THE EFFECT OF SERVICE QUALITY ON PORT OPERATIONAL PERFORMANCE AND SATISFACTION: A STUDY OF TRANSPORTATION AND PASSENGER COMPANIES AT LUWUK PORT IN BANGGAI DISTRICT

Wahyu Wibowo[1)], Edhie Budi Setiawan[2)] Lira Agusinta[3)] Ridho Bramulya Ikhsan[4)]

[123]Trisakti Institute of Transportation and Logistics, Jakarta, Indonesia
E-mail: fathyya08@gmail.com, edhie.budi@gmail.com, lir4agusinta@gmail.com
[2]Management Department, Binus Online Learning, Bina Nusantara University, Jakarta
E-mail: ridho.bramulya.i@binus.ac.id

Abstract

Understanding the behavior of freight and passenger transport companies as users of port services is essential to evaluate service quality performance because it will have an impact on port operational performance and also port service user satisfaction (companies and passengers). Therefore, this study aims to examine the impact of service quality on port operational performance and customer satisfaction from the perspective of port service users. This research uses qualitative and quantitative methods. The quantitative method uses PLS-SEM, while the qualitative method uses IPMA. Data were collected from two sample groups by distributing questionnaires to 50 freight transportation companies and 50 passengers of Luwuk Port in Banggai Regency. The results prove that service quality positively and significantly affects port operational performance and satisfaction in the sample group of freight and passenger transportation companies. The results of the IPMA analysis on both research samples still require improvement to improve port operational performance and port service user satisfaction.

Keywords : *Service quality, operational performance, satisfaction*

1. PENDAHULUAN [Times New Roman 12 bold]

The impact of globalization has brought massive changes to the world's economic system, including Indonesia's. In addition, the strategic environment of business activities has also changed, characterized by open competition, thus encouraging companies to innovate in meeting business needs. According to Subekti and Jayawati (2017), the national industry in creating products and services at a relatively lower cost than competitors still needs to be implemented. This is because the performance of the logistics system in Indonesia is still relatively far from what is expected.

The National Logistics System (Sislognas) is vital in aligning developments between economic zones and regions to realize an inclusive economic system. Geographically, Indonesia has more than 17,000 islands with abundant natural resources, and it should be a supplier country of natural resources and processing industry products, as well as a large market in the global supply chain. Therefore, an integrated system is needed to ensure that the process of distributing goods (materials and finished products) runs well to meet market needs in Indonesia.

The logistics discourse will involve sea transportation as part of the logistics process. Sea transportation services in terms of ship, goods, and port services are continuously growing to serve the movement of goods and passengers from one island to another. Various efforts have

been made to improve transportation facilities and infrastructure and logistics services, improve connectivity and linkages between transportation facilities and infrastructure, multimodal, facilitate overall transportation accessibility, and further liberalize seaport zones or airfields in order to realize the capabilities of the trading area in the ASEAN region.

Based on 2020 Logistic Performance Index data, the logistics performance index in Indonesia tends to fluctuate. In 2014, it was in the 53rd position with an index score of 3.08, then fell to the 63rd position with a score of 2.98, although there was an improvement in the index of 3.15 in 2018. Furthermore, according to World Bank data in 2023, logistics costs in 2019 reached 23.2% and in 2022 reached 22% of the selling value of goods, with the most extensive contributions being the cost of shipping goods, the cost of storing goods and inventory, and administrative costs (World Bank, 2023).

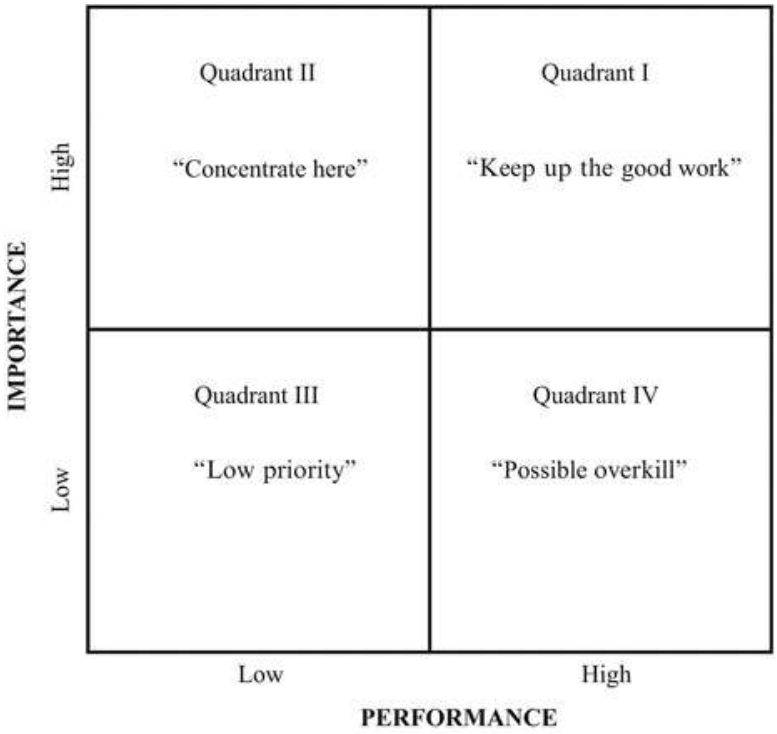
The government is improving infrastructure to speed up the flow of goods and production time. With a better transportation system, it can reduce logistics costs. The development of transportation facilities and infrastructure that support logistics performance must pay attention to the needs of the primary and priority modes of transportation in the region based on the potential of each region.

