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Logistics Service Quality, Customer Satisfaction, and Loyalty During the COVID-19 Pandemic in Vietnam

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Abstract

The goal of the study is to examine and assess how the factors of logistics service quality provided by logistics service providers influence customer loyalty and satisfaction in Vietnam. This study employs samples of the Kansei technique. The article's data was gathered through an online survey of 388 distinct Vietnamese customers who used logistics services before and during the Covid-19 outbreak. After the data was obtained, it was evaluated using SmartPLS 3.0's Cronbach's Alpha test and structural equation model (SEM). Staff service quality, operational service quality, and technical service quality are the three factors that determine the quality of logistics services in the study. Out of the 10 proposed hypotheses, research findings show that five are acceptable. The Covid-19 Pandemic in Vietnam had a significant impact on all dimensions, but it had no effect on how satisfied customers were with the logistics service providers. Nevertheless, loyalty is considerably influenced by only one factor, which is customer satisfaction, and customer trust moderates the relationship between these two factors. As a consequence of that, several managerial implications have been proposed to help logistics service providers improve their services to attract and keep Vietnamese customers using their service in the long term.

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1. Introduction

Along with the trend of international economic integration, logistics services are an integral element of international trade and the key to achieving strategic goals of developing the national economy. In today's competitive environment, not only the price but also the customer's perception of service quality greatly affects the customer's decision to choose a logistics service provider. Meidutė-Kavaliauskienė et al. (2014) argued that logistics service providers must provide services that meet customer expectations for them.

Since December 2019, the COVID-19 pandemic has brought many difficulties in all fields in the world (Cai et al., 2020). The governments in many countries, especially the Vietnamese government, have taken several solutions to prevent the spread of the disease such as closing borders, restricting manufacturing, lockdown, social distancing,

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and other solutions. (Del Rio-Chanona et al., 2020). The closure of the economy has caused the logistics system to be severely affected (Biswas & Das, 2020); therefore, it has reduced customer satisfaction and loyalty to logistics service providers (Tedjakusuma et al., 2020). Although the suppliers are gradually recovering, enterprises should work harder to take care of customers to achieve their satisfaction and loyalty. If they can do that, they will be successful in attracting new customers and retaining loyal customers.

This research deeply analyzes customer satisfaction and loyalty towards logistics service providers through the theoretical framework of logistics service quality and empirical research with the customers who have used logistics services. The study was conducted to assess the dimensions of logistics service quality and evaluate the impact of these factors on customer satisfaction and loyalty. The research results propose implications to improve customer satisfaction and loyalty toward Vietnamese logistics enterprises.

In general, Vietnam has not had research analyzing the influence of logistics service quality on customer satisfaction and loyalty during the COVID-19 pandemic, although logistics services have relatively changed after the development of the pandemic. After COVID-19, it is likely to continue changing due to different conditions. Therefore, the authors decided to choose this as the research topic. On the other hand, the Kansei technique was chosen by the authors because it is a superior approach to other similar methods to understand the customers' needs. Kansei techniques can analyze and understand customers' images to improve service quality for logistics service providers (Yeh & Chen, 2018). By using this technique, the authors can understand the feelings of customers when they use Vietnamese logistics services during the COVID-19 pandemic.

The article structure consists of five parts: (i) Introduction, (ii) Literature review and theoretical framework, (iii) Research methods, (iv) Research results and discussion, (v) Conclusion and suggestions.

2. Literature Review and Theoretical Framework

2.1. Logistics Service Quality

Logistics is the process of optimizing all factors such as location, timing, transportation, and storage of resources from the beginning of the supply chain to the production stages and through the transfer of goods to the final consumers through economic activities. According to the research of Limbourg et al. (2016), from the perspective of logistics service providers, the quality of logistics services is measured by the ability to meet the needs of customers' orders. Mentzer et al. (2001) defined logistics service quality in terms of two complementary factors which are customer

marketing services and physical distribution services. This definition is the basis for integrating marketing and logistics activities. Vinh et al. (2012) have proved that logistics service quality is the foundation of logistics enterprises and the level of logistics services provided by such enterprises determines customer satisfaction; therefore, determining their competitive advantage over other competitors.

2.2. Logistics during the COVID-19 Pandemic

Logistics issues during the COVID-19 pandemic need to be addressed urgently to reduce high-risk activities, prepare, respond to emergencies, and recover from the pandemic (Yu et al., 2020). The government has an essential role in this since they need to come up with policies as a solution for logistics due to the current epidemic situation. During the COVID-19 pandemic, with the state of social distancing in some areas, logistics-related issues have become more urgent to be solved due to movement restrictions, shortage of human resources, blocked areas, etc. that have broken the supply chain. Therefore, it is necessary to consider and evaluate convenient routes and warehouses to prevent the spread of the virus and fulfill daily necessities (Singh et al., 2020).

