regression analysis***

According to the above analysis results, 06 independent variables have a linear relationship with the dependent variable, which is the Demand for package logistics services in Can Tho. Based on the above results, SPSS statistical software was used to analyse multivariable regression for the dependent variable Demand for package logistics services (Table 4.6).

**Table 4.6 Model Summary**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model Summaryb** | | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .368a | .135 | .108 | .47883 | 1.888 |
| a. Predictors: (Constant), RP, PR, TA, SA, RA, CS | | | | | |
| b. Dependent Variable: DL | | | | | |

Results in table 4.5 shows that the results of the regression analysis showed that the Adjusted R square value was 10.8%. That is, the independent variables in the regression model under study can explain 10.8% of the dependent variable Demand for package logistics services in Can Tho.

Results in table 4.5 gives us the results of the F test to evaluate the fit hypothesis of the regression model. The F-test sig value is 0.000 < 0.05. Therefore, the regression model is suitable. Durbin–Watson values 1.5 < 1.888 < 2.5, so the results do not violate the assumption of first-order series autocorrelation (Yahua Qiao, 2011).

The normalised regression coefficient is commonly used to conclude the order of effects of the independent variables on the dependent variable. This happens because the variables participating in the regression model have similar units and standard deviations. The results of the multivariate regression analysis gave the results of the normalised regression coefficient Beta.

Since the normalised regression coefficients are all > 0, the independent variables in the regression analysis all have the same effect as the dependent variable, as originally hypothesised.

* + 1. ***Pearson correlation analysis to check the linear relationship***

The results of the linear correlation test between the variables show that the dependent variable on demand for using package logistics services in Can Tho is correlated with each independent variable, and the independent variables are correlated with each other. The correlation coefficient in the model can be seen as satisfying the condition -1 ≤ r ≤ +1 between the dependent variable of service demand and the independent variables in the matrix as follows: Responsiveness Ability (0.253 \*\*); Customer Service (0.201\*\*); Tangible Assets (0.229 \*\*); Referral through the Third Party (Intermediaries) (0.205\*\*). The correlation coefficient matrix shows that the explanatory variables listed above are all related to Demand for Package Logistics Services (DL). Parameters showing the degree of correlation of the variables are shown in table 4.7.

**Table 4.7 Correlations**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Correlations** | | | | | | | | |
|  | | DL | RA | CS | TA | PR | SA | RP |
| DL | Pearson Correlation | 1 | .253\*\* | .201\*\* | .229\*\* | .085 | .132 | .205\*\* |
| Sig. (2-tailed) |  | .000 | .004 | .001 | .229 | .062 | .004 |
| N | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| RA | Pearson Correlation | .253\*\* | 1 | .310\*\* | .143\* | .038 | .154\* | .174\* |
| Sig. (2-tailed) | .000 |  | .000 | .043 | .591 | .029 | .014 |
| N | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| CS | Pearson Correlation | .201\*\* | .310\*\* | 1 | .242\*\* | .092 | .213\*\* | .167\* |
| Sig. (2-tailed) | .004 | .000 |  | .001 | .195 | .002 | .018 |
| N | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| TA | Pearson Correlation | .229\*\* | .143\* | .242\*\* | 1 | .142\* | .042 | .099 |
| Sig. (2-tailed) | .001 | .043 | .001 |  | .044 | .552 | .165 |
| N | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| PR | Pearson Correlation | .085 | .038 | .092 | .142\* | 1 | .183\*\* | .046 |
| Sig. (2-tailed) | .229 | .591 | .195 | .044 |  | .010 | .522 |
| N | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| SA | Pearson Correlation | .132 | .154\* | .213\*\* | .042 | .183\*\* | 1 | .103 |
| Sig. (2-tailed) | .062 | .029 | .002 | .552 | .010 |  | .148 |
| N | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| RP | Pearson Correlation | .205\*\* | .174\* | .167\* | .099 | .046 | .103 | 1 |
| Sig. (2-tailed) | .004 | .014 | .018 | .165 | .522 | .148 |  |
| N | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). | | | | | | | | |
| \*. Correlation is significant at the 0.05 level (2-tailed). | | | | | | | | |

The results of table 4.7 shows that four variables, Responsiveness Ability, Customer Service, Tangible Assets, and Referral through the Third Party (Intermediaries) , all have a Sig. < 0.05, so they have a linear correlation with the dependent variable of demand for using package logistics services in Can Tho. The strongest linear correlation between service demand with the ability to respond variable at 0.253 and the weakest with the Customer Service variable at 0.201.

