BUILDING CUSTOMER LOYALTY THROUGH SERVICE QUALITY AND CUSTOMER SATISFACTION: AN EMPIRICAL STUDY AT PT IPC TPK TANJUNG PRIOK

Oleh
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Abstract

This study examines the effect of service quality—comprising the dimensions of resources, outcomes, processes, management, and image—on customer loyalty at PT IPC TPK Tanjung Priok, with customer satisfaction as a mediating variable. The research is motivated by suboptimal service delivery, weak regulations, limited satisfaction surveys, and inconsistent prior findings. A descriptive–causal quantitative design was applied to 107 purposively selected port service users, who completed a structured questionnaire. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Results indicate that all five service quality dimensions jointly and significantly shape perceived service quality (significant of outer loading, non-multicollinearity, and strong redundancy result). Furthermore, service quality has a very strong positive effect on customer satisfaction, and customer satisfaction fully mediates the relationship between service quality and customer loyalty in this research. These findings affirm that enhancing loyalty can be achieved only through the improvement of satisfaction. Practically, port management should upgrade facilities and staff competencies, optimize operational processes, strengthen management practices, and build institutional image to foster long-term satisfaction and loyalty.

Keywords: Service Quality, Customer Satisfaction, Customer Loyalty.

INTRODUCTION

Logistics services at Indonesian ports face a range of structural and operational challenges that undermine their effectiveness and global competitiveness. Two of the most fundamental issues are prolonged export–import handling times and high logistics costs.

Prolonged handling times arise from the complex, multi-layered bureaucracy involving customs, quarantine, and port authorities, each requiring separate verifications before cargo can move forward. These poorly standardized and non-integrated administrative procedures extend dwelling time, causing congestion at gates and incurring demurrage fees. Moreover, third-party logistics providers (freight forwarders and land-transport operators) exhibit uneven levels of competence, while port-access roads, cranes, and berth facilities remain insufficient. Partial adoption of information technology—where document processing, clearance requests, and reporting often remain manual—further slows operations, and weak domestic feeder-route connectivity forces vessels to wait or sail under-loaded.

These delays can be seen in the container throughput at PT IPC TPK Tanjung Priok, which fell from 7.67 million TEUs in 2019 to 6.14 million TEUs by 2022. While the COVID-19 pandemic played a major role, internal

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service-quality shortcomings in areas such as turnaround speed, administrative efficiency, facility availability, and customer responsiveness also contributed (Pelindo, 2022).

Competition among container terminals has intensified since the consolidation of state-owned port operators. Applying Porter's five forces, terminals face pressure from existing rivals, new entrants, substitute routes, supplier bargaining power, and buyer bargaining power. In response, many terminals have invested in upgraded equipment, implemented systematized services, and offered competitive pricing (Hlaca et al., 2008; Kim et al., 2022). However, price cuts without corresponding efficiency gains erode profit margins.

Regulatory implementation remains uneven. There is no uniform standard for permissible truck age, operator certification is patchy, and coordination among police, customs, and quarantine agencies is weak. The result is chronic truck queues, inefficient cargo handling, and elevated accident risks.

Prior studies confirm that modernizing infrastructure, upskilling human resources, and integrating information systems can directly and indirectly enhance cargo-handling efficiency, customer satisfaction, and loyalty (Ricardianto et al., 2022). The research results of (Yeo et al., 2015) reveal that Port Service Quality (PSQ) is a construct of five factors namely resources, results, process, management, image and responsibility. Improved PSQ positively affects customer satisfaction. Yet the literature also reports mixed findings on the mediating role of customer satisfaction in the service-quality–loyalty relationship (Abdul Rahman et al., 2024; Yeo et al., 2015) and some research suggests that satisfaction alone does not translate into loyalty without intermediary relational bonds (Balci et al., 2019).

Indeed, PT IPC TPK's internal Customer Satisfaction Survey (SKP) recorded Likert scores of 4.74–4.75 in 2021–2022 (Pelindo, 2022), yet it did not measure loyalty or repurchase intention—critical metrics for long-term success in a hyper-competitive environment.