There are obstacles to encouraging the strengthening of logistics strategies, so companies have begun to implement logistics digitalization. The application of digital technology in business operations, including logistics activities, is the right step in cutting logistics costs without reducing quality so that it still meets standards and targets (McKinsey, 2021). In addition, the Industrial Revolution 4.0 has influenced ports to change their perspective in serving companies and communities as port users. With the increasing flow and activity of loading and unloading goods and the arrival of passenger ships, the port is required to improve operational service performance. The measure of service quality at the port is the smooth loading and unloading of goods and passengers (Logahan, 2016).

This research focuses on goods and passenger services. According to Adam, Pradono, and Ibad (2017), port operational performance is considered high when the port can provide good service. Service at the port is a measuring tool to determine the level of success of sea transportation. In addition, the success of sea transportation is also measured based on the level of satisfaction of users of sea transportation services (passengers and goods). Based on observations, services for ships and cargo (goods and people) have not been effective and efficient due to the lack of supporting infrastructure. In addition, goods and passenger services that include safety, security and order, reliability, comfort, convenience, and equality facilities still need to meet the standards, impacting operational performance and port user satisfaction.

Furthermore, the problems in achieving port service performance, especially non-commercial ports, still need to implement outcome measurement variables, namely the perception of port user satisfaction. Therefore, this research specifically examines two aspects of concern from the port. The first is examining the quality of goods services to port operational performance and the satisfaction of freight users. The second is examining the quality of passenger services on port operational performance and passenger satisfaction.

2. METODE PENELITIAN



3. HASIL DAN PEMBAHASAN

3.1.Hasil penelitian

3.2.Respondent Characteristics

The questionnaire results show that the gender of passengers at Luwuk port is 64% male and 36% female. Based on occupation, 13% are students, 22% are government employees, 26% are private employees, and 39% are self-employed.

3.3.Outer Model Testing for Freight Transportation Company Samples

The criteria for assessing the outer model are convergent validity and discriminant validity and reliability tests consisting of Cronbach Alpha and Composite Reliability values. Convergent validity is assessed based on the correlation between the estimated item values (loading factor). Furthermore, the convergent validity analysis provides information about the reflection of indicators most closely related to the variables in the study.

The variables in the study consisted of 3, namely service quality, satisfaction, and performance. The three variables are each used to measure service quality at the port level, with the unit of analysis being freight transportation users. Because the quality of service to users of freight transportation consists of several dimensions, namely 1) safety of freight transportation, 2) security and order of freight transportation; 3) reliability/regularity of freight transportation, and 4) convenience of freight transportation, the measurement of validity and reliability of service quality to users of freight transportation is measured by second order.

Table 1. Convergent Validity and Reliabilitas (First Order for Freight Transportation Company Samples)

Construct	Item	Loding Factor	AVE	CR	CA
Freight Safety	BRG1	0.688	0.628	0.861	0.722
	BRG2	0.783			
	BRG3	0.894			
Convenience of Goods Transportation	KAB1	0.762	0.683	0.840	0.774
	KAB2	0.893			
	KAB3	0.821			
Reliability/Regulation of Goods Transportation	KABRG1	0.692	0.633	0.822	0.719
	KABRG2	0.892			
	KABRG3	0.790			
Safety and Orderliness of Goods Transportation	KKAB1	0.760	0.661	0.913	0.897
	KKAB2	0.892			
	KKAB3	0.743			
	KKAB4	0.892			
	KKAB5	0.789			
	KKAB6	0.790			
Satisfaction	Kep1	0.825	0.607	0.792	0.784
	Kep2	0.763			
	Kep3	0.802			
	Kep4	0.723			
Performance	Kin1	0.861	0.794	0.881	0.871
	Kin2	0.912			
	Kin3	0.899			

Based on the results of the convergent validity test, it is evident that all indicators in the study can be declared valid. Most indicators produce a loading factor value> 0.70 and an AVE value> 0.50. However, item KABRG2 on the reliability/regularity dimension of freight transportation and item BRG1 on the safety dimension of freight transportation produces a loading factor value of 0.692 and 0.688, respectively. This value is still acceptable or declared valid because the AVE (Average Variance Extracted) value in the reliability/regulation of goods transportation and freight safety is 0.633 and 0.628> 0.5. In conclusion, all convergent validity tests are fulfilled.

The next step after the questionnaire items are declared valid the reliability test is carried out. This test includes the Cronbach Alpha (CA) and Composite Reliability (CR) values. Based on Table 20, it can be seen that all variables studied have CA and CR values >0.70.

