Analysis of Factors Affecting Seafarer Satisfaction in Online Seaman's Book Issuance Services at the Tanjungwangi Class III KSOP Office

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Abstract. Analysis of Factors Affecting Sailors' Satisfaction in the Online Seafarer Book Issuance Service at the KSOP Class III Tanjung Wangi Office. This study analyzes the factors that influence sailors' satisfaction in the Online Seafarer Book issuance service at the KSOP Class III Tanjung Wangi Office. The aim of this research is to explore the impact of Service Quality, Ease of Use, and Data Security, both individually and collectively, on ship operators' satisfaction. The method used is a quantitative approach with multiple linear regression analysis on data obtained through questionnaires. Although the hypothesis suggested an expected simultaneous relationship between the independent variables (Ease of Use, Service Quality, and Data Security) and the dependent variable (Sailors' Satisfaction), the research findings indicate that this relationship did not materialize. These findings require further analysis to identify factors that may have caused the discrepancy in results, such as the presence of unaccounted variables or the use of an inappropriate analytical model.

Keywords: Ease of Use, Service Quality, Data Security, Sailor Satisfaction.

1. INTRODUCTION

Seafarers have a very vital role in the shipping industry, both domestically and internationally. As a workforce engaged in the sea transportation sector, seafarers are required to have various legal documents and certificates, one of which is the Seaman's Book. The Seafarer's Book serves as the official identity of a seafarer who records the history of sailing, education, and relevant work experience. Without this book, a seafarer cannot legally work on a ship.

Syahbandar and Port Authority Office (KSOP) Class III Tanjungwangi is an agency tasked with supervising, regulating, and providing services to port service users in the Tanjungwangi Port area, located in Banyuwangi Regency, East Java. Tanjungwangi Port is one of the important ports that serves as the main gateway in supporting the sea transportation and trade sectors, both domestic and international, which connects the territory of Indonesia with abroad.

As part of its duties, KSOP Class III Tanjungwangi has the authority to manage and supervise shipping safety, port security, and sea transportation activities that occur at the port. In addition, KSOP Tanjungwangi is also responsible for monitoring and enforcing rules related to shipping traffic, including the regulation of sailing ships, guiding ships, and handling containers and goods entering and leaving the port.

The issuance of seafarer books is one of the important services provided by the Harbor Master and Port Authority (KSOP) Office to meet the needs of seafarers in supporting their smooth operations and legality in the maritime world. In the era of digitalization, the government through the Ministry of Transportation has introduced an online seafarer book issuance system as part of efforts to improve efficiency, transparency and accountability of public services. This system is expected to reduce the time and costs incurred by seafarers, while minimizing face-to-face meetings that have the potential to create bureaucratic obstacles.

However, the implementation of this online service in the field still faces a number of challenges. Although the seafarer book processing procedure has been designed to be fully online, in reality, seafarers are still often required to be present in person at the KSOP Class III Tanjungwangi Office. This necessity arises for several reasons, such as document verification, photo taking, or technical constraints on the online system that cause the process to not be completed fully online. This is contrary to the main purpose of digitization, which should provide convenience and efficiency in services.

Digitalization of public services is one of the government's strategies to improve efficiency and transparency in services to the community. One form of digitization is the implementation of the Online Seafarer Book, which allows seafarers to process documents online without having to come directly to the Syahbandar and Port Authority Office (KSOP). However, implementation in the field still faces various obstacles that cause seafarers to still have to come physically to the KSOP.

This condition creates a gap between the goal of service digitization and the user experience in the field. Although digital services are expected to increase convenience and satisfaction, in reality many seafarers still feel dissatisfied and prefer to come directly to the KSOP office.

To date, no study has specifically examined seafarers' satisfaction in using government digital services, especially related to the implementation of the Online Seafarer's Book at KSOP. Factors such as ease of use, service quality, and data security in the context of digital maritime services have not been widely studied.

This study aims to identify factors that influence seafarers' satisfaction with Buku Pelaut Online services, as well as fill the research void in the maritime sector. This study is expected to make a significant contribution to the development of government digital services, particularly in efforts to improve the efficiency and effectiveness of digital-based services for seafarers. As such, this study aims not only to examine the relationship between variables, but

also to explore ways in which government digital services can be improved to achieve better levels of user satisfaction.

2. LITERATURE REVIEW

1. Seafarer's Book

A Seaman's Book is an official state document that contains complete information about a seafarer's identity, issued by the government. It not only serves as a seafarer's official identity, but is also one of the internationally recognized requirements in shipping, especially for travel between countries. As a legal document, the Seafarer's Book ensures that seafarers meet the standards and qualifications set in the global shipping industry. Based on Government Regulation of the Republic of Indonesia Number 7 of 2000 concerning Maritime Affairs Article 15 Paragraph 2, the Seafarer's Book is an official document issued by the Government of the Republic of Indonesia, which includes complete and valid information regarding the seafarer's personal data and his/her working relationship with the shipowner.