Nguyen (2022) and Nguyen et al. (2020) stated that many aspects of society were affected when the Coronavirus first appeared. The COVID-19 pandemic has put a strain on global manufacturing capacity and supply chains, and it is also the pandemic that has given up new opportunities for the logistics industry to grow as e-commerce has grown. This study found that the financial performance of 114 logistic firms listed on the Vietnam stock exchange has not improved. On the contrary, these businesses' performance, such as returns on assets, receivable turnover, and leverage, has decreased. COVID-19 had a global impact on supply chains, therefore export activity and international transportation were badly hampered, with only a few domestic logistic enterprises growing.

2.3. Customer Satisfaction

Oliver Richard (1997) argued that satisfaction is the consumer's response when their desire is met. Tse and Wilton (1988) re-defined satisfaction as the customer's response to the difference between wants and perceived levels after using a product/service. In another study, customer satisfaction was expressed through attitudes derived from what customers believe will happen (expectations) versus what they believe has happened (results) (Neal, 1999). Kotler et al (2001) also provided a clearer explanation that customers will not be satisfied if they perceive the quality of a product or service as not matching their expectations; in contrast, customers will be satisfied if quality and expectations match; and when

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quality exceeds expectations, customers will be extremely satisfied and excited.

2.4. Customer Loyalty

Traditionally, customer loyalty has been defined as a measure of behavior. Some researchers (Day, 1969; Jacoby & Chestnut, 1978) have found that limiting the definition of loyalty to behavior is inadequate. Therefore, Gremler (1995) proposed that the two aspects of attitude and behavior should be combined in any measure of loyalty. With the same opinion, Griffin (1995) defined a loyal customer as someone who buys regularly, recommends these products and services to others, and does not react to products and promotions from competitors. Customer loyalty is often operated as a conscious evaluation of the price/quality ratio or willingness to pay a higher price (Raju et al., 1990; Zeithaml et al., 1996).

2.5. Kansei Engineering

Kansei technique is defined as "A system of translating images or emotions into actual parts of design" (Nagamachi, 1995). The Kansei technique is considered a superior approach to other similar methods in terms of capturing the needs of consumers. This method can translate customer emotional needs into product attributes through engineering (Schütte et al., 2004). In addition, the Kansei technique can even modify and optimize those product attributes that are not directly visible (Dahlgaard et al., 2008).

The basic methodology of Kansei's technique is as follows (Schütte et al., 2004):

(1) Select and define the Kansei domain.
(2) Using the above Kansei domain as a starting point, collect Kansei words that describe that domain.
(3) Build the model.

In logistics, Kansei techniques can analyze and understand customers' images to improve service quality for logistics service providers (Yeh & Chen, 2018). In this research paper, the authors will use Kansei words from the results of previous studies to apply in the survey. This will help to understand the feelings of individual customers when they use logistics services provided by Vietnamese enterprises during the COVID-19 pandemic.

2.6. The Relationship Between Staff, Operational, Technical Logistics Service Quality, Customer Satisfaction, and Loyalty During the COVID-19 Pandemic

Saura et al (2008) did empirical research on a sample of 194 manufacturing enterprises in Spain, which shows that logistics service quality related to timeliness, staff, information, and quality of orders can have a significantly positive effect on customer satisfaction and loyalty. The result means that logistics services that provide the best quality to customers will lead to higher customer satisfaction and loyalty. Another corresponding study by Lisińska-Kuśnierz and Gajewska (2014) also explained that companies must gain customer satisfaction and loyalty by providing timeliness, completeness, and accuracy in transportation - guaranteeing the quality of logistics services. Therefore, it is essential to improve logistics service quality since it significantly improves customer satisfaction and loyalty.

Parasuraman et al. (1988), in one of their studies, confirmed the importance of staff service quality, because their attitudes and behaviors directly affect the customers' perceptions of logistics service quality. Staff service mainly refers to the image of logistics service staff, service attitude, and customer care. Research by Sricharoenpramong (2018) concluded that an employee must have effective communication skills, be respectful, and be ready to serve customers. Juga et al (2010) argued that employees must care about customers, have specialized knowledge in their field and be easy to contact when customers need it. Hence, if logistics staff can fully understand customers' requirements and provide courteous hospitable service, their satisfaction and loyalty will increase.

H1: Staff service quality during the COVID-19 pandemic has a significant influence on customer satisfaction.