Table 2. Convergent Validity and Reliabilitas (Second Order for Freight Transportation Company Samples)

Construct	Dimension	Loading Factor	AVE	CR	CA
Service Quality	BRG	0.838	0.506	0.945	0.923
	KAB	0.860			
	KABRG	0.829			
	KKAB	0.956			

Table 2 shows that each dimension in the service quality variable for freight transportation users produces a loading factor value> 0.70. Likewise, the AVE value for service quality variables is> 0.50. Furthermore, the CA and CR values for service quality variables also produce values >0.70. So, all indicators used in the questionnaire are declared reliable or consistent in measuring variables. The next test is discriminant validity using the HTMT method. More detail can be seen in Table 3.

Table 3. Discriminant Validity – HTMT

	BRG	KAB	KABRG	KKAB	Satisfcation	Performance
BRG						
KAB	0.746					
KABRG	0.793	0.678				
KKAB	0.790	0.867	0.798			
Satisfcation	0.299	0.415	0.435	0.499		
Performance	0.340	0.593	0.535	0.661	0.746	

Table 3 shows that the correlation values between variables are all below 0.90 so that discriminant validity is met for the model on the unit of analysis of freight transportation users.

3.4.Outer Model Testing for Port Passenger Samples

Service quality in freight transportation services consists of several dimensions, namely 1) passenger safety services, 2) service to passenger security and order; 3) service to reliability/order, 4) service to passenger comfort, 5) service to passenger convenience, and 6) service to equality, then measuring the validity and reliability of service quality to port users (passengers) is measured by second order.

Table 4. Convergent Validity and Reliability-First Order for Port Passengers

Constructs	Item	Outer Loading	AVE	CR	CA
Satisfaction	Kep1	0.792	0.601	0.874	0.867
	Kep2	0.786			
	Kep3	0.776			
	Kep4	0.747			
	Kep5	0.830			
	Kep6	0.716			
Performance	Kin	1.000			
Safety	PK1	0.877	0.682	0.868	0.847
	PK2	0.810			
	PK3	0.799			
	PK4	0.815			
Reliability/order	PKKP1	0.842	0.681	0.949	0.948
	PKKP2	0.801			
	PKKP3	0.804			
	PKKP4	0.779			
	PKKP5	0.857			
	PKKP6	0.860			
	PKKP7	0.816			
	PKKP8	0.897			
	PKKP9	0.790			
	PKKP10	0.798			

Constructs	Item	Outer Loading	AVE	CR	CA
Comfort	PKP1	0.845	0.684	0.955	0.943
	PKP2	0.838			
	PKP3	0.805			
	PKP4	0.836			
	PKP5	0.781			
	PKP6	0.874			
	PKP7	0.794			
	PKP8	0.809			
	PKP9	0.857			
Convenience	PKeP1	0.770	0.612	0.917	0.91
	PKeP2	0.794			
	PKeP3	0.732			
	PKeP4	0.813			
	PKeP5	0.723			
	PKeP6	0.772			
	PKeP7	0.782			
	PKeP8	0.865			
Security and order	PKesP1	0.842	0.688	0.939	0.934
	PKesP2	0.799			
	PKesP3	0.740			
	PKesP4	0.891			
	PKesP5	0.870			
	PKesP6	0.863			
	PKesP7	0.872			
	PKesP8	0.743			
Equality	PelK1	0.945	0.854	0.917	0.914
	PelK2	0.953			
	PelK3	0.871			

The convergent validity test results prove that all indicators are valid because all indicators produce a loading factor value of> 0.70 and an AVE value of> 0.50. In conclusion, all convergent validity tests are fulfilled. Reliability testing refers to the Cronbach Alpha (CA) and Composite Reliability (CR) values. Based on Table 26, all variables studied have CA and CR values > 0.70.

Table 5. Convergent Validity and Reliability-Second Order for Port Passengers

Construct	Dimension	Loading Factor	AVE	CR	CA
Service Quality	PK	0.852	0.502	0.979	0.974
	PKKP	0.913			
	PKP	0.915			
	PKeP	0.678			
	PKesP	0.913			
	PelK	0.814			

Based on Table 27, it can be seen that each dimension in the service quality variable for port users (passengers) produces a loading factor value> 0.70. Likewise, the AVE value for service quality variables is> 0.50. Furthermore, the CA and CR values for service quality variables also produce

values> 0.70. So, all indicators used in the questionnaire are declared reliable or consistent in measuring variables. The next test is discriminant validity using the HTMT method. The following are the results.

Table 6. Discriminant Validity – HTMT

	Satisfaction	Performance	PK	PKKP	PKP	PKeP	PKesP	PelK
Satisfaction								
Performance	0.880							
PK	0.747	0.676						
PKKP	0.802	0.761	0.796					
PKP	0.862	0.727	0.756	0.754				
PKeP	0.856	0.652	0.546	0.497	0.764			
PKesP	0.824	0.809	0.873	0.865	0.740	0.481		
PelK	0.741	0.711	0.684	0.803	0.677	0.359	0.868	

Based on Table 6, it can be seen that the correlation values between variables are all below 0.90, so discriminant validity is met for the model in the port user analysis unit.