2. Customer Satisfaction

Customer satisfaction is a feeling of pleasure or disappointment that arises when someone compares expectations of a product or service with the perceived performance. This concept is important in understanding customer loyalty, business sustainability, and strategic decision making. According to Kotler & Keller (2016), customer satisfaction is the level of a person's feelings after comparing the perceived performance or results with their expectations.

3. Service Quality

According to Kotler and Keller (2016: 143), service quality can be defined as "the ability to meet or exceed customer expectations." In this context, service quality is related to customer assessments of how a service meets their expectations, both in terms of the process and the results of the services received.

4. Digitalization of Public Services

The digitization of public services aims to improve efficiency, transparency, and accessibility. According to Indrajit (2006), service digitization reduces bureaucratic barriers and provides convenience for the community. However, the implementation of digital-based systems often faces challenges, such as inadequate technological infrastructure, lack of digital literacy of users, technical disruptions such as unstable systems.

3. METHODS

This type of research is descriptive quantitative research with a survey approach. The sample in this study consisted of seafarers who had used the online seaman's book publishing service at KSOP Class III Tanjungwangi, namely 40 respondents. Research data comes from primary data and secondary data with data collection techniques, namely observation, questionnaires, and documentation. The research variables consist of three independent variables, namely ease of use, service quality, and security, while the dependent variable is seafarer satisfaction. The data analysis model uses multiple linear regression using SPSS.

4. RESULTS

1. Validity Test

Table 1. Ease of Use Instrument Validity Test Results

Indicator	r count	r table	Description
Easy to learn	0, 915	0,312	Valid
Flexible	0, 922	0,312	Valid
Easy to use	0, 922	0,312	Valid
Clear and understandable	0, 925	0,312	Valid

The results of the validity analysis of the four Ease of Use indicators tested show that all indicators meet the validity criteria. This can be seen from the calculated r value of each indicator which are all greater than the r table value of 0.312. With these results, it can be concluded that the four indicators tested are suitable for use in measurement, because they all meet the established validity criteria.

Table 2. Service Quality Instrument Validity Test Results

Indicator	r count	r table	Description
Reliability	0, 871	0,312	Valid
Responsiveness	0, 907	0,312	Valid
Guarantee	0, 929	0,312	Valid
Empathy	0, 903	0,312	Valid
Tangible	0, 920	0,312	Valid

The results of the validity test on the five indicators of service quality show that all indicators meet the validity criteria because the r value of each indicator is greater than the r table value of 0.312. In conclusion, all indicators of service quality tested, namely Reliability, Responsiveness, Assurance, Empathy, and Tangibility have good validity values, so they can be used as reliable measuring instruments in research.

Table 3. Security Instrument Validity Test Results

Indicator	r count	r table	Description
Security Guarantee	0, 906	0,312	Valid
	0, 924	0,312	Valid
Data Confidentiality	0, 880	0,312	Valid
	0,908	0,312	Valid

The results of the validity analysis of the four Security indicators show that all indicators meet the validity criteria. This can be seen from the calculated r value of each indicator which is greater than the r table value of 0.312. In conclusion, the four Security indicators, namely Reliability, Responsiveness, Assurance, and Empathy, meet the validity requirements because the calculated r value of each is greater than the r table.

Table 4. Seafarer Satisfaction Instrument Validity Test Results

Indicator	r count	r table	Description
Expectation Conformity	0, 856	0,312	Valid
Interest in Revisiting	0, 900	0,312	Valid
Willingness to Recommend	0, 964	0,312	Valid

The results of the validity analysis of the three Seafarer Satisfaction indicators show that all indicators meet the validity criteria. Each calculated r value on these indicators is greater than the r table value of 0.312. Thus, all tested indicators of Seafarer Satisfaction, namely Expectation Conformity, Interest in Revisiting, and Willingness to Recommend, are valid.

2. Reliability Test

Table 5. Comparison of Reliability Test

Variable	Value Cronbach's Alpha	Standard Value Cronbach's Alpha	Description
Ease of Use	0,939	0,6	Reliable
Service quality	0,945	0,6	Reliable
Data Security	0,937	0,6	Reliable
Sailor Satisfaction	0,948	0,6	Reliable

All variables tested in the table (Ease of Use, Service Quality, Data Security, and Seafarer Satisfaction) have very high Cronbach's Alpha values, above 0.9. A high Cronbach's Alpha value (above 0.9) indicates excellent internal consistency, meaning that the items in each variable are very consistent in measuring the intended construct. Thus, it can be concluded that the instruments used to measure these variables are reliable and can be trusted to provide consistent results in measurement.