Bowersox et al. (1999) suggested that in logistics service quality there is also an aspect of operational service quality. Their research shows that operating efficiently has a significant impact on loyalty through satisfaction. Operational service quality is the perception of customers about their service provider in performing logistics activities (Davis & Mentzer, 2006). According to previous research and empirical investigations, providing accurate and dependable logistics service is an indication of operational service quality. (Stank et al., 2003; Bowersox et al., 1999). Juga et al. (2010) also mentioned that the operational quality of service from provider to customers must be well-coordinated, on time, and with appropriate transportation capacity to provide customers with their property punctually without any damage.

H2: Operational service quality during the COVID-19 pandemic has a significant influence on customer satisfaction.

Some authors have identified technical service quality as one of the elements of service quality (Grönroos, 1984; Parasuraman et al., 1985, 1988, 1991). Derived from the research of Grönroos (1984) in the field of service quality,

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technical quality refers to service results including all the value that customers receive from the service of the enterprise. Juga et al. (2010) classified technical logistics services as technical services with accurate information, no errors, and good logistics structure in general technical services.

H3: *Technical service quality during the COVID-19 pandemic has a significant influence on customer satisfaction.*

Finally, Masudin (2013) explained the committed relationship between staff, operational and technical services in logistics, and customer satisfaction and loyalty. Therefore, the following hypotheses can be put forward:

H4: *Staff service quality during the COVID-19 pandemic has a significant influence on customer loyalty.*
H5: *Operational service quality during the COVID-19 pandemic has a significant influence on customer loyalty.*
H6: *Technical service quality during the COVID-19 pandemic has a significant influence on customer loyalty.*

2.7. The Relationship Between Customer Satisfaction and Loyalty During the COVID-19 Pandemic

Customer loyalty will raise profits by increasing revenue, reducing costs by attracting customers' attention, and reducing their price sensitivity (Hallowell, 1996). On the other hand, a high purchase rate due to customer loyalty will positively affect the company, including creating a positive image for the product so that customers are satisfied with the product and recommend it to potential customers (Bruhn & Grund, 2000). In other words, satisfaction and loyalty are interrelated and are not limited to the company's available customers, but they can also create and influence new customers. Bowen and Chen (2001) suggested that there are three approaches to measure customer loyalty and satisfaction as follows:

(1) Measuring customer behavior
(2) Measuring customer attitude
(3) Composite measurements

Hart and Johnson (1999) stated that customer loyalty lies in total satisfaction, so it is possible to propose the hypothesis that customer satisfaction has a strong impact on customer loyalty.

H7: *Customer satisfaction has a significant influence on customer loyalty during the COVID-19 pandemic.*

The findings of Sao Mai et al. (2021) confirmed that customer satisfaction was also an antecedent of customer loyalty. The research will help practitioners to recognize the significance of customer satisfaction in the relationship between customer satisfaction and customer loyalty. Therefore, managers should pay attention to customer satisfaction. Higher customer satisfaction will lead to higher customer loyalty**.** The regression analysis results also show that customer satisfaction and customer loyalty have a positive and strong correlation. It means that if a customer is satisfied with the e-banking services of one bank, he or she not only would continue their business with this bank but also introduce this bank to other customers**.**

2.8. Customer Trust Moderates

Customer trust is one of the variables moderating the relationship between customer satisfaction and customer loyalty, one of the keys to business success (Morgan & Hunt, 1994). If enterprises gain customer trust, they will get a positive long-term benefit from the relationship between them and the customers. In general, there are two components of customer trust: influence and perception. Influence is the sense of security that a customer has on the seller of a product or service, and this depends on the seller. Perception is the belief that customers have in companies, that are motivated and have the ability to provide the product that the customer needs.

H8: *Customer trust moderates the relationship between customer satisfaction and customer loyalty.*

2.9. Customer Trust

Customer trust and customer loyalty are crucial factors in service quality (Sarwar et al., 2012). Harris and Goode (2004) studied the relationship between customer trust and customer loyalty. According to their research, customer loyalty and trust are positively correlated. From this statement, a hypothesis can be made about the relationship between customer trust and customer loyalty during the COVID-19 pandemic as follows:

H9: *Customer trust has a significant influence on customer loyalty during the COVID-19 pandemic.*

2.10. Customer Commitment

Customer commitment is the customer's willingness to maintain a long-term and valuable relationship with the seller of the product or service, meaning that the customer is not easily attracted to other sellers that provide better deals (Morgan & Hunt, 1994). A customer's commitment to a

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company relates to the psychological state and motivation to maintain the customer's relationship and dedication to the service or product provider (Jones et al., 2010) (Figure 1).