3.5.Inner Model

Inner model testing has the aim of knowing the relationship between constructs, significance value, R-square (R^2), Q-square predictive relevance (Q^2) with PLS-predict, and f-square effect size (f^2) of the research model. The inner model represents the relationship between the latent variables used in the study. Table 7 summarizes the results of hypothesis testing on two sample groups: passengers and freight transport companies.

Tabel 7. Hypothesis Testing

Path	Passengers			Freight transport companies		
	STD	T statistics	P values	STD	T statistics	P values
Service Quality→Performance	0.472	2.916	0.004	0.381	2.753	0.006
Service Quality→Satisfaction	0.869	20.415	0.000	0.391	3.133	0.002
Satisfaction→Performance	0.417	2.503	0.012	0.472	3.281	0.001

In the sample group of freight transportation companies, the path coefficient of service quality on port operational performance is 0.381 with a t-value of 2.753> 1.96 and Sig. 0.006 < 0.05. Therefore, the hypothesis statement that service quality positively and significantly affects port operational performance is accepted. Furthermore, the path coefficient of service quality on satisfaction is 0.391 with a t-value of 3.133 > 1.96 and Sig. 0.002 < 0.05. The hypothesis that service quality positively and significantly affects satisfaction is accepted. The path coefficient of satisfaction on port operational performance is 0.472 with a t-value of 3.281> 1.96 and Sig. 0.001 < 0.05. The hypothesis that satisfaction positively and significantly affects port performance is accepted.

In the passenger sample group, the path coefficient of service quality on port operational performance is 0.472 with a t-value of 2.916 > 1.96 and Sig. 0.004 < 0.05. Therefore, the hypothesis that service quality positively and significantly affects port operational performance is also accepted. The path coefficient of service quality on satisfaction is 0.869 with a t-value of 20.415 > 1.96 and Sig. 0.000 <0.05, the hypothesis that passenger service quality positively and significantly affects passenger satisfaction is accepted. Finally, the path coefficient of satisfaction on port operational performance is 0.417 with a t-value of 2.503 > 1.96 and Sig.

0.012 <0.05, the hypothesis that satisfaction has a positive and significant effect on port operational performance is accepted.

Assessment of the contribution of the independent variables to the dependent variable in the structural model refers to the R^2 value (see Table 8), while the strength of the influence between the independent variables and the dependent variable refers to the f-square value (See Table 9).

Tabl3 8. R-Square

Path	Passengers		Freight transport companies	
	R-Square	Decision	R-Square	Decision
Service Quality→Performance	0.738	Robust	0.509	Moderate
Satisfaction→Performance				
Service Quality→Satisfaction	0.755	Robust	0.153	Low

Table 8 summarizes the R2 values in the sample groups of passengers and freight transport companies. The R-Square value of port operational performance based on the perception of freight transport companies is 0.509. That is, service quality and satisfaction explain 50.9% moderate to the level of port operational performance. Furthermore, the R-squared value of satisfaction is 0.153. The service quality explains the 15.3% weakness in freight transportation users' satisfaction level. The R-Square value of port operational performance based on passenger perceptions is 0.738. Service quality and satisfaction explain 73.8% of solid port operational performance. Likewise, the R-squared value of satisfaction is 0.755. The service quality explains 75.5% of solid passenger satisfaction.

The F-square (f^2) value is used to determine the influence of exogenous variables on endogenous variables. Evaluation of the size of the f^2 value follows the rules: the f^2 value of 0.02 - 0.14 is categorized as a weak influence of exogenous variables at the structural level, the f^2 value of 0.15 - 0.34 is categorized as a moderate influence of exogenous variables at the structural level, and the f^2 value of > 0.35 is categorized as a strong influence of exogenous variables at the structural level.

Tabel 9. Nilai F-Square

Path	Passengers		Freight transport companies	
	F-Square	Decision	F-Square	Decision
Service Quality→Performance	0.208	Moderate	0.251	Moderate
Satisfaction→Performance	0.163	Moderate	0.384	Robust
Service Quality→Satisfaction	3.088	Robust	0.180	Moderate

Based on Table 9, the influence of service quality on the satisfaction of freight transportation companies is moderate in the structural model because the F-Square value of 0.180 is in the range of 0.15 - 0.34. Furthermore, the path of the effect of service quality on port operational performance is moderate in the structural model because the F-Square value of 0.251 is in the range of 0.15 - 0.34. Finally, the influence of freight transportation company satisfaction on port operational performance is vital in the structural model because the F-Square value is 0.384> 0.35.

In the port passenger sample group, the influence of service quality on the satisfaction of freight transportation companies is vital in the structural model because the f^2 value of 0.3.088 > 0.35. Furthermore, the influence of service quality on port operational performance is moderate in the structural model because the f^2 value of 0.208 is in the range of 0.15 - 0.34. Finally, the path of the effect of passenger satisfaction on port operational performance is moderate in the structural model because the f^2 value of 0.163 is in the range of 0.15 - 0.34.