3. **Multiple Linear Regression Analysis**

Tabel 6. Multiple Linear Regression Analysis Results
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,087	,299		-,292	,772
	x1	,057	,034	,558	1,658	,106
	x2	,030	,036	,350	,810	,423
	x3	-,075	,052	-,667	-1,434	,160

Based on the results of multiple linear regression analysis, the regression equation is obtained as follows:

$$Y = -0{,}087 + 0{,}057X1 + 0{,}030X2 - 0{,}075X3 + e$$

The explanation of the equation is as follows:

a) The constant (Y) is -0.087. This means that if there is no influence from Ease of Use (X1), Service Quality (X2), Data Security (X3), then the initial value of Y is -0.087.

b) The discipline variable (X1) is 0.057. This means that every one unit increase in X1 (Ease of Use), assuming other independent variables (X2, X3) remain constant, will cause a decrease in Y by 0.057 units.

c) The commitment variable (X2) is 0.423. This means that every one unit increase in X2 (Service Quality) assuming X1 and X3 remain constant, will increase the value of Y by 0.423 units.

d) The organizational climate variable (X3) is -0.075. This means that every one unit increase in X3 (Data Security), assuming X1 and X2 remain constant, will cause a decrease in Y by -0.075 units.

4. **Coefficient of Determination (R^2)**

Table 7. Results of the Coefficient of Determination
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,356[a]	,127	,054	,22716

a. Predictors: (Constant), x3, x1, x2
b. Dependent Variable: abs

Based on Table 7, the adjusted determination value (R2) is 0.054 or equivalent to 5.4%. This shows that the regression model has the ability to explain the relationship between the independent variables (Ease of Use, Service Quality, and Data Security) and the dependent variable (Seafarer Satisfaction) by 5.4%. This means that only 5.4% of the variation in Seafarer Satisfaction can be explained by the independent variables used in this regression model. The remaining 94.6% (100% - 5.4%) is influenced by other factors not included in this regression model. These factors could be other variables that were not included in the analysis.

5. Hypothesis Test

Table 8. Results of t test
ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,270	3	,090	1,741	,176[b]
	Residual	1,858	36	,052		
	Total	2,127	39			

a. Dependent Variable: abs
b. Predictors: (Constant), x3, x1, x2

The analysis results show that the tcount value is 1.658 < ttable 2.02809 and a significant value of 0.106 > 0.05, so Ho is accepted and Ha is rejected. The variable Ease of Use (X1) is not proven to significantly affect Sailor Satisfaction in this study. Thus, although this variable is considered important, its contribution to changes in Seafarer Satisfaction is not statistically strong enough.

The analysis results show that the tcount value is 0.810 < ttable 2.02809 and the significant value is 0, 423 > 0.05, so Ho is accepted and Ha is rejected. The Service Quality variable (X2) is not proven to significantly affect Seafarer Satisfaction in this study. Although service quality is an important factor, this result shows that its contribution to changes in the level of Seafarer Satisfaction in the context of this study is not significant enough.

The analysis results show that the tcount value is -1.434 < ttable 2.02809 and the significant value is 0, 160 > 0.05 Ho is accepted and Ha is rejected. Data security variables do not have a significant impact on seafarer satisfaction.

Table 9. F Test Results

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	85,193	3	28,398	25,592	0,000^b
	Residual	95,429	86	1,110		
	Total	180,622	89			

a. Dependent Variable: Y
b. Predictors: (Constant), X3, X2, X1

Based on the analysis results displayed in Figure 4.2.3, it is known that the significance value obtained is 0.176, which is greater than the predetermined significance level of 0.05. Thus, these results indicate that the hypothesis in this study cannot be accepted. This means that the variables of Ease of Use, Service Quality, and Data Security simultaneously do not have a significant influence on Seafarer Satisfaction. This means that although these variables are considered important in theory or literature, in the context of this study, the three variables together do not have a strong enough impact to affect the level of seafarer satisfaction.

5. DISCUSSION

Effect of Ease of Use (X1) on Sailor Satisfaction (Y)

The results of the analysis show that variable X1 (Ease of Use) has no significant effect on the dependent variable Y (Seafarer Satisfaction). In other words, an increase in the ease of use aspect does not directly have a real impact on the level of seafarer satisfaction. This means that although ease of use is one of the important components in the service, its contribution to seafarer satisfaction is not very dominant when compared to other variables.

The results of this study differ from the findings of Amatun Nur Makmuriyah and Kartika Marella Vanni (2020), which show that Ease of Use has a significant influence on Satisfaction in the context of using mobile banking. In the study, ease of use was considered an important

factor influencing users' comfort and trust in mobile banking applications, thereby increasing their overall satisfaction.