H10: *Commitment has a significant influence on customer satisfaction and loyalty during the COVID-19 pandemic.*

3. Research Methods

3.1. Data Collection

The authors use research data including both primary and secondary data. Based on previous domestic and international research, the authors have conducted a survey by distributing online questionnaires. The result was 478 responses corresponding to 478 Vietnamese customers who have been using logistics services. After processing data, 388 responses were considered valid to continue analyzing. The results from analyzing data show that 69.3% of the survey participants are female. The majority of respondents

are young people from 18 to under 22 years old (accounting for 67%) and most of them are students (accounting for 71.1%). As a result, 66% of the participants earn less than 5 million VND every month. On the other side, 78.1% of the population have a university degree. Last but not least, 79.2% of survey respondents use logistics services 1–5 times per month. Based on those findings, the authors developed a study model that has seven primary factors and thirty observed variables that serve as scales for the main factors.

3.2. Data Processing

The authors use SPSS 20.0 for data processing which means data cleaning and analysis of the samples. In addition, other data analysis tools are used to process the data including testing the reliability of Cronbach's Alpha scale for independent variables, and dependent variables and analyzing SEM - structural equation modeling - by using Smart PLS 3.0.

Firstly, the authors used SPSS 20.0 to process the collected primary data. The data was processed to remove
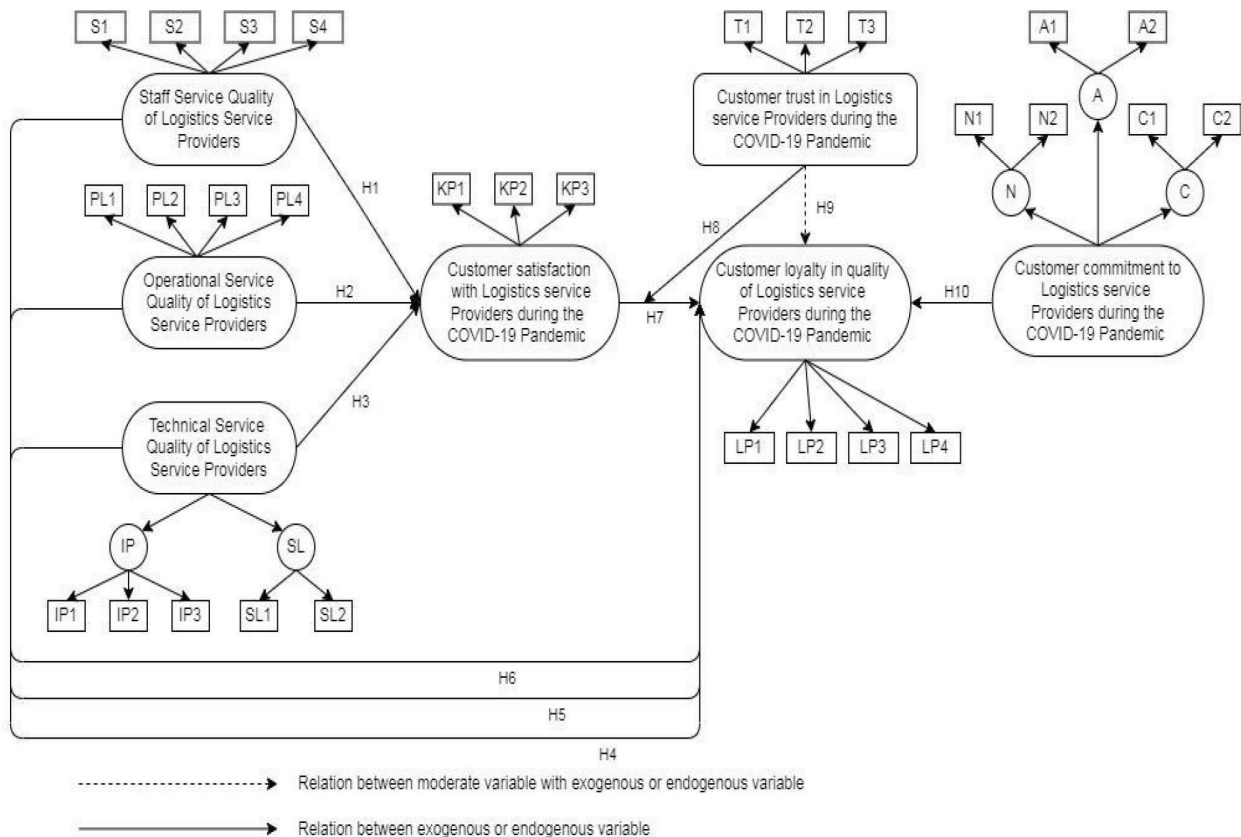

Figure 1: The Proposed Research Model

Table 1: Results of Cronbach Alpha Recapitulation and the Validity Test on the Indicator Construct with Variables