A framework proposed in the (Gupta et al., 2023) highlighted that process efficiency and managerial integration are key drivers of perceived value and loyalty. Furthermore, a study in (Zairi, 2020) confirmed that digital platforms significantly enhance satisfaction in shipping services, especially in post-pandemic settings. Complementarily, a study (Pedraza-Rodríguez et al., 2024) revealed that perceived customer value, including emotional and functional benefits, is a strong predictor of loyalty among port users. These findings support the integration of strategic, digital, and customer-centric dimensions in evaluating port service quality.

Service quality is widely understood as the gap between customer expectations and perceptions of actual service delivery. (Tjiptono & Chandra, 2016) describe it as the benefits a firm offers, judged by comparing what customers expect with what they receive; emphasize that these expectations derive from past experience, word-of-mouth, and advertising (Kotler & Keller, 2005) and (Phan et al., 2021) similarly frames it as the comparison between ideal and actual service. While (Notteboom et al., 2022) stress that meeting both owner targets and user expectations requires strategic resource allocation, governance adjustments, and continuous reorganization.

Customer satisfaction, meanwhile, is the evaluation of the extent to which actual service meets or exceeds expectations (Le et al., 2020; Yeo et al., 2015). Studies supply chains (Uvet, 2020)—show that service-quality measurement tools must be adapted to each industry's socio-cultural and economic context. As a multidimensional construct, port service quality thus encompasses infrastructure, operational procedures, human resources, and integrated

information systems, all assessed by how well they fulfill or surpass user expectations.

In recent studies, scholars have adapted and refined the ROPMIS framework to better capture the operational nuances of container terminals. (Abdul Rahman et al., 2024; Thai, 2008; Yeo et al., 2015)each evaluate port service quality dimensions—originally defined as Resources, Outcomes, Process, Management, Image, and Social Responsibility—through tailored indicators that reflect facility complexity (e.g., labeling systems, storage, distribution centers, and hinterland connectivity). This approach ensures that assessments align with real-world port functions. Furthermore, evidence shows that when service quality meets or exceeds user expectations, customer satisfaction logically increases and drives both repeat usage intentions and positive word-of-mouth recommendations(Abdul Rahman et al., 2024). Key related studies include (Cho, 2014; Yeo et al., 2015) on service quality's impact on satisfaction and loyalty; (Syayuti et al., 2023) on the role of human resources and physical assets; (Awad et al., 2024) on advanced operational facilities such as wireless-controlled tower cranes; (Caruana, 2002) on outcome metrics like handling speed and reliability.

Customer satisfaction reflects the gap between what customers expect and what they actually receive, shaping their future behaviors and loyalty. (Yeo et al., 2015) define it as the ongoing willingness of individuals to repeatedly return to a service provider to fulfill their needs and complete payment. (Bayraktar et al., 2012) view satisfaction as the key driver of customer loyalty, evident through increased sales via word-of-mouth recommendations. (Kotler & Armstrong, 2017) describe it as the positive or negative feeling arising from comparing expectations with actual service performance, influencing purchase decisions and long-term loyalty. (Anderson et al., 2007; Huma et al., 2020) similarly emphasize that satisfaction results from the customer's emotional response to the match—or mismatch—between expected and experienced service quality. Together, these perspectives underscore that achieving or surpassing customer expectations is essential for fostering repeat use and advocacy in port services.

Customer satisfaction in port services hinges on five core dimensions. First, port infrastructure—the availability and suitability of terminals and handling equipment—directly impacts operational efficiency (Notteboom et al., 2022). Second, service management reflects the professionalism and competence of both field operators and administrative personnel, enhanced by targeted training in port operations and quality systems (Thai, 2016). Third, overall satisfaction measures the gap between customer expectations and actual service performance (Tjiptono, 2016). Fourth, trust in referrals captures customers' willingness to recommend port services to business partners, signaling strong, mutually beneficial relationships (Anderson et al., 2007). Finally, reuse intention denotes a customer's likelihood to return for future services, underscoring long-term loyalty and competitive advantage (Huma et al., 2020).