Not only that, another study by Alvareza Kartika Putri and Andri Nurtantiono (2023) also supports similar findings. They stated that the Ease of Use of the application has a significant effect on Purchasing Decisions. The ease of accessing application features encourages users to make transactions and make purchasing decisions more quickly and efficiently.

This difference in results may occur due to differences in context and user characteristics. In mobile banking services or e-commerce applications, ease of use is a crucial aspect that determines the success of the service. However, in the context of Sailor Satisfaction, their preferences and needs may focus more on other aspects, such as Data Security and Service Quality, which are more relevant and support their activities directly.

Effect of Service Quality (X2) on Seafarer Satisfaction (Y)

The results show that Service Quality (X2) has no statistically significant effect on Seafarer Satisfaction (Y). In other words, improvements in service quality are not always followed by a direct increase in satisfaction. Although service quality is an important element in the service industry, in the context of seafarers, this variable may not be considered a factor that determines their level of satisfaction.

This study shows results that contradict the findings of Alvareza Kartika Putri and Andri Nurtantiono (2023), which state that Service Quality has a significant effect on Purchasing Decisions. In the study, service quality is considered an important factor that determines consumer decisions in using services or buying products. Good service provides a sense of comfort and increases trust, thus encouraging consumers to make repeated purchases.

Not only that, Ratna Handayati (2016) also found that Service Quality (X1) has a strong influence on the level of consumer satisfaction. The results of this study indicate that consumers are very concerned about the quality of service they receive as the main determinant of satisfaction. If the service is in accordance with their expectations, the level of satisfaction will increase. In the context of the business world, responsive, friendly, and professional service is often the benchmark for success in creating a positive customer experience.

Effect of Data Security (X3) on Seafarer Satisfaction (Y)

Based on the results of the analysis, the Data Security variable (X3) does not show a significant effect on Seafarer Satisfaction (Y). This result is surprising, considering that data security is often considered one of the main factors that affect the level of user satisfaction, especially in today's digital era. This insignificance suggests that seafarers may not pay much attention to data security as a key determinant of their satisfaction.

The results of this study differ from the findings of Santoso Christian Ivan et al. (2024), which state that perceived security has a positive and significant effect on interest in using digital wallets (GoPay). In this study, a sense of security in transactions is an important factor that encourages users to use digital wallet services. Trust in data security and privacy protection increases user confidence in the service.

In addition, Eni Noviarni (2018) also confirms that Security has a very significant influence on Online Shopping Satisfaction. In her study, the security variable is one of the main factors that shape consumers' positive perceptions of e-commerce services. Transaction security, personal data protection, and trust in digital platforms are aspects that increase consumer comfort and satisfaction when shopping online.

Effect of Ease of Use (X1), Service Quality (X2), and Data Security (X3) on Sailor Satisfaction (Y)

The results of this study indicate that none of the independent variables, namely Ease of Use (X1), Service Quality (X2), and Data Security (X3), have a significant effect on the dependent variable Seafarer Satisfaction (Y) in the Online Seafarer Book publishing service. This finding suggests that seafarer satisfaction in the context of such services may be more influenced by other factors not measured in this study.

Most likely, seafarers have specific needs and expectations that are different from digital service users in general. For example, factors such as speed of the issuance process, responsive technical support or clarity of procedural information may be more relevant in influencing their level of satisfaction. These aspects, if not accommodated, may reduce the impact of the ease of use, service quality, or data security that has been provided.

Overall, the results of this study open up opportunities for further studies to explore more deeply the factors that really influence seafarer satisfaction. With a more comprehensive approach, it is expected that variables that are more in line with the needs of seafarers can be found, so that the Online Seafarer's Book publishing service can be improved optimally and in accordance with user expectations.

6. CONCLUSION

Based on data analysis regarding the influence of the variables of Ease of Use, Service Quality, and Data Security on seafarers' decisions in issuing seaman's books, it can be concluded as follows:

1. The objectives, hypotheses, and analytical methods used in this study are appropriate, but there is a discrepancy between the simultaneous hypothesis and the research results.

Although the proposed hypothesis expects a simultaneous relationship between the independent and dependent variables, the results show that the relationship is not achieved. This needs to be further analyzed to understand the factors that may have influenced the discrepancy, such as variables that have not been considered or an inappropriate model.

2. The low adjusted R^2 value indicates that the model used in this study cannot fully explain variations in seafarer satisfaction. This indicates that there are other factors that influence seafarer satisfaction that have not been examined or included in the model. Therefore, it is necessary to conduct further research to identify additional variables that can provide a more complete understanding of the factors that influence seafarers' satisfaction with digital services.

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