	Cronbach's Alpha	**rho_A**	**Composite Reliability (CR)**	**Average Variance Extracted (AVE)**
C	0.811	0.839	0.865	0.523
IPSL	0.786	0.806	0.854	0.543
KP	0.813	0.817	0.889	0.727
LP	0.813	0.813	0.877	0.641
PL	0.786	0.787	0.854	0.539
S	0.724	0.729	0.828	0.546
T	0.743	0.748	0.854	0.661
Mod. KPxLP	0.869	0.879	0.898	0.558

Table 2: *R*-Square Value

	R-square	*R*-square Adjusted
KP	**0.481**	0.477
LP	**1.000**	1.000

inappropriate samples and then analyzed. Finally, the process of analyzing data was done by following these steps: frequency statistics for qualitative variables; descriptive statistics for each group of factors; testing the reliability of the scale by Cronbach's Alpha test; analyzing SEM by using Smart PLS 3.0; testing the model's reliability by using the Bootstrap method.

4. Results and Discussion

Table 1 shows that all 8 factors meet the requirements of Cronbach's alpha coefficient >0.7. Besides, they also meet the requirements of CR synthesis reliability with a range from 0.828 to 0.898 and the factor S has the lowest reliability. On the other hand, the factors are calculated to converge with the AVE coefficient >0.5 with the level ranging from 0.523–0.727. In addition, factor C has the lowest convergence.

According to Table 2, the customer satisfaction variable's (KP) *R*-square value is 0.481. This value explains that the study variables explain 48.1% variance in the customer satisfaction (KP) variable, and the remaining is explained by other variables that are not discussed in this study. On the other hand, exogenous factors in the model account for 100% of the variation in the LP component. Although the KP factor is not optimal and the LP regression model's coefficient of determination is more than 0.5, a coefficient of 0.477 that is near 0.5 is acceptable.

Table 3 and Figure 2 show the bootstrap analysis results of the relationship between the two variables. The two variables are said to have a significant relationship if they

have a *P*-value of < 0.05. The inner model coefficient is significant if the *t*-value is >1.96 (Wong, 2013).

5. Conclusion and Policy Implication

Through the research process, the authors have tested 10 research hypotheses. The results of the study show that three factors greatly affect customer satisfaction: quality of staff service, quality of operational service, and quality of technical service. Meanwhile, in terms of factors significantly affecting loyalty, customer satisfaction is the only factor that has an impact on customer loyalty and customer trust is the moderating variable in their relationships.

The study provides an overview of the influence of logistics service quality on the satisfaction and loyalty of Vietnamese individual customers during the COVID-19 pandemic. Moreover, the authors chose to approach the Kansei technique - a method that is rarely used in Vietnam to show a new perspective on analyzing customers' needs. The results of the study show the dimensions of logistics service quality that logistics service providers need to pay attention to improve and enhance customer satisfaction and loyalty.

The recommendations will focus on developing the mentioned factors to improve customer satisfaction and loyalty. Some policy implications for Vietnamese logistics service providers are proposed by the authors as follows:

Firstly, regarding the staff service quality, Vietnamese logistics enterprises need to periodically train and improve the quality of human resources. If the employees are not experts in their field and their knowledge is not constantly updated, enterprises can not provide good customer service. Therefore, they will not have the opportunities to survive and develop in the increasingly competitive context.

Secondly, in terms of operational service quality, small and medium-sized logistics businesses need to open their own stores and agents to cooperate with other businesses for a large network and to gain more advantages and power.

Table 3: Results of Path Coefficients Between Latent Variables and Hypothesis Testing

Hypothesis		Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	*T* Statistics (|O/STDEV|)	*P*-values	Evidence
H1	S → KP	0.236	0.237	0.048	4.925	0.000	Significant
H2	PL → KP	0.267	0.270	0.061	4.369	0.000	Significant
H3	IPSL → KP	0.294	0.293	0.058	5.065	0.000	Significant
H4	S → LP	0.000	0.000	0.001	0.176	0.860	Not significant
H5	PL → LP	0.000	0.000	0.001	0.189	0.850	Not significant
H6	IPSL → LP	0.000	0.000	0.001	0.184	0.854	Not significant
H7	KP → LP	−0.554	−0.552	0.036	15.497	0.000	Significant
H8	Mod.KP x LP → LP	1.424	1.422	0.044	32.711	0.000	Significant
H9	T → LP	0.000	0.000	0.001	0.023	0.982	Not significant
H10	C → LP	0.001	0.001	0.001	0.762	0.446	Not significant