Customer loyalty in port services manifests as a deep, enduring commitment to repeatedly use the same provider despite alternatives. It encompasses habitual repeat purchases (Goranda et al., 2021; Griffin, 2015), a firm intention to continue the relationship even when situational factors or competing marketing efforts arise (Davis-Sramek et al., 2009), and the preference for the current provider over other available options (Shankar et al., 2003). Loyal customers exhibit positive attitudes, resistance to switching, and willingness to recommend services through word-of-mouth (Davis-Sramek et al., 2009), making loyalty a cornerstone of service-marketing strategy and long-term business viability (Caruana, 2002). Ultimately, loyalty reflects both the behavioral intention to repurchase and the emotional bond that sustains

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ongoing patronage and advocacy (Huma et al., 2020; Jang et al., 2013).

This study aims to determine and analyze the direct and indirect effects of Port Service Quality to Customer Loyalty Through Customer Satisfaction. Empirically the objectives of this study cover the nine hypotheses testing as follows. The hypothesis in this study can be formulated as follows:

H1: *Service quality has a positive effect on customer satisfaction*
H2: *Customer satisfaction has a positive effect on customer loyalty*
H3: *Service quality has a positive direct effect on customer loyalty*
H4: *Customer satisfaction mediates the relationship between service quality and customer loyalty.*

Based on hypothesis, the conceptual model is shown below (Figure 1).

METHODS

The target audience for this survey was customers directly involved in PT IPC TPK Tanjung Priok consists of 107 companies including importers and exporters at container terminals. The technique sampling in this study NonProbability sampling. It is a sampling technique in which not every member of the population has an equal or known chance of being selected as a sample. The author took a sample of 107 respondents from a population representative of importers and exporters companies, with one respondent for each company. Data analysis techniques in this study used Partial Least Square (PLS) with the help of Smart PLS 4.0 software. The part of the model was using Structural Equation Modeling Equations (SEM) by two stage approach of reflective-formative constructs. modeling.

RESULTS AND DISCUSSION

In this study, a technical analysis of the data using partial least squares SEM is performed. The analysis consists of two sub-models, there are measurement model or external model in First Stage consisted by formative construct (Figure 2) and the structural model or internal model in Second Stage consisted by reflective-formative constructs (Figure 3).

1. Variable Measurement

The results of the redundancy analysis show an R^2 value of 0.721 for the reflective global construct representing the formative construct of service quality. This confirms strong convergent validity (Table 1).

Multicollinearity testing using Variance Inflation Factor (VIF) revealed that all indicators fall below the critical threshold of 5, with the highest values being 3.537 (X2.7) and 3.373 (X5.6), indicating no multicollinearity (Table 2). All indicators showed significant contributions to their respective constructs (outer loading ≥ 0.5, $p < 0.05$) confirming that the measurement model has satisfactory indicator validity and external reliability for further analysis in SEM-PLS (Table 3).