According to the result, variable CS has sig t-test values of 0.362 > 0.05, respectively so this variables have no impact on the dependent variable DL. The remaining variables, including RA, TA, and RP, all have sig t-test values less than 0.05. Therefore, the variables RA, TA, and RP all affect the dependent variable DL.

The level of positive linear influence of each factor on demand for using package Logistics services in Can Tho is different. The results of Standardized Coefficiens analysis are showed in table 4.8.

**Table 4.8 Standardized Coefficients analysis**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | | | |
| Model 1 | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
| B | Std. Error | Beta | Tolerance | VIF |
|  | (Constant) | 1.089 | .688 |  | 1.583 | .115 |  |  |
| RA | .160 | .066 | .173 | 2.416 | .017 | .877 | 1.140 |
| CS | .063 | .069 | .067 | .914 | .362 | .829 | 1.206 |
| TA | .155 | .065 | .167 | 2.388 | .018 | .918 | 1.089 |
| RP | .267 | .131 | .140 | 2.033 | .043 | .950 | 1.053 |
| a. Dependent Variable: DL | | | | | | | | |

There are three factors that will require separate studies to determine linear influence: Customer Service, Price, and Safety. There are three factors that determine the level of influence according to Table 4.8.

The result shows that Responsiveness Ability is the factor that has the strongest impact on the use of Package Logistics services in Can Tho, with a standardised regression coefficient of 0.173.

The factor of Tangible Assets has the second impact on the use of full-service Logistics in Can Tho, with a standardised regression coefficient of 0.167.

The third influencing factor is Referrals through a third party (Intermediaries), affecting the use of package logistics services in Can Tho with a standardised regression coefficient of 0.140.

Therefore, the hypothesis conclusion is as follows:

* H1: Responsiveness Ability affects the demand for using package logistics services in Can Tho (accepted).
* H2: Customer Service affects demand for package logistics services in Can Tho (rejected).
* H3: Tangible Assets affects the demand for package logistics services in Can Tho (accepted).
* H4: Price affects demand for package logistics services in Can Tho (rejected).
* H5: Safety affects demand for package logistics services in Can Tho (rejected).
* H6: Referrals through a third party (Intermediaries) affects the demand for using Package Logistics services in Can Tho (accepted).

# **5. CHAPTER V: CONCLUSIONS AND RECOMMENDATION**

*In this chapter, our thesis group summarizes all the main findings obtained from the previous chapters. Then, recommendations are proposed to help logistics service providers further improve the quality of their logistics services.*

1. 1. **Managerial implications**

It is proposed to apply to fruit logistics service businesses in Can Tho. Through the analysis in the research paper, it is possible to focus on 3 main factors: RA, TA and RP.

This can mean that customers will pay more attention to the Responsiveness Ability of the business because this factor is very important including the ability to collect, distribute, transport, monitor, documents and scope supplying goods at home and abroad.

Transport capacity is important in the fruit industry because delivering goods on time and ensuring quality to partners is extremely important, it requires the company to coordinate many different modes of transport to meet the needs of customers. The correct standards for each item vary depending on geographical location or weather. This will meet the product quality in the best way. Products will have the best price (for suppliers) and minimize risks during transportation. Because of that, customers pay great attention to this factor when it almost determines the profit of that shipment. Besides, the ability to collect, monitor and distribute goods is also one of the most interested requirements from customers because customers may need a large amount of goods in a short time. Finally, the scope of shipping, provided by this factor will determine the contract size of the company; The larger the shipping range, the greater the domestic and international relationships, the easier it is to find larger business partners.

