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DEEP DIVING USING MIX METHOD IN EXPLAINING LCL REPEAT USING DECISION: NATIONAL OR INTERNATIONAL

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Abstract
This research is based on findings related to the provision of freight forwarding services that serve LCL cargo shipments to several regions using sea transportation. In handling LCL cargo shipments, of course, it does not always run smoothly; there are certainly obstacles faced by logistics service companies. These findings serve as scientific justification in the development of a research flow regarding the Decision to reuse LCL services by freight forwarders. This research will be conducted on export consumers who use national and international FF services implemented during the 2024 period. The data obtained will then be analyzed using the Structural Equation Modeling (SEM) approach. The results of the analysis indicate that the decision to use is influenced by satisfaction, where consumer satisfaction can be explained by factors such as delivery time and service quality, while the influence of perceived price cannot be proven. However, in the national and international FF groups, it shows that the decision to use is not influenced by satisfaction. Meanwhile, regarding the factors that influence satisfaction, national FF shows that there are no influencing factors, while international FF is only influenced by service quality and perceived price.
Keywords: delivery time, service quality, perceived price, satisfaction, repeat use.

1. INTRODUCTION

Exports can be made through seaports. Although it takes longer, shipping through seaports has several advantages, including: (1) Shipping can be done on a large scale, namely larger volumes and heavier tonnage, compared to other shipping methods, (2) Costs incurred are relatively more economical because shipping is done on a large scale, (3) Goods that can be shipped via sea shipping are more diverse. Shipping by sea consists of Full Container Loaded (FCL) and Less than Container Loaded (LCL) shipping. LCL is the export of goods by combining or consolidating several goods before export through shipping services or forwarders. LCL shipping is usually done when the goods to be exported are not too many in number, so it will be more effective and efficient if the goods are combined with other goods before export. However, the development of imports and exports compared to bulk and FCL, the transportation of container loads using the LCL method is the least / lowest (BPS, 2024).

The results of in-depth interviews conducted during preliminary research with a qualitative approach show that in the process of shipping goods, there are still many obstacles, where there are often delays in shipping goods between one shipper and another. It often happens that on the scheduled shipping day, sometimes there are still goods that have not been sent to the consolidation warehouse, so there will be delays in shipping, in addition to the limited time and knowledge of Freight Forwarders who are still lacking regarding logistics, differences in documents between exported and loaded goods with data, due to the lack of thoroughness of HR in making documents, as well as errors and delays in sending documents.

Another phenomenon found is the low capacity of human resources (HR) working in the freight forwarding sector when packing LCL cargo into containers. According to Lin & Chang (2018), one reason is that they do not have specialized training in logistics management, so their understanding and performance are largely learned by doing. The professionalism of customer service in managing and processing export-import documents, including good coordination with relevant parties, is a significant factor in the performance of freight forwarding companies. These findings are relevant to the World Bank survey on Indonesia's LPI, which has been declining since 2018 (World Bank, 2023).

Transportation costs, which are part of logistics costs, remain a major challenge for freight forwarding companies in Indonesia, which provide domestic and international shipping outsourcing services for manufacturing companies. Freight forwarders are required to provide the lowest possible costs to customers. Freight forwarding companies in Indonesia generally face challenges in meeting shipping demands that are not yet effective and efficient due to the limited capacity of all transportation modes. This situation prevents many Indonesian freight

forwarding companies from competing with logistics companies in other countries (Sumantri & Nugrahanto, 2018; Wati, 2018).

Regarding the number of users of LCL export services, the choice of LCL shipping pattern depends on customer demand. Previous research studies have shown that numerous studies have investigated the decision to use freight forwarding services, including those conducted by Nansi & Triwibowo (2022), Wulan & Hendrawan (2018), Sukarna et al. (2021), Susilawati & Suganda (2021), Akmal & Kurnia (2023), Arsyad (2021), and Kumar & Kamal (2019).

2. METHOD

The population and sample in this study were all export consumers in Indonesia who use LCL from national and international freight forwarders. Sampling was conducted using a purposive non-probability sampling approach, where the researcher determined that respondents were exporters, LCL users, and national or international freight forwarders as the research sample criteria. The data analysis technique used in this study was the Structural Equation Modeling approach.

Table 1 Measurement of Research Variables

Research Variables	Indicators	Source
Delivery Time	1. On-time delivery of goods 2. On-time loading of containers 3. On-time loading of ships 4. On-time departure of ships	Adopted from Sakti and Mahfudz (2018), Yuniati (2018), Hafizha (2019), and developed for this research (2024)
Service Quality	5. Tangibles 6. Reliability 7. Responsiveness 8. Assurance 9. Emphaty	Adopted from Kotler (2007), Aptaguna & Pitaloka (2016), and developed for this research (2024)
Perceived Price	10. Competitive prices 11. Affordable prices 12. Prices commensurate with the benefits received	Kotler & Amstrong (2008), Rianto, Setyawati, Rohaeni, & Woelandari (2022)
Kepuasan	13. Enjoy using it 14. No complaints 15. Tell good stories	Utomo & Putra (2024); Sakti & Mahfudz (2018); Priambodo, Vikaliana & Purnaya (2022); Prawira & Pranitasari (2020)
Repeat to Use	16. Re-transactional 17. Re-referential 18. Re-exploratory	Sukmana & Japarianto (2019); Chandra & Berlianto (2024); Firah & Siregar (2023)