PLS-predict in the structural model measures the predictive power outside and within the research sample. Determination of the PLS-predict criteria follows the rule of thumb from Shmueli et al (2019), presented in Figure 4.

Figure 4. PLSpredict Criterion (Shmueli et al., 2019)

Table 10. Predictive Power of the Sample Group of Freight Transport Companies

Item	Q^2predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE	RMSE	MAE
Kep1	0.100	0.898	0.697	1.394	1.005	-0.496	-0.308
Kep2	0.108	0.703	0.559	1.1	0.831	-0.397	-0.272
Kep3	0.012	0.81	0.624	1.406	0.98	-0.596	-0.356
Kep4	0.057	0.965	0.751	1.562	1.026	-0.597	-0.275
Kin1	0.079	0.875	0.635	1.132	0.889	-0.257	-0.254
Kin2	0.297	0.888	0.677	1.073	0.873	-0.185	-0.196
Kin3	0.269	0.863	0.691	0.916	0.748	-0.053	-0.057

Table 10 and Figure 3 explain that the PLS-SEM value on the RMSE measure, all indicators of the endogenous latent variable, produces negative values. Likewise, with the MAE measure, all indicators of the endogenous latent variable produce negative values. In other words, PLS-SEM < LM on the RMSE and MAE measures. In addition, the Q^2predict value on each exogenous latent indicator produces a Q^2predict value> 0. So, it can be concluded that the

model for the sample group of freight transportation companies has good predictive value when interpreted outside and within the research sample.

Tabel 11. Predictive Power of the Sample Group of Passengers

Passengers	Q^2predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE	RMSE	MAE
Kep1	0.707	0.529	0.437	2.228	1.522	-1.699	-1.085
Kep2	0.367	0.622	0.52	2.272	1.485	-1.650	-0.965
Kep3	0.311	0.677	0.582	2.106	1.308	-1.429	-0.726
Kep4	0.359	0.86	0.702	4.219	2.689	-3.359	-1.987
Kep5	0.383	0.865	0.714	4.65	3.045	-3.785	-2.331
Kep6	0.395	0.778	0.628	4.857	3.181	-4.079	-2.553
Kin	0.676	0.608	0.487	3.307	2.263	-2.699	-1.776

Table 11 and Figure 3 explain that the PLS-SEM value on the RMSE measure, all indicators of the endogenous latent variable, produce negative values. Likewise, with the MAE measure, all indicators of the endogenous latent variable produce negative values. In other words, PLS-SEM < LM on the RMSE and MAE measures. In addition, the Q^2predict value on each exogenous latent indicator produces a Q^2predict value> 0. So, it can be concluded that the model for the passenger sample group has good predictive value when interpreted outside and within the research sample.

3.6.IMPA in the Sample Group of Freight Transport Companies

The results of the PLS-SEM analysis provide an overview of the relative importance of each variable in explaining other variables in the structural model. Information about the importance of variables is relevant to the conclusion. The IPMA (importance-performance) map analysis is an extension of the PLS-SEM results by considering each variable's performance. As a result, conclusions can be drawn from the two dimensions (i.e., importance and performance), which are crucial for prioritizing managerial actions.