Once a business achieves the ability to satisfy customers, it must have a scale in terms of tangible assets such as transportation vehicles, warehouses, etc. Only large enough scale and technologically advanced in many ways. Only then will the company be able to meet the needs of its customers. Having a full range of tangible means is also beneficial to the business itself when it helps businesses save costs, management time and map out the most optimal freight routes. In addition to developing forms and means of transport, the company should develop more cold storage services to preserve fruit better, the cold storage system develops in many places, the transportation will be easy and convenient. more convenient because it can be transported farther preserved for a longer time.

Referral through the Third Party (Intermediaries) such as customers who have used the service or client companies in the industry is one of the most prestigious forms of advertising because these are people who have personally experienced it, it makes new customers feel more confident and secure when coming to the business.

* 1. **Recommendation**

It is found that the factors of Responsiveness Ability, Tangible Assets, and Referrals through a third party (Intermediaries) have an impact on the dependent variable Demand for Package Logistics Services (DL). Thus, package logistics service providers can focus on improving and developing services based on the actions of the factors mentioned above. This will contribute to improving customer satisfaction when using full-service Logistics.

In terms of Responsiveness Ability, businesses need to ensure good consolidation and monitoring to ensure high accuracy in quality/quantity management. In addition, the fact that enterprises have the advantage of geographical scope (domestic and foreign) will also promote customer trust and satisfaction. Multimodal transport capability is also considered one of the important factors in choosing a package logistics service provider. In addition, businesses need to ensure the accuracy and completeness of papers and documents when requested by customers.

Regarding the factor of Tangible Assets, the supplier can focus on improving the quality of the warehouse system. The large area of the warehouse system will easily meet the needs of customers for transporting goods. In addition, due to the characteristics of fruit products, it is very important to have a warehouse with sufficient storage conditions. This is considered one of the prerequisite factors for customers to choose the service of the business. Because the warehouse is qualified for preservation, it will ensure that the product is fresh and retains its quality during transportation. In addition, with a large volume of export fruit products, the provision of specialised support vehicles will also promote customer service behaviour. Because this will help transportation be faster and save time thanks to the supporting machines and means. Modern electronic devices are also an equally important tangible means because they will help service providers save time when processing orders.

Referral through the Third Party (Intermediaries), according to the test results, the choice of a business providing full logistics services has also received a positive impact from the introduction of the third party. Therefore, enhancing cooperation and improving employee satisfaction in the enterprise will also contribute to "bringing" customers to use the enterprise's package logistics service.

Thus, through the research results, enterprises providing package logistics services will have more information. From there, improve service quality to bring the best experience to customers.

* 1. **Conclusion**

The study aims to provide information on the factors affecting the choice of using a package logistics service in Can Tho. The study can help businesses who are service providers have the most optimal development direction to influence customer satisfaction and improve business performance. The discovery of the scale of factors affecting the choice of package logistics services is based on qualitative research through the method of surveying experts' opinions and reviewing previous research documents. Preliminary assessment of the scale is carried out by interviewing and surveying 200 subjects, including Logistics service providers, those working in the field of Logistics, students/graduate students of Logistics, and suppliers fruit in Can Tho. Data were analysed and processed by using SPSS software to test Cronbach's Alpha coefficient, Exploratory Factor Analysis (EFA) factors affecting the use of Package Logistics in Can Tho. Preliminary quantitative research results are the basis for conducting official research to test the factors affecting the choice of using package logistics services for fruit export in Can Tho, with 07 factors affecting the use of package Logistics services, including 06 independent factors (23 observed variables) and 01 dependent factors (03 observed variables).

The official quantitative study aimed to test the survey database with a sample size of 200 in the research model of factors that affect the choice of using Package Logistics Services in Can Tho.