3. RESULTS AND DISCUSSION

1. Confirmatory Analysis

Confirmatory analysis is a step taken to confirm the accuracy of the indicators in measuring research variables. Two outputs are used as a reference in measuring indicator accuracy: analyzing the Standardized Regression Weight value, presented in the following table:

Table 2 Output Analisis Konfirmatori

			Std Estimate	Estimate	S.E.	C.R.	P
X1	<--	Delivery_Time	.885	1.000			
X2	<--	Delivery_Time	.890	1.004	.053	18.781	***
X3	<--	Delivery_Time	.899	1.015	.054	18.752	***
X4	<--	Delivery_Time	.845	.930	.056	16.635	***

			Std Estimate	Estimate	S.E.	C.R.	P
X5	<--	Service_Quality	.663	1.000			
X6	<--	Service_Quality	.822	1.307	.125	10.465	***
X7	<--	Service_Quality	.887	1.454	.134	10.835	***
X8	<--	Service_Quality	.836	1.467	.142	10.316	***
X9	<--	Service_Quality	.659	1.017	.120	8.487	***
X10	<--	Perceived_Price	.790	1.000			
X11	<--	Perceived_Price	.830	1.014	.086	11.813	***
X12	<--	Perceived_Price	.822	1.065	.092	11.569	***
X13	<--	Users_Satisfaction	.628	1.000			
X14	<--	Users_Satisfaction	.681	.913	.127	7.194	***
X15	<--	Users_Satisfaction	.811	1.167	.165	7.076	***
X16	<--	Repeat_ToUse	.751	1.000			
X17	<--	Repeat_ToUse	.856	1.186	.107	11.105	***
X18	<--	Repeat_ToUse	.807	1.078	.099	10.911	***

Source: Primary Data Processed, 2025

Referring to the results of the confirmatory analysis presented in the table above, it can be seen that each indicator produces a Standardized Regression Weight value > 0.5, which means that the indicators adopted and developed from previous studies are appropriate indicators to measure the research variables examined in this study.

2. Hypothesis Testing

At this stage, two tests are carried out, namely testing the feasibility of the research model and testing the research hypothesis.
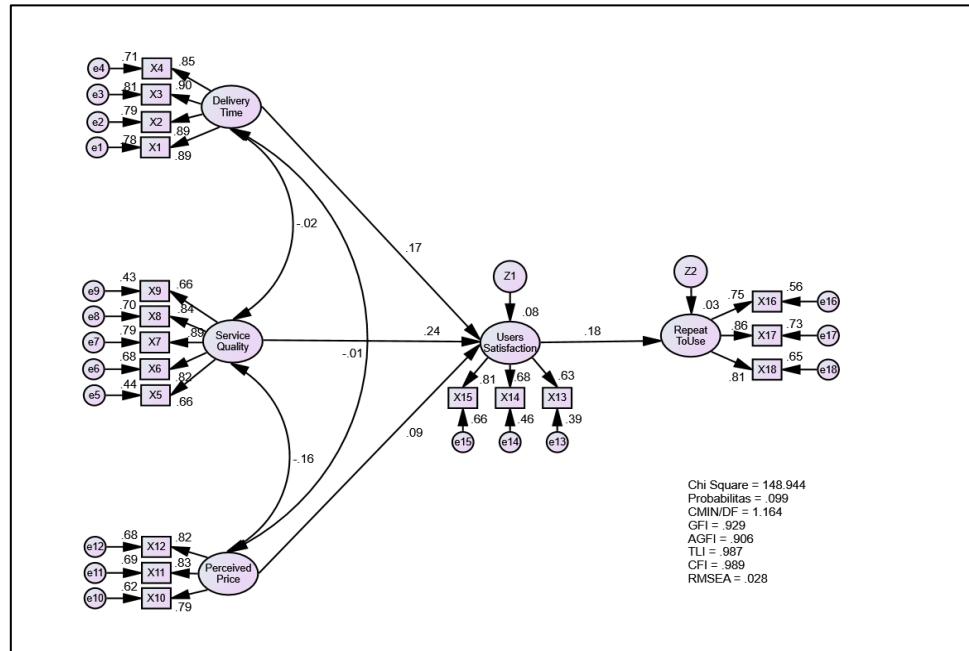

Figure 2 Research Model Testing Results
Source: Primary Data Processed, 2025

Testing the empirical model developed in this study yielded a calculated Chi-Square value of 148.944 and a probability value of 0.099. This calculated Chi-Square value is smaller than the required Chi-Square table value (155.404) with a probability value greater than 0.05, thus concluding that the research model is an appropriate model.