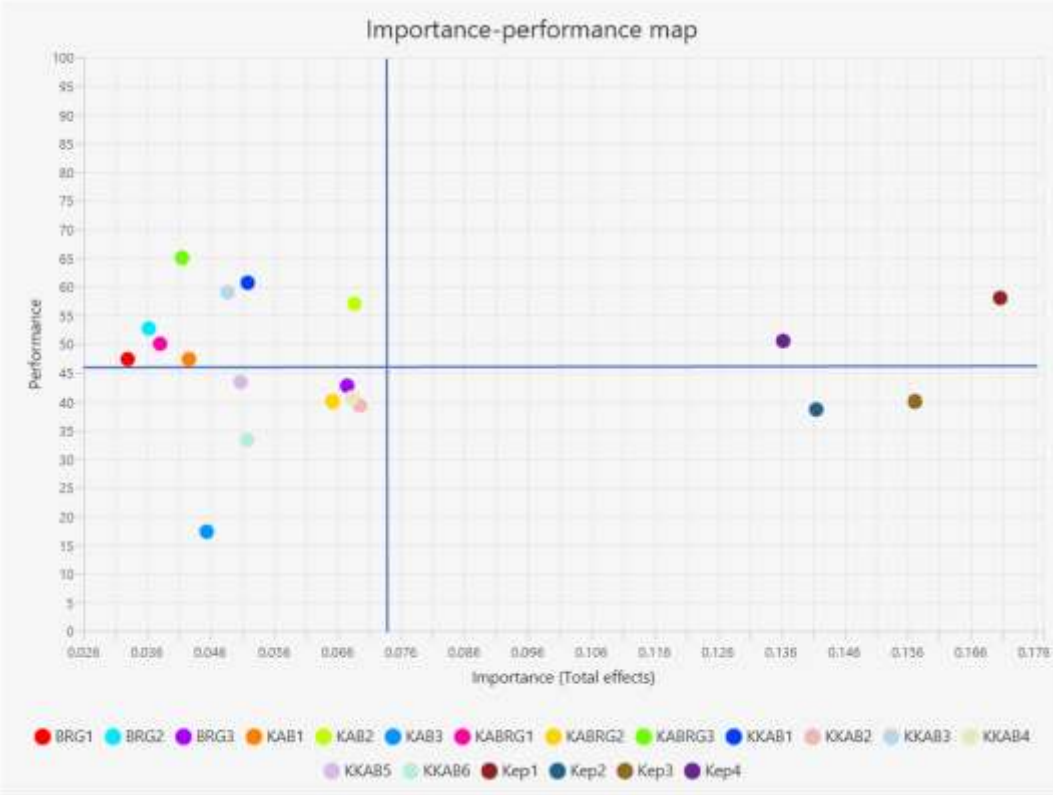


Figure 5. IMPA – Freight Transport Companies

Table 12. Importance (total effect) and Performance

Indicator	Performance	Indicator	MV performance
BRG1	0.032	BRG1	47.33
BRG2	0.036	BRG2	52.67
BRG3	0.067	BRG3	42.67
KAB1	0.042	KAB1	47.33
KAB2	0.068	KAB2	57.00
KAB3	0.045	KAB3	17.33
KABRG1	0.038	KABRG1	50.00
KABRG2	0.065	KABRG2	40.00
KABRG3	0.041	KABRG3	65.00
KKAB1	0.051	KKAB1	60.67
KKAB2	0.069	KKAB2	39.33
KKAB3	0.048	KKAB3	59.00
KKAB4	0.068	KKAB4	40.67
KKAB5	0.050	KKAB5	43.33
KKAB6	0.051	KKAB6	33.33
Kep1	0.170	Kep1	58.00
Kep2	0.141	Kep2	38.67
Kep3	0.157	Kep3	40.00
Kep4	0.136	Kep4	50.50
Means	**0.072**		**46.465**

Quadrant 1: The indicators in quadrant 1 are Kep1 and Kep4. Indicators placed in this quadrant have high importance and high performance. It indicates that freight users consider the

indicators relevant to their services. In addition, freight transportation users are also satisfied with how these indicators improve service quality. Therefore, the indicator should be maintained and exploited to maximize its potential competitive advantage. At this point, it is essential to maintain an optimal level of resources to gain maximum benefit.

Quadrant 2: The indicators in quadrant 2 are BRG1, BRG2, KAB1, KAB2, KABRG1, KABRG3, KKAB1, and KKAB3. This indicator is essential to improve (concentrate). Indicators in this quadrant have a high level of importance but low performance. It indicates a critical performance deficiency where important attributes fail to satisfy freight transportation users. These indicators should be prioritized for improvement first. This situation requires immediate action and allocation of additional resources to ensure good quality of service provided to freight users. If not addressed immediately, this could become a significant weakness and potentially reduce competitiveness.

Quadrant 3: Indicators in quadrant 3 are BRG3, KAB3, KABRG2, KKAB2, KKAB4, KKAB5, and KKAB6. This indicator has a low priority to be improved (low priority). Indicators in this quadrant have low levels of importance and performance. This attribute performs poorly but does not require further action because it does not impact improving services in the eyes of freight transportation users who use port services. As such, there is no need for any change in the effort or resources allocated. Extra effort and resources spent on this indicator would be wasted as it has minimum impact on the services used.

Quadrant 4: The indicators in quadrant 4 are Kep2 and Kep4. This indicator has a low priority to be improved (low priority). Indicators included in this quadrant have a low level of importance but have high performance. The indicator is successfully carried out but is considered irrelevant by freight transportation users. At this point, redefining the need to allocate more resources toward the attribute is essential. Reducing resource allocation and shifting efforts to other indicators that require immediate action may be more beneficial.