The objective of this study is to establish a theoretical basis for the factors that affect the choice of using Package Logistics Services in Can Tho. Building a research model of factors that affect the choice of using Package Logistics Services In Can Tho and determining the degree of influence of each factor; providing policy implications to develop the quality of package logistics services in Can Tho for. The study used two main methods, qualitative and quantitative, as follows:

* Qualitative research: studying relevant documents to create a premise as a scientific basis for proposing a theoretical research model.
* Quantitative research: Formal investigation of research subjects, descriptive statistics, Cronbach's Alpha test to confirm the reliability of the scale; EFA exploratory factor analysis to evaluate the value of the scale; Pearson correlation analysis to test the linear relationship between observed variables; Multivariable linear regression analysis.

The concepts stated in the research model have undergone the evaluation and testing process based on the survey data with a sample size of 200. The research model is consistent with market data and the hypotheses in the survey. The research model is accepted.

In addition, the study also analysed and assessed the current situation factors that affect the choice of using Package Logistics Services in Can Tho. Thereby, we can see the strengths or limitations of developing full-service Logistics in Can Tho. On the basis of combined research results, the topic has proposed policies to promote the development of package logistics services in Can Tho.

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# **APPENDIX 1**

**Table 1 Research sample information**

|  |  |  |
| --- | --- | --- |
| **Information** | | |
|  | **Quantity** | **Ratio %** |
| **Total sample** | **200** | **100%** |
|  | | |
| 1. **Occupation** | **200** | **100%** |
| * Student | 1 | 0,5% |
| * Undergraduate | 30 | 15% |
| * Public servants and public employees | 46 | 23% |
| * Workers - employees | 74 | 37% |
| * Business | 42 | 21% |
| * Housewife | 7 | 3,5% |
|  | | |
| 1. **Income** | **200** | **100%** |
| * Under 1 million | 7 | 3,5% |
| * 1 million - 5 million | 44 | 22% |
| * 5 million - 10 million | 85 | 42,5% |
| * 10 million - 20 million | 54 | 27% |
| * Above 20 million | 10 | 5% |

# **APPENDIX 2**

**Criteria Weghts:**

**Table 3 Criteria Weights of Price (GC)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **B1** | **B2** | **B3** | **B4** |  |  | **B1** | **B2** | **B3** | **B4** | **Criteria Weights (Wi)** |
| **B1** | 1.00 | 3.00 | 5.00 | 7.00 |  | **B1** | 0.60 | 0.64 | 0.54 | 0.50 | 0.57 |
| **B2** | 0.33 | 1.00 | 3.00 | 3.00 |  | **B2** | 0.20 | 0.21 | 0.32 | 0.21 | 0.24 |
| **B3** | 0.20 | 0.33 | 1.00 | 3.00 |  | **B3** | 0.12 | 0.07 | 0.11 | 0.21 | 0.13 |
| **B4** | 0.14 | 0.33 | 0.33 | 1.00 |  | **B4** | 0.09 | 0.07 | 0.04 | 0.07 | 0.07 |
| **sum** | 1.68 | 4.67 | 9.33 | 14.00 |  |  |  |  |  |  |  |

**Table 4 Criteria Weights of Tangible Assets (PTHH)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **C1** | **C2** | **C3** | **C4** |  |  | **C1** | **C2** | **C3** | **C4** | **Criteria Weights (Wi)** |
| **C1** | 1.00 | 3.00 | 5.00 | 5.00 |  | **C1** | 0.58 | 0.56 | 0.68 | 0.42 | 0.56 |
| **C2** | 0.33 | 1.00 | 1.00 | 3.00 |  | **C2** | 0.19 | 0.19 | 0.14 | 0.25 | 0.19 |
| **C3** | 0.20 | 1.00 | 1.00 | 3.00 |  | **C3** | 0.12 | 0.19 | 0.14 | 0.25 | 0.17 |
| **C4** | 0.20 | 0.33 | 0.33 | 1.00 |  | **C4** | 0.12 | 0.06 | 0.05 | 0.08 | 0.08 |
| **sum** | 1.73 | 5.33 | 7.33 | 12.00 |  |  | | | | | |