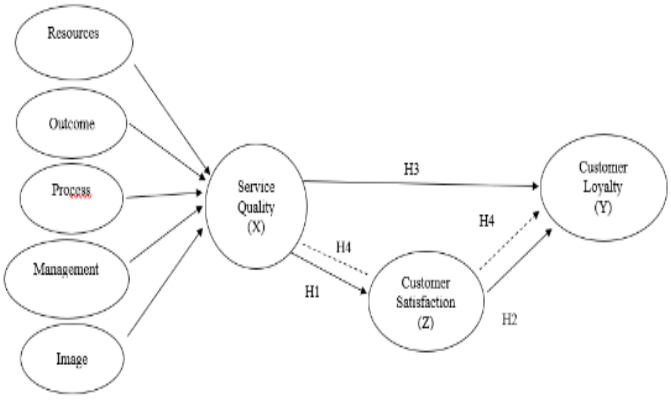

Figure 1. Conceptual Model

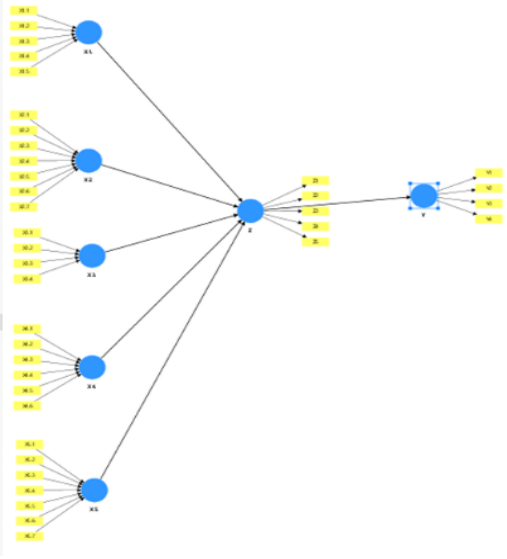

Figure 2. PLS SEM First Stage Model

Table 1. Redundancy Analysis

	R-square	R-square adjusted
Z	0.721	0.707

Table 2 VIF First Order

	VIF
X1.1	2.297
X1.2	2.502
X1.3	2.177
X1.4	2.100
X1.5	1.891
X2.1	2.117
X2.2	2.291
X2.3	2.150
X2.4	2.627
X2.5	2.235
X2.6	2.300
X2.7	3.537
X3.1	2.666
X3.2	1.816
X3.3	1.424
X3.4	2.361
X4.1	2.080
X4.2	2.159
X4.3	1.970

Table 3.Outer Loading First Order

	Original sample	T-Stat	P -values
X1.1 -> X1.	0.820	10.748	0.000
X1.2 -> X1.	0.909	11.691	0.000
X1.3 -> X1.	0.734	7.882	0.000
X1.4 -> X1.	0.791	10.329	0.000
X1.5 -> X1.	0.796	11.126	0.000
X2.1 -> X2.	0.555	4.936	0.000
X2.2 -> X2.	0.807	10.411	0.000
X2.3 -> X2.	0.830	12.262	0.000
X2.4 -> X2.	0.774	12.143	0.000
X2.5 -> X2.	0.787	11.485	0.000
X2.6 -> X2.	0.681	8.287	0.000
X2.7 -> X2.	0.671	9.396	0.000
X3.1 -> X3.	0.848	12.330	0.000
X3.2 -> X3.	0.920	18.693	0.000
X3.3 -> X3.	0.667	5.312	0.000
X3.4 -> X3.	0.751	8.610	0.000
X4.1 -> X4.	0.542	4.434	0.000
X4.2 -> X4.	0.818	13.115	0.000
X4.3 -> X4.	0.838	14.971	0.000
	Original Sample	**T-Stat**	**P-values**
X4.4 -> X4.	0.629	6.234	0.000
X4.5 -> X4.	0.824	14.386	0.000
X4.6 -> X4.	0.776	12.074	0.000
X5.1 -> X5.	0.768	11.602	0.000
X5.2 -> X5.	0.539	5.694	0.000
X5.3 -> X5.	0.705	8.897	0.000
X5.4 -> X5.	0.554	6.470	0.000
X5.5 -> X5.	0.677	6.713	0.000
X5.6 -> X5.	0.842	12.832	0.000
X5.7 -> X5.	0.796	13.979	0.000
Y1 <- Y	0.876	34.275	0.000
Y2 <- Y	0.707	7.633	0.000
Y3 <- Y	0.839	18.960	0.000
Y4 <- Y	0.825	18.063	0.000
Z1 <- Z	0.793	16.946	0.000
Z2 <- Z	0.785	13.801	0.000
Z3 <- Z	0.803	14.354	0.000
Z4 <- Z	0.733	14.910	0.000
Z5 <- Z	0.841	19.826	0.000

Structural Measurement

In the second-order formative construct, all indicators demonstrated significant contributions, with outer weights ≥ 0.2 and *p*-values < 0.05. Most indicators exceeded 0.25, indicating strong relevance to the construct (Table 4). Multicollinearity was not a concern, as all VIF values were below the threshold of 5. Thus, the measurement model is valid, reliable, and suitable for further analysis (Table 5).