Figure 2: The Output Path Diagram

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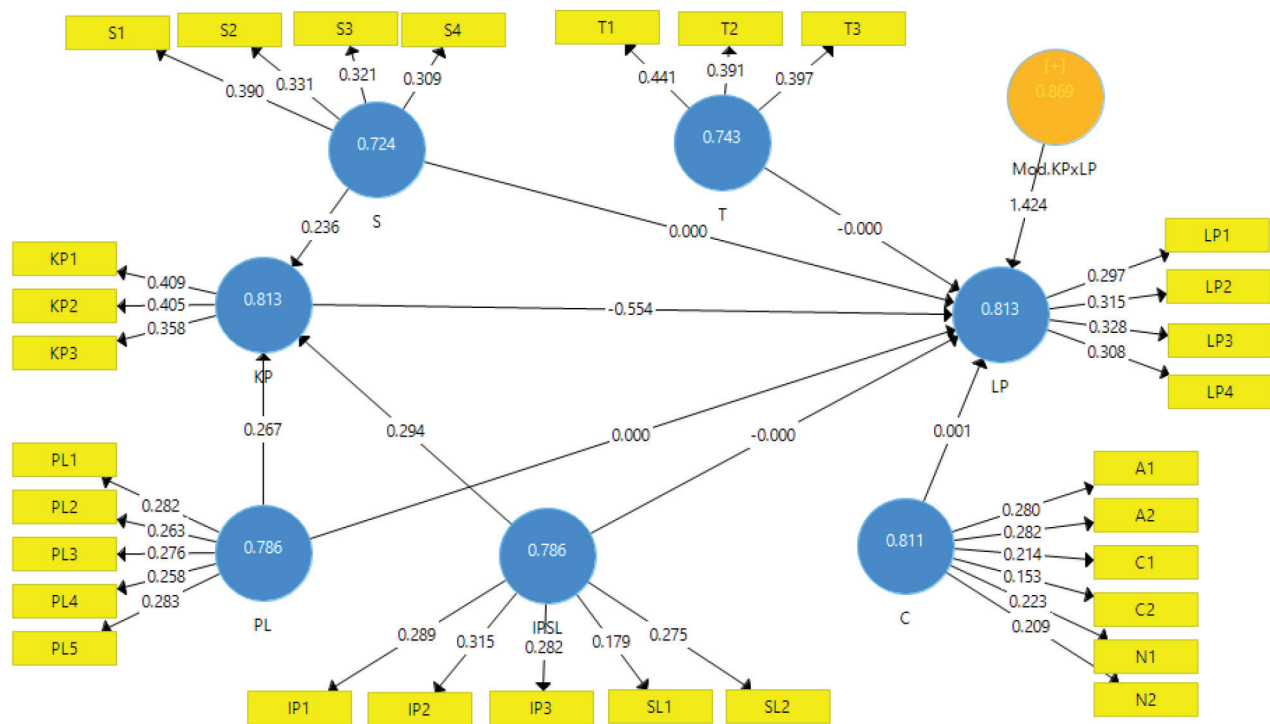
Furthermore, this also helps those enterprises to create opportunities to get information quickly and find partners to expand the business to enhance competitiveness with foreign enterprises and large-scale enterprises.

Finally, with regard to the quality of technical services. Logistics service providers need to apply digital technology in logistics management and operation. Finding and applying the right technology solutions helps businesses improve productivity, and service quality, optimize supply chains, and improve the competitiveness and reputation of logistics businesses in Vietnam.

The study still has its limitations and research gap that can be looked into in the future. First, the total of 388 samples is still not large enough and the research participants are individual customers without mentioning business or other kinds of customers, so the generalizability is not high. Second, to construct the research model for the topic, the factors of logistics service quality that have an impact on customer satisfaction and loyalty have been chosen. Therefore, there are still some other factors affecting customer satisfaction and loyalty that the authors have not mentioned. Finally, the study is limited to satisfaction and loyalty for logistics service providers for the logistics industry in general but has not mentioned any specific logistics service providers. Future studies can do deeper research to address the remaining limitations.

References

Bowen, J. T., & Chen, S. L. (2001). The relationship between customer loyalty and customer satisfaction. *International Journal of Contemporary Hospitality Management*, *13*(5), 213–217. https://doi.org/10.1108/09596110110395893

Bowersox, D. J., Closs, D. J., & Stank, T. P. (1999). *21st-century logistics: Making supply chain integration a reality*. NJ: Sage

Bruhn, M., & Grund, M. A. (2000). Theory, development, and implementation of national customer satisfaction indices: The Swiss Index of Customer Satisfaction (SWICS). *Total Quality Management*, *11*(7), 1017–1028. https://doi.org/10.1080/09544120050135542