**Table 5 Criteria Weights of Responsiveness Ability (KNDU)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **D1** | **D2** | **D3** | **D4** |  |  | **D1** | **D2** | **D3** | **D4** | **Criteria Weights (Wi)** |
| **D1** | 1.00 | 3.00 | 3.00 | 7.00 |  | **D1** | 0.55 | 0.67 | 0.41 | 0.39 | 0.51 |
| **D2** | 0.33 | 1.00 | 3.00 | 7.00 |  | **D2** | 0.18 | 0.22 | 0.41 | 0.39 | 0.30 |
| **D3** | 0.33 | 0.33 | 1.00 | 3.00 |  | **D3** | 0.18 | 0.07 | 0.14 | 0.17 | 0.14 |
| **D4** | 0.14 | 0.14 | 0.33 | 1.00 |  | **D4** | 0.08 | 0.03 | 0.05 | 0.06 | 0.05 |
| **sum** | 1.81 | 4.48 | 7.33 | 18.00 |  |  | | | | | |

**Table 6 Criteria Weights of Customer Service (DVKH)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **E1** | **E2** | **E3** | **E4** |  |  | **E1** | **E2** | **E3** | **E4** | **Criteria Weights (Wi)** |
| **E1** | 1.00 | 1.00 | 3.00 | 3.00 |  | **E1** | 0.38 | 0.38 | 0.41 | 0.30 | 0.36 |
| **E2** | 1.00 | 1.00 | 3.00 | 3.00 |  | **E2** | 0.38 | 0.38 | 0.41 | 0.30 | 0.36 |
| **E3** | 0.33 | 0.33 | 1.00 | 3.00 |  | **E3** | 0.13 | 0.13 | 0.14 | 0.30 | 0.17 |
| **E4** | 0.33 | 0.33 | 0.33 | 1.00 |  | **E4** | 0.13 | 0.13 | 0.05 | 0.10 | 0.10 |
| **sum** | 2.67 | 2.67 | 7.33 | 10.00 |  |  | | | | | |

**Table 7 Criteria Weights of Referral through the Third Party (GT)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **F1** | **F2** | **F3** |  |  |  |  | **F1** | **F2** | **F3** | **Criteria Weights (Wi)** |
| **F1** | 1.00 | 1.00 | 5.00 |  |  |  | **F1** | 0.45 | 0.43 | 0.56 | 0.48 |
| **F2** | 1.00 | 1.00 | 3.00 |  |  |  | **F2** | 0.45 | 0.43 | 0.33 | 0.41 |
| **F3** | 0.20 | 0.33 | 1.00 |  |  |  | **F3** | 0.09 | 0.14 | 0.11 | 0.11 |
| **sum** | 2.20 | 2.33 | 9.00 |  |  |  |  |  |  |  |  |

# **PROPOSAL**

**Topic:** Analysis of factors affecting the choice of using **package logistics services** for the export process of fruit products in Can Tho.

**Research Objectives:**

* ***Common:*** Bringing valuable and useful information to help businesses who provide Package Logistics Services improve and upgrade services to reach more customers in the future.
* ***Specific objectives:***
* Collecting, reviewing documents and consulting experts: forming an overview research model.
* Expert consultation: forming a formal research model.
* Collecting data: obtaining a representative sample of the whole study population to determine a representative sample size of observations and to estimate a relatively accurate population.
* Data analysis: to provide results to support the proposed arguments. From there, it brings value to the research so that readers/researchers can have useful information to apply in business and business operations.

**Scope:** concentrated in Can Tho area and some provinces in the Mekong Delta.

**Object:**

* ***Research object:*** package logistics services in Can Tho.
* ***Survey objects:*** logistics service providers, people working in logistics, student, post-graduate students in the logistics industry, fruit distributors in Can Tho, and fruit wholesalers/retailers in Can Tho.