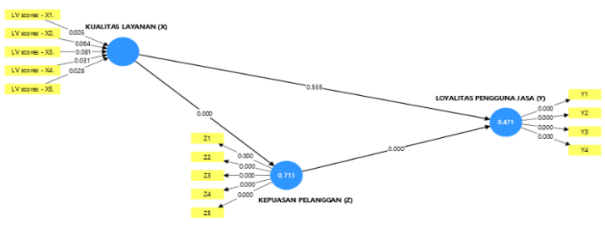

Figure 3. PLS SEM Second Stage Model

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Table 4. Outer Weight Second Order

	Original sample	Sample mean	Std deviation	T statistics	P values
LV scores - X1.-> LV scores - X	0.238	0.237	0.093	2.575	0.010
LV scores - X2.-> LV scores - X	0.268	0.266	0.088	3.055	0.002
LV scores - X3.-> LV scores - X	0.200	0.205	0.079	2.520	0.012
LV scores - X4.-> LV scores - X	0.257	0.257	0.090	2.869	0.004
LV scores - X5 -> LV scores - X	0.281	0.272	0.103	2.714	0.007
Y1 <- Y	0.407	0.411	0.048	8.550	0.000
Y2 <- Y	0.217	0.214	0.049	4.404	0.000
Y3 <- Y	0.284	0.282	0.032	8.881	0.000
Y4 <- Y	0.305	0.305	0.031	9.801	0.000
Z1 <- Z	0.253	0.253	0.022	11.463	0.000
Z2 <- Z	0.241	0.239	0.021	11.470	0.000
Z3 <- Z	0.238	0.239	0.019	12.461	0.000
Z4 <- Z	0.255	0.255	0.023	11.212	0.000
Z5 <- Z	0.277	0.279	0.026	10.758	0.000

Table 5 VIF Second Order

	VIF
LV scores - X1.	1.560
LV scores - X2.	1.919
LV scores - X3.	1.873
LV scores - X4.	2.262
LV scores - X5.	2.872
Y1	1.999
Y2	1.559

Table 6 VIF Second Order

	VIF
Y3	2.090
Y4	1.856
Z1	1.892
Z2	1.936
Z3	2.068
Z4	1.545
Z5	2.253

Table 7. Farnell Larcker

	Y	Z
Y	0.814	
Z	0.686	0.791

For the second-order reflective constructs—Customer Satisfaction (Z) and User Loyalty (Y)—all indicators exhibited high and significant outer loadings (≥ 0.7; $p < 0.001$), confirming on convergent validity (Table 6).
The AVE values were 0.626 for Z and 0.663 for Y, both exceeding the 0.50 minimum threshold (Table 8).
The Fornell-Larcker criterion also showed for Z (0.791) and Y (0.814) were greater than their inter-construct correlations (Figure 7).
Reliability testing confirmed internal consistency, with Cronbach's Alpha values of 0.850 (Z) and 0.832 (Y). Composite reliability for both constructs also exceeded the recommended 0.70, the constructs are reliable and consistent (Table 8).

Table 8 Outer Loading Second Order

	Original sample	T statistics	P values
LV scores - X1. -> LV scores - X	0.727	10.491	0.000
LV scores - X2. -> LV scores - X	0.806	17.696	0.000
LV scores - X3. -> LV scores - X	0.731	11.574	0.000
LV scores - X4. -> LV scores - X	0.847	17.964	0.000
LV scores - X5. -> LV scores - X	0.880	22.226	0.000
Y1 <- Y	0.876	34.281	0.000
Y2 <- Y	0.707	7.638	0.000
Y3 <- Y	0.839	18.970	0.000
Y4 <- Y	0.825	18.056	0.000
Z1 <- Z	0.793	17.062	0.000
Z2 <- Z	0.785	13.791	0.000
Z3 <- Z	0.803	14.368	0.000
Z4 <- Z	0.733	15.167	0.000
Z5 <- Z	0.841	20.044	0.000

In the structural model, the R^2 value for customer satisfaction (Z) was 0.716, indicating that 71.6% of its variance is explained by service quality. For user loyalty (Y), R^2 was 0.471, suggesting that satisfaction significantly contributes to loyalty (Table 8). However, the direct effect of service quality on loyalty was minimal (path coefficient = 0.090; $p = 0.555$) and value $f^2 = 0.004$ (Figure 6), suggesting no significant direct relationship (Figure 6). In contrast, service quality had a strong and

significant effect on satisfaction ($\beta = 0.845$; $p < 0.001$), and satisfaction significantly influenced loyalty ($\beta = 0.608$; $p < 0.001$) (Figure 7).