Cai, J., Sun, W., Huang, J., Gamber, M., Wu, J., & He, G. (2020). Indirect virus transmission in a cluster of COVID-19 cases, Wenzhou, China, 2020. *Emerging Infectious Diseases*, *26*(6), 1343–1345. https://doi.org/10.3201/eid2606.200412

Dahlgaard, J. J., Schütte, S., Ayas, E., & Mi Dahlgaard-Park, S. M. (2008). Kansei/affective engineering design: A methodology for profound affection and attractive quality creation. *TQM Journal*, *20*(4), 299–311. https://doi.org/10.1108/17542730810881294

Davis, B. R., & Mentzer, J. T. (2006). Logistics service has driven loyalty: An exploratory study. *Journal of Business Logistics*, *27*(2), 53–73. https://doi.org/10.1002/j.2158-1592.2006.tb00217.x

Day. G. S. (1969). A Two-Dimensional Concept of Brand Loyalty, *Journal of Advertising Research, 9*(3), 29–35.

Gremler, D. D. (1995). *The effect of satisfaction, switching costs, and interpersonal bonds on service loyalty* [Doctoral Dissertation, Arizona State University].

Griffin, J. (1995). *Customer loyalty*. Florida: Jossey-Bass.

Grönroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing*, *18*(4), 36–44. https://doi.org/10.1108/EUM0000000004784

Hallowell, R. (1996). The relationships of customer satisfaction, customer loyalty, and profitability: An empirical study. *International Journal of Service Industry Management*, *7*(4), 27–42. https://doi.org/10.1108/09564239610129931

Harris, L. C., & Goode, M. M. H. (2004). The four levels of loyalty and the pivotal role of trust: A study of online service dynamics. *Journal of Retailing*, *80*(2), 139–158. https://doi.org/10.1016/j.jretai.2004.04.002

Hart, C. W., & Johnson, M. D. (1999). *Growing the trust relationship*. New York, NY: McGraw-Hill.

Jones, T., Fox, G. L., Taylor, S. F., & Fabrigar, L. R. (2010). Service customer commitment and response. *Journal of Services Marketing*, *24*(1), 16–28. https://doi.org/10.1108/08876041011017862

Juga, J., Juntunen, J., & Grant, D. B. (2010). Service Quality and its relation to satisfaction and loyalty in logistics outsourcing relationships. *Managing Service Quality*, *20*(6), 496–510. https://doi.org/10.1108/09604521011092857

Kotler, P., Armstrong, G., Saunders, J., & Wong, V. (2001). *Principles of marketing*. London: Prentice-Hall. https://doi.org/10.1108/ccij.2001.6.3.164.1

Limbourg, S., Giang, H. T. Q., & Cools, M. (2016). Logistics service quality: The case of Da Nang city. *Procedia Engineering*, *142*, 124–130. https://doi.org/10.1016/j.proeng.2016.02.022

Lisińska-Kuśnierz, M., & Gajewska, T. (2014). Customer satisfaction with the quality of the logistic services. *Log Forum*, *10*(1), 13–19.

Masudin, I. (2013). Facility location modeling in multi-echelon distribution system: A case study of Indonesian Liquefied petroleum gas supply chain. *Aceh International Journal of Science and Technology*, *2*(1), 37–43. https://doi.org/10.13170/aijst.2.1.595

Meidutė-Kavaliauskienė, I., Aranskis, A., & Litvinenko, M. (2014). Consumer satisfaction with the quality of logistics services. *Procedia-Social and Behavioral Sciences*, *110*(January 2014), 330–340. https://doi.org/10.1016/j.sbspro.2013.12.877

Mentzer, J. T., Flint, D. J., & Hult, G. T. M., (2001). Logistics service quality as a segment-customized process. *Journal of Marketing*, *65*(4), 82–104.

Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, *58*(3), 20–38. https://doi.org/10.1177/002224299405800302

Nagamachi, M. (1995). Kansei engineering: A new ergonomic consumer-oriented technology for product development. *International Journal of Industrial Ergonomics*, *15*(1), 3–11. https://doi.org/10.1016/0169-8141(94)00052-5

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Neal, W. D. (1999). Satisfaction is nice, but value drives loyalty. *Marketing Research*, *11*(1), 20.

Nguyen, D. T., Pham, V. T., Tran, D. M., & Pham, D. B. T. (2020). Impact of service quality, customer satisfaction, and switching costs on customer loyalty. *Journal of Asian Finance, Economics, and Business*, *7*(8), 395–405. https://doi.org/10.13106/jafeb.2020.vol7.no8.395

Nguyen, H. T. X. (2022). The effect of the COVID-19 pandemic on the financial performance of firms: Empirical evidence from Vietnamese logistics enterprises. *Journal of Asian Finance, Economics, and Business*, *9*(2), 0177–0183. https://doi.org/10.13106/jafeb.2022.vol9.no2.0177

Oliver Richard, L. (1997). *Satisfaction: A behavioral perspective on the consumer.* New York, NY: Irwin-McGraw-Hill.

Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991). Perceived service quality as a customer-based performance measure: An empirical examination of organizational barriers using an extended service quality model. *Human Resource Management*, *30*(3), 335–364. https://doi.org/10.1002/hrm.3930300304

Parasuraman, A., Zeithaml, V. A., & Berry, L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality, *64*(1), 12–40.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, *49*(4), 41–50. https://doi.org/10.1177/002224298504900403

Raju, J. S., Srinivasan, V., & Lal, R. (1990). The effects of brand loyalty on competitive price promotional strategies. *Management Science*, *36*(3), 276–304. https://doi.org/10.1287/mnsc.36.3.276

Maria del Rio-Chanona, R., Mealy, P., Pichler, A., Lafond, F., & Doyne Farmer, J. (2020). Supply and demand shocks in the COVID-19 pandemic: An industry and occupation perspective. *Oxford Review of Economic Policy, 36*(S1), S94–S137. https://doi.org/10.1093/oxrep/graa033

Sao Mai, D. A. M., & Tri Cuong, D. A. M. (2021). Relationships between service quality, brand image, customer satisfaction, and customer loyalty. *Journal of Asian Finance, Economics, and Business*, *8*(3), 0585–0593. http://doi.org/10.13106/jafeb.2021.vol8.no3.0585

Sarwar, M. Z., Abbasi, K. S., & Pervaiz, S. (2012). The effect of customer trust on customer loyalty and customer retention: A moderating role of cause-related marketing. *Global Journal of Management and Business Research*, *12*(6), 66–79.

Saura, I. G., Francés, D. S., Contri, G. B., & Blasco, M. F. (2008). Logistics service quality: A new way to loyalty. *Industrial Management and Data Systems, 108*(5), 650–668. https://doi.org/10.1108/02635570810876778

Schütte, S. T. W., Eklund, J., Axelsson, J. R. C., & Nagamachi, M. (2004). Concepts, methods and tools in Kansei engineering. *Theoretical Issues in Ergonomics Science*, *5*(3), 214–231. https://doi.org/10.1080/1463922021000049980

Singh, N., Tang, Y., Zhang, Z., & Zheng, C. (2020). COVID-19 waste management: Effective and successful measures in Wuhan, China. *Resources, Conservation, and Recycling*, *163*, 105071. https://doi.org/10.1016/j.resconrec.2020.105071

Sricharoenpramong, S. (2018). Service quality improvement of ground staff at Don Mueang International Airport. *Kasetsart Journal of Social Sciences*, *39*(1), 15–21. https://doi.org/10.1016/j.kjss.2017.12.001

Stank, T. P., Goldsby, T. J., Vickery, S. K., & Savitskie, K. (2003). Logistics service performance: Estimating its influence on market share. *Journal of Business Logistics*, *24*(1), 27–55. https://doi.org/10.1002/j.2158-1592.2003.tb00031.x

Tedjakusuma, A. P., Delananda, A., & Andajani, E. (2020). Pengaruh Logistics Service Quality Terhadap Customer Satisfaction dan Customer Loyalty Pada Industri Ritel di Indonesia. *KELUWIH: Jurnal Sosial Dan Humaniora*, *1*(1), 21–29. https://doi.org/10.24123/soshum.v1i1.2669

Thai, V., Ibrahim, K. B., Vidya, R., & Huang, H. Y. (2012). Competency profile of managers in the Singapore logistics industry. *Asian Journal of Shipping and Logistics*, *28*(2), 161–182. https://doi.org/10.1016/j.ajsl.2012.08.002

Tse, D. K., & Wilton, P. C. (1988). Models of consumer satisfaction formation: An extension. *Journal of Marketing Research*, *25*(2), 204–212. https://doi.org/10.1177/002224378802500209

Yeh, C. T., & Chen, M. C. (2018). Applying Kansei Engineering and data mining to design door-to-door delivery service. *Computers and Industrial Engineering*, *120*, 401–417. https://doi.org/10.1016/j.cie.2018.05.011

Yu, H., Sun, X., Solvang, W. D., & Zhao, X. (2020). Reverse logistics network design for effective management of medical waste in epidemic outbreaks: Insights from the coronavirus disease 2019 (COVID-19) outbreak in Wuhan (China). *International Journal of Environmental Research and Public Health*, *17*(5), 1770. https://doi.org/10.3390/ijerph17051770

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, *60*(2), 31–46. https://doi.org/10.1177/002224299606000203