**Timeline**:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 |
| Document review |  |  |  |  |  |
| Seeking expert advice/opinion |  |  |  |  |  |
| Developing a research model |  |  |  |  |  |
| Seeking expert advice/opinion |  |  |  |  |  |
| Formulating an official research model |  |  |  |  |  |
| Conducting a survey to collect research data |  |  |  |  |  |
| Write chapter 1 content |  |  |  |  |  |
| Write chapter 2 content |  |  |  |  |  |
| Write chapter 3 content |  |  |  |  |  |
| Data processing |  |  |  |  |  |
| Write chapter 4 content |  |  |  |  |  |
| Write chapter 5 content |  |  |  |  |  |
| Write conclusion |  |  |  |  |  |

**Method:**

Qualitative research: Consulting experts working in the field of Logistics to get more information on factors affecting the choice of full service Logistics in Can Tho. In addition, the review of articles aims to provide groups of factors suitable to the research objectives.

Quantitative research: using the tool to test and determine the influencing factors through the value, reliability and relevance of the scales, test the research model and research hypothesis. Research data was collected by surveying individuals based on questionnaires on a 5-point Likert scale. It is then officially evaluated to confirm the reliability and validity of the scale. The data are processed on SPSS 20 software. The scales are further tested by Cronbach's Alpha coefficient, Bartlett test (used to consider the correlation matrix). Then continue to run EFA with Varimax rotation. Then the author uses linear regression to assess the impact of each factor on the choice of using package logistics services for the export process of fruit products in Can Tho.

**Raise an issue:**

Logistics services play a very important role in the economic development of a country. Because logistics services take on the role of domestic and foreign goods trade. In the current integration context, the demand for goods transportation is increasing to meet the demand for production and consumption in the world. Therefore, more and more effective methods and modern technologies are applied to the Logistics industry to bring the best economic development to countries. In a number of Southeast Asian countries (especially Vietnam). Logistics services always play an important role and are a matter of top concern to meet the needs of importing and exporting agricultural products in a good way. However, with the constant fluctuations in the market, the logistics service industry is also facing some difficulties and obstacles.

In Vietnam, according to a study by the Journal of Industry and Trade, the logistics industry has had a growth rate of about 14-16% with a scale of about 40-42 billion USD/year. Currently, Vietnam has about 3,000 enterprises participating in the logistics market. However, up to 89% of enterprises are small and medium-sized with a capital of less than 10 billion VND (An, 2022). Up to the present time, Vietnam's logistics enterprises still lack the connection. In general, logistics businesses in Vietnam mostly focus on their own strengths and choose to outsource other services. However, with the current trend, the overall service model (One-stop shop) is very popular, especially for Logistics services. Therefore, finding a package logistics service provider is still relatively difficult for business owners. Package logistics service can be understood as a service that provides businesses with necessary services for import and export such as packaging, labelling, transportation, cargo insurance, forwarding, loading and unloading, storage warehouse, and customs procedures, …

In fact, the single Logistics services, Logistics packages have the effect of reducing a lot of costs for papers and documents in international trade (Phan Van Hoa et al., 2014, 15). In addition, according to the practice of developed countries, with the use of package Logistics services enterprises can shorten the time from 5-6 months to 2 months (from receiving orders to delivery). Therefore, Logistics services have gradually transformed from traditional (only performing discrete services) to provide full service from warehouse to warehouse.

Although there are many opportunities, in general, the number of enterprises providing package logistics services in Vietnam is very small because of many barriers such as high service requirements, strong capital, and understanding of service processes, … Besides, understanding customer needs is also a big barrier. Because package logistics services are not yet popular in Vietnam, it is even more difficult to make surveys to assess customer needs. This is also a common problem in the Mekong Delta provinces (for agricultural products), especially in Can Tho. As a connection for trade and sale, Can Tho is considered an important place to meet the needs of import and export, especially fruit products. Therefore, this article will provide information and research results on "the factors affecting the choice of using package logistics services for the export process of fruit products in Can Tho" in order to bring the optimal solution for businesses in the coming time when the demand for full-service, high-quality, global logistics services is increasing.