Table 9 Path Analysis

	Orig.Sample	T-Stat	P values
LV Scores X -> Y	0.090	0.591	0.000
LV Scores X -> Z	0.845	31.944	0.000
Z -> Y	0.608	4.291	0.000

	f-square
LV scores - X -> Y	0.004

Figure 6.

The mediation analysis confirmed that customer satisfaction fully mediates the relationship between service quality and loyalty. The indirect effect of service quality on loyalty through satisfaction was significant ($\beta = 0.514$; $T = 4.241$; $p < 0.001$). This indicates that service quality affects user loyalty only through satisfaction. It shows that the constructs in the study are valid with each construct has value greater than 0.50 (Table 9).

Table 10 Specific Indirect Effect

	Orig. Sample	T-Stat	P Value
LV Scores-X -> Z -> Y	0.514	4.241	0.000

Table 11 Convergent Validty

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Y	0.832	0.876	0.887	0.663
Z	0.850	0.852	0.893	0.626

Table 12 R Square

	R-square	R-square adjusted
Y	0.471	0.466
Z	0.716	0.702

H_1: *Service quality has a positive effect on customer satisfaction*

Service quality powerfully drives customer satisfaction (path coefficient = 0.845; T-Statistic= 31.944; p < 0.001), explaining 71.6% of its variance ($R^2 = 0.716$). Reliability (Cronbach alpha = 0.850) and validity (AVE = 0.626; Fornell–Larcker = 0.791; HTMT= 0.783) are excellent. Integrated enhancements across all five dimensions yield substantial gains in satisfaction.

H_2: *Customer satisfaction has a positive effect on customer loyalty*

Customer satisfaction (Z) has a strong, significant impact on service user loyalty (Y) with a path coefficient of 0.608 (T = 4.291, p < 0.001). This large effect—above the 0.50 SEM-PLS threshold—means that higher satisfaction at PT IPC Peti kemas Pelabuhan Tanjung Priok leads to greater loyalty, supporting the idea that satisfied customers are more likely to remain loyal and recommend services.

H_3: *Service quality has a positive direct effect on customer loyalty*

The direct effect of service quality on loyalty is non-significant (value estimate = 0.090; T = 0.591; p = 0.555; $f^2 = 0.004$), indicating that quality alone does not directly foster loyalty without satisfaction as mediator.

H_4: *Customer satisfaction mediates the relationship between service quality and customer loyalty.*

Full mediation analysis confirms that customer satisfaction fully mediates the service quality–loyalty link (indirect effect = 0.514; T = 4.241; p < 0.001), explaining 47.1% of loyalty variance ($R^2 = 0.471$). Strengthening resources, outcomes, processes, management, and image thus elevates satisfaction, which in turn fosters lasting loyalty.

CONCLUSION

This study concludes that five key dimensions of service quality—resources, outcomes, processes, management, and corporate image—each significantly influence service quality at PT IPC Petikemas Tanjung Priok. Enhanced service quality has a strong and positive impact on customer satisfaction. Furthermore, customer satisfaction fully mediates the relationship between service

quality and customer loyalty, indicating that service quality alone does not directly foster loyalty. Instead, it influences loyalty primarily through the satisfaction pathway. These findings highlight the critical role of customer satisfaction in translating service quality improvements into long-term user loyalty. The remaining variance in loyalty may be influenced by external factors such as responsiveness, personalization, trust, digital access, pricing, and transaction convenience, as supported by prior research.