3.7.IPMA in the Port Passenger Sample Group

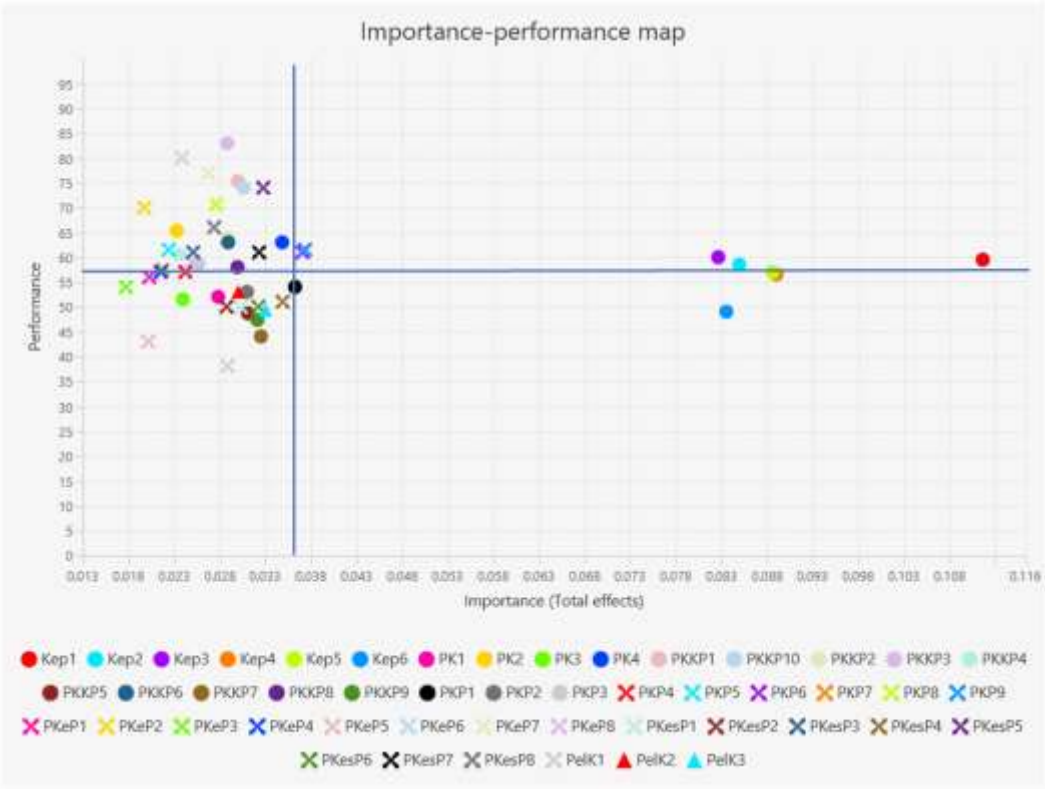


Figure 6. IMPA – **Passenger**

Table 13. Importance (total effect) and Performance

Indicator	Performance	Indicator	MV performance
Kep1	0.111	Kep1	59.500
Kep2	0.084	Kep2	58.500
Kep3	0.082	Kep3	60.000
Kep4	0.089	Kep4	56.500
Kep5	0.088	Kep5	57.000
Kep6	0.083	Kep6	49.000
PKP1	0.027	PK1	52.000
PKP2	0.023	PK2	65.333
PKP3	0.023	PK3	51.500
PKP4	0.034	PK4	63.000
PKKP1	0.030	PKKP1	75.333
PKKP10	0.030	PKKP10	74.000
PKKP2	0.028	PKKP2	64.000
PKKP3	0.028	PKKP3	83.000
PKKP4	0.023	PKKP4	60.500
PKKP5	0.031	PKKP5	48.667
PKKP6	0.028	PKKP6	63.000
PKKP7	0.032	PKKP7	44.000
PKKP8	0.029	PKKP8	58.000
PKKP9	0.032	PKKP9	47.333
PK1	0.036	PKP1	54.000

Indicator	Performance	Indicator	MV performance
PK2	0.030	PKP2	53.000
PK3	0.025	PKP3	58.667
PK4	0.024	PKP4	57.000
PK5	0.022	PKP5	61.500
PK6	0.037	PKP6	61.000
PK7	0.021	PKP7	57.500
PK8	0.027	PKP8	70.667
PK9	0.037	PKP9	61.500
PKeP1	0.020	PKeP1	56.000
PKeP2	0.019	PKeP2	70.000
PKeP3	0.017	PKeP3	54.000
PKeP4	0.021	PKeP4	57.000
PKeP5	0.020	PKeP5	43.000
PKeP6	0.023	PKeP6	80.000
PKeP7	0.026	PKeP7	77.000
PKeP8	0.024	PKeP8	59.000
PKesP1	0.030	PKesP1	50.000
PKesP2	0.028	PKesP2	50.000
PKesP3	0.025	PKesP3	61.000
PKesP4	0.034	PKesP4	51.000
PKesP5	0.032	PKesP5	74.000
PKesP6	0.032	PKesP6	50.000
PKesP7	0.032	PKesP7	61.000
PKesP8	0.027	PKesP8	66.000
PelK1	0.028	PelK1	38.000
PelK2	0.030	PelK2	53.000
PelK3	0.033	PelK3	49.333
Rata-rata	0.035		58.840

Quadrant 1: Indicators that are in quadrant 1 are Kep1, Kep2, Kep3, PKP6, PKP9. This indicator is good and needs to be maintained. Indicators placed in this quadrant have high importance and high performance. It shows that passengers consider these indicators relevant to the services they use. In addition, passengers are also satisfied with how these indicators improve service quality. Therefore, these indicators should be maintained and exploited to achieve their maximum benefit as potential competitive advantages. At this point, it is essential to maintain an optimal level of resources to gain maximum benefit.

Quadrant 2: The indicators in quadrant 2 are PKP2, PKP3, PKP4, PKKP1, PKKP3, PKKP4, PKKP8, PKKP10, PK5, PK7, PKeP1, PKeP2, PKeP3, PKeP4, PKeP6, PKeP7, PKeP8, PKesP3, PKesP5, PKesP8. This indicator is essential to improve (concentrate). Indicators in this quadrant have a high level of importance but low performance. It indicates a critical performance deficiency where important attributes fail to satisfy passengers. These indicators should be prioritized for improvement first to ensure good service quality is provided to passengers. This situation requires immediate action and allocation of additional resources. If not addressed immediately, it could become a major weakness that could reduce competitiveness.