After testing the model's feasibility, the influence between variables can be examined, as presented in the following table:

Table 3 Hypothesis Testing

			Std Estimate	Estimate	S.E.	C.R.	P
Users_Satisfaction	<---	Delivery_Time	.170	.106	.051	2.083	.037
Users_Satisfaction	<---	Service_Quality	.236	.206	.078	2.641	.008
Users_Satisfaction	<---	Perceived_Price	.088	.065	.062	1.040	.298
Repeat_ToUse	<---	Users_Satisfaction	.177	.226	.110	2.055	.040

Source: Primary Data Processed, 2025

Testing the influence between variables was conducted by analyzing their probability values and Critical Ratio (CR).

a. The probability value for the delivery time and satisfaction test was 0.037 < 0.05, and the CR was 2.083, indicating that delivery time was statistically proven to have a positive effect in explaining LCL service user satisfaction.

b. The probability value for the service quality and satisfaction test was 0.008 < 0.05, and the CR was 2.641, indicating that service quality was statistically proven to have a positive effect in explaining LCL service user satisfaction.

c. The probability value for the perceived price and satisfaction test was 0.298 > 0.05, and the CR was 1.040, indicating that perceived process was not statistically proven to have an effect in explaining LCL service user satisfaction.

d. The probability value for the consumer satisfaction and repeat use test was 0.040 < 0.05, and the CR was 2.055, indicating that consumer satisfaction was statistically proven to have a positive effect in explaining repeat use.

Comparative Testing

Comparative testing is a test conducted to determine the differences in research models and the influence of variables based on the characteristics of freight forwarders that provide LCL services.

Table 5 Hypothesis Testing Based on Freight Forwarder Characteristics

			National				Internasional			
			Std. Estimate	C.R.	P	Findings	Std. Estimate	C.R.	P	Findings
Users Satisfaction	←	Delivery Time	.202	1.654	.098	NS	.042	.401	.689	NS
Users Satisfaction	←	Service Quality	-.038	-.312	.755	NS	.489	3.217	.001	S
Users Satisfaction	←	Perceived Price	-.040	-.317	.752	NS	.314	2.371	.018	S
Repeat ToUse	←	Users Satisfaction	-.158	-1.283	.200	NS	.226	1.7763	.078	NS

Source: Primary Data Processed, 2025

Based on the results of the inter-influence test on each group, it can be seen that in the National Freight Forwarder providing LCL services, delivery time, service quality, and perceived price are not factors that influence consumer satisfaction, and consumer satisfaction is not a factor that drives the decision or behavior to reuse LCL services from national freight forwarders. Meanwhile, from the results of the International Freight Forwarder group testing that provides LCL services, it can be seen that the decision to reuse is not influenced by consumer satisfaction, and this consumer satisfaction is formed from the existence of service quality and perceived price factors.

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DISCUSSION

Testing the influence of satisfaction on reuse decisions shows that satisfaction has a significant positive effect on reuse decisions. The formation of consumer satisfaction is explained by the following factors:

Delivery Time for Satisfaction

This study empirically tested the variables of delivery time and intention to use. The results indicate that delivery does not significantly influence interest in using freight forwarders with a Less than Container Load (LCL) system. This means that fast or slow delivery times do not impact consumer interest in freight forwarding services with a Less Than Container Load (LCL) system. This study's findings are inconsistent with those of several previous researchers who have examined similar variables. For example, a study by Bahrun (2023) showed that delivery time has a significant influence on explaining consumer interest in using freight forwarders. Similarly, the results of research by Firmansyah, Hariasih & Indayani (2023) and Khurrohman & Junaidi (2023) also support this finding.

Empirical testing of the service quality and intention to use variables conducted in this study shows that service quality has a significant positive effect on the intention to use a freight forwarder with a Less than Container Load (LCL) system. This means that the quality of service provided is very important in determining whether or not consumers are interested in using a freight forwarder with a Less Than Container Load (LCL) system.

Service Quality on Satisfaction

Service quality is closely related to the comparison between customer expectations and the reality of the service received by customers or consumers. The better the service quality, the better the consumer's decision in selecting services, so it can be said that there is a positive influence between service quality and service selection decisions. If a company has good service quality, consumers will know information, seek information about a particular product or brand, and respond well to each alternative of that product easily. Research conducted by Chen et al. (2018) concluded that service quality has a positive influence on purchasing decisions. This statement is also consistent with research by Zitkien et al. (2017), which states that service quality has a positive influence on purchasing decisions. Research by Rizkalla and Suzanawaty (2012) states that there is a positive influence between service quality and decisions to select goods or services.

Perceived Price on satisfaction

The influence of price perception on interest in using freight forwarders using less than container load (LCL) systems was tested in this study using empirical data. The test results showed that price perception did not have a significant positive effect on interest in using freight forwarders using less than container load (LCL) systems. This means that the price or the amount of sacrifice incurred by consumers does not affect consumer satisfaction with export services provided by freight forwarders using less than container load (LCL) systems.

4 CONCLUSION

Based on the results of this study, it shows that the decision to reuse Freight Forwarders with the Less than Container Load (LCL) system, both nationally and internationally, is not influenced by consumer satisfaction factors. This is due to the characteristics of the Less Than Container Load (LCL) system as a suitable shipping option for exporters, allowing them to send goods in small quantities without having to rent a full container.

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