DAFTAR PUSTAKA

[1] Abdul Rahman, N. S. F., Balasa, A. P., Othman, M. K., & Alemu, A. E. (2024). Port service quality assessment using a ROPMIS modeling: seaports scenario in a Gulf country. *Maritime Business Review*, *9*(1), 17–34.https://doi.org/10.1108/MABR-03-2023-0027

[2] Anderson, S. W., Baggett, S., & Widener, S. K. (2007). The Impact of Service Operations Failures on Customer Satisfaction: Evidence on How Failures and Their Source Affect What Matters to Customers. *Managerial Marketing*. https://api.semanticscholar.org/CorpusID:8392571

[3] Awad, A. H., Saraya, M. S., Mostafa Elksasy, M. S., Ali-Eldin, A. M. T., & Abdelsalam, M. M. (2024). A quality control system for logistic ports goods movable harbor cranes based on internet of things and deep learning. *Indonesian Journal of Electrical Engineering and Computer Science*, *33*(2), 862–878. https://doi.org/10.11591/ijeecs.v33.i2.pp862-878

[4] Balci, G., Caliskan, A., & Yuen, K. F. (2019). Relational bonding strategies, customer satisfaction, and loyalty in the container shipping market. *International Journal of Physical Distribution & Logistics Management*, *49*, 816–838. https://doi.org/10.1108/IJPDLM-02-2019-0051

[5] Bayraktar, E., Tatoglu, E., Turkyilmaz, A., Delen, D., & Zaim, S. (2012). Measuring the efficiency of customer satisfaction and loyalty for mobile phone brands with DEA. *Expert Systems with Applications*, *39*(1), 99–106. https://doi.org/https://doi.org/10.1016/j.eswa.2011.06.041

[6] Caruana, A. (2002). Service loyalty. *European Journal of Marketing*, *36*(7/8), 811–828. https://doi.org/10.1108/03090560210430818

[7] Cho, H. S. (2014). Determinants and Effects of Logistics Costs in Container Ports: The Transaction Cost Economics Perspective. *The Asian Journal of Shipping and Logistics*, *30*(2), 193–215. https://doi.org/10.1016/J.AJSL.2014.09.004

[8] Davis-Sramek, B., Droge, C., Mentzer, J. T., & Myers, M. B. (2009). Creating commitment and loyalty behavior among retailers: What are the roles of service quality and satisfaction? *Journal of the Academy of Marketing Science*, *37*(4), 440–454. https://doi.org/10.1007/s11747-009-0148-y

[9] Goranda, I. R., Nurhayati, P., & Simanjuntak, M. (2021). Analysis of Consumer Satisfaction and Loyalty Factors with CRM Approach in Agribusiness E-commerce Company. *Journal of Consumer Sciences*, *6*(2), 111–128. https://doi.org/10.29244/jcs.6.2.111-128

[10] Griffin, J. (2015). *Customer Loyalty: Building and Retaining Customer Loyalty.* https://api.semanticscholar.org/CorpusID:169833187

[11] Gupta, A., Singh, R. K., Mathiyazhagan, K., Suri, P. K., & Dwivedi, Y. K. (2023). Exploring relationships between service quality dimensions and customers satisfaction: empirical study in context to Indian logistics service providers. *The International Journal of Logistics Management*, *34*(6), 1858–1889. https://doi.org/10.1108/IJLM-02-2022-0084

[12] Hlaca, P., Novak, M., & Svoboda, J. (2008). Service Infrastructure Improvements and Systematized Service Provision in Competitive Logistics Markets. *Journal of Transport Management*, *14*(4), 265–280. https://doi.org/10.1016/j.jtrangeo.2008.05.014

[13] Huma, S., Ahmed, W., Ikram, M., & Khawaja, M. I. (2020). The effect of logistics service quality on customer loyalty: case of logistics service industry. *South Asian Journal of Business Studies*, *9*(1), 43–61. https://doi.org/10.1108/SAJBS-10-2018-0114

[14] Jang, H. M., Marlow, P. B., & Mitroussi, K. (2013). The effect of logistics service quality on customer loyalty through relationship quality in the container shipping context. *Transportation Journal*, *52*(4), 493–521. https://doi.org/10.5325/transportationj.52.4.0493

[15] Kim, S. H., Lee, J. E., & Park, Y. K. (2022). Price Promotion Strategies and Service Systemization in Port Logistics Competition. *Maritime Economics & Logistics*, *24*(3), 301–320. https://doi.org/10.1057/s41278-021-00196-7

[16] Kotler, P., & Armstrong, G. (2017). *Principles of Marketing* (17, Ed.). Pearson Education.