Quadrant 3: Indicators in quadrant 3 are PK1, PKKP2, PKKP5, PKKP6, PKKP7, PKKP9, PKP2, PKP3, PKP4, PKP8, PKeP5, PKesP1, PKesP2, PKesP4, PKesP6, PKesP7, PelK1, PelK2, PelK3. This indicator has a low priority to be improved (low priority). Indicators in this quadrant have low levels of importance and performance. It shows that the attribute performs poorly but does not require further action because it does not impact improving services in the eyes of passengers using port services. Thus, the effort and resources allocated remain the same. Extra effort and resources spent on this indicator would be wasted as it has minimum impact on the services used.

Quadrant 4: The indicators in quadrant 4 are Kep4, Kep5, Kep6. This indicator has a low priority to be improved (low priority). Indicators included in this quadrant have a low level of importance but have high performance. It shows that the indicator is successfully carried out but is considered irrelevant by passengers. At this point, it is essential to re-determine the need to allocate more resources towards the attribute. Reducing resource allocation and shifting efforts to other indicators that require immediate action may be more beneficial.

4. Discussion

Safety and convenience services for goods services are critical performance indicators. It shows that freight transportation users consider safety and convenience services relevant to their services. In addition, freight transportation users are also satisfied with how these indicators improve service quality.

Freight transportation guide services, supervision services, services, warehouse facilities for hazardous and toxic materials/goods (B3), loading and unloading equipment services, storage warehouse services, services of Business Entities (BU), loading and unloading service providers, stacking field services, loading and unloading equipment services without mechanical equipment, have a high level of importance but have low performance. This indicator is essential to improve (concentrate). It indicates critical performance deficiencies where important attributes fail to satisfy freight transportation users.

Loading and unloading labor services, work equipment, loading and unloading tools for loading and unloading activities, security guards and port area guardrails, TKBM, transportation management, and self-service have low importance and performance. This indicator has a low priority to be improved (low priority). This attribute performs poorly but does not require further action because it does not impact improving services in the eyes of freight transportation users who use port services. As such, there is no need for any change in the effort or resources allocated. Extra effort and resources spent on this indicator would be wasted as it has minimum impact on the services used.

Security and order and convenience services have low importance but high performance. This indicator has a low priority to be improved (low priority). This indicator is successfully performed but considered irrelevant by freight users. At this point, redefining the need to allocate more resources toward the attribute is essential. Reducing resource allocation and shifting efforts to other indicators that require immediate action may be more beneficial.

Safety services, security and order, reliability/regularity, cleanliness, and smoking area facilities indicators have high importance and high performance. This indicator is good and needs to be maintained. It shows that passengers consider these indicators relevant to the services they use. In addition, passengers are also satisfied with how these indicators improve service quality. Therefore, the indicator should be maintained and exploited to maximize its potential

competitive advantage. At this point, it is essential to maintain an optimal level of resources to gain maximum benefits..

Maximum print time services, ship schedule information facilities, ship schedule information facilities, CCTV, passenger lane facilities from/to the ship, stairs from/to the ship, metal detector facilities, lighting, temperature control, service information in the form of visual/audio, information on ship arrival/departure times, information in the event of ship travel disruptions, information on transportation (land/water/air modes) onward, passenger boarding/dropping facilities, vehicle parking areas, baggage services, evacuation gathering point facilities, first aid equipment facilities, and health workers. This indicator has a high level of importance but a low performance. This indicator is essential to improve (concentrate). It indicates a critical performance deficiency where an important attribute fails to satisfy passengers. The indicator should be prioritized for improvement first to ensure good quality of service provided to passengers. This situation requires immediate action and allocation of additional resources. If not addressed immediately, it could become a major weakness that could reduce competitiveness.

Ticket printing machine, waiting rooms, security posts, security officers; stickers containing complaint services, fire extinguishers, boarding corridor doors, women's and men's toilets, places of worship, health rooms, passenger services, information desks; English-speaking officers, fire extinguishers, evacuation route instructions, emergency telephone numbers, wheelchairs, stretchers, stretcher officers, availability of stretchers equipped with lanes for wheelchairs, and nursing mother rooms, this indicator has a low level of importance and performance. This indicator has a low priority to be improved (low priority). It shows that the attribute performs poorly but does not require further action because it does not impact improving services in the eyes of passengers using port services. As such, there is no need for any change in the effort or resources allocated. Extra effort and resources spent on this indicator would be wasted as it has minimum impact on the services used.

Comfort, convenience, and equality services: These indicators have a low level of importance but have a high performance. This indicator has a low priority to be improved (low priority). This indicator is successfully carried out but is considered irrelevant by passengers. At this point, it is essential to re-determine the need to allocate more resources towards the attribute. Reducing resource allocation and shifting efforts to other indicators that require immediate action may be more beneficial.

4. KESIMPULAN

This research has successfully answered the research objectives. Therefore, to increase the satisfaction of passengers and freight transportation companies, the port needs to evaluate the quality of service and port operational performance

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