[17] Kotler, P., & Keller, K. L. (2005). *Marketing Management* (12th ed.). Prentice Hall. https://archive.org/details/marketingmanagem12edkotl_e7n4

[18] Le, D. N., Nguyen, H. T., & Hoang Truong, P. (2020). Port logistics service quality and customer satisfaction: Empirical evidence from Vietnam. *Asian Journal of Shipping and Logistics*, *36*(2), 89–103.

[19] https://doi.org/10.1016/j.ajsl.2019.10.003

[20] Notteboom, T., Pallis, A., & Paul Rodrigue, J. (2022). *Port Economics, Management and Policy* (First Edition). Routledge. https://doi.org/https://doi.org/10.4324/9780429318184

[21] Pedraza-Rodríguez, J. A., García-Briones, M. Y., & Mora-Márquez, C. (2024). Exploring the importance of the perceived value of port users: evidence from the public port system in Ecuador. *Journal of Economics, Finance and Administrative Science*, *29*(57), 146–165. https://doi.org/10.1108/JEFAS-09-2022-0214

[22] Pelindo. (2022, December 6). IPC Terminal Petikemas Gelar Survei Pelanggan Tahun 2022. *Pelindo II*, 1–1. https://ipctpk.co.id/ipc-terminal-petikemas-gelar-survei-pelanggan-tahun-2022/

[23] Phan, T. M., Thai, V. V., & Vu, T. P. (2021). Port service quality (PSQ) and customer satisfaction: an exploratory study of container ports in Vietnam. *Maritime Business Review*, *6*(1), 72–94. https://doi.org/10.1108/MABR-01-2020-0003

[24] Ricardianto, F., Santoso, I., & Munir, A. (2022). Port Service Performance, Occupational Safety and Security Impact on Cargo Handling Productivity and User Satisfaction. *Journal of Maritime Studies*, *10*(2), 120–138.

https://doi.org/10.1234/jms.v10i2.2022.005

[25] Shankar, V., Smith, A. K., & Rangaswamy, A. (2003). Customer satisfaction and loyalty in online and offline environments. *International Journal of Research in Marketing*, *20*(2), 153–175. https://doi.org/https://doi.org/10.1016/S0167-8116(03)00016-8

[26] Syayuti, F., Thamrin, M., Majid, S. A., Sihombing, S., & Liana, E. (2023). Produktivitas Terminal dan Kinerja Operasional di Pelabuhan Tanjung Priok Terminal Productivity and Operational Performance in Tanjung Priok Port. *Jurnal Manajemen Transportasi & Logistik (JMTRANSLOG)*, *10*(02). https://journal.itltrisakti.ac.id/index.php/jmtranslog

[27] Thai, V. V. (2008). Service quality in maritime transport: Conceptual model and empirical evidence. *Asia Pacific Journal of Marketing and Logistics*, *20*(4), 493–518. https://doi.org/10.1108/13555850810909777

[28] Thai, V. V. (2016). The impact of port service quality on customer satisfaction: The case of Singapore. *Maritime Economics & Logistics*, *18*(4), 458–475. https://doi.org/10.1057/mel.2015.19

[29] Tjiptono, F. (2016). *Service, Quality & Satisfaction*. https://www.researchgate.net/publication/316890418

[30] Tjiptono, F., & Chandra, G. (2016). *Service, Quality & Satisfaction*.

[31] Uvet, H. (2020). Importance of Logistics Service Quality in Customer Satisfaction: An Empirical Study. *Operation on Supply Chain Management*, *13*(1), 1–10.

[32] Yeo, G. T., Thai, V. V., & Roh, S. Y. (2015). An Analysis of Port Service Quality and Customer Satisfaction: The Case of Korean Container Ports. *The Asian Journal of Shipping and Logistics*, *31*(4), 437–447.https://doi.org/10.1016/J.AJSL.2016.01.002

[33] Zairi, M. (2020). Service quality and customer satisfaction in the digital era. *Journal of Service Management*, *31*(5), 765–780. https://doi.org/10.1108/JOSM-07-2020-0248