

The Influence of the Use of the SIMAWAR Application on Public Satisfaction with Administrative Services in Kecamatan Air Batu, Kabupaten Asahan

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ABSTRACT

This study aims to analyze the effect of SIMAWAR application utilization on public satisfaction with administrative services in Kecamatan Air Batu, Kabupaten Asahan. Digital transformation in public services is a strategic necessity to improve the quality of effective, efficient, and transparent services. This research is based on the theory of digital transformation in public services, which states that using information technology can improve service quality and public satisfaction, as proposed by Dwiyanto (2021). The SIMAWAR (Ready to Serve Air Batu Residents) application is a digital-based service innovation that allows the public to access administrative services online. This study used a quantitative approach with a survey method involving 373 respondents. Data analysis techniques included validity, reliability, normality, simple linear regression, t-test, and coefficient of determination. The results showed that SIMAWAR application utilization had a positive and significant effect on public satisfaction, with a coefficient of determination of 0.842. This indicates that SIMAWAR application utilization explains 84.2% of the variation in public satisfaction. These findings confirm that digitalization of public services can improve service quality and strengthen public satisfaction with government performance.

Keyword : public services, digitalization, SIMAWAR, public satisfaction



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1. INTRODUCTION

Public service is a fundamental aspect of governance, oriented toward meeting the needs of the community. According to Dwiyanto (2021), the quality of public service serves as a key indicator for assessing government performance, characterized by the principles of effectiveness, efficiency, transparency, and accountability. With advances in information technology, demands for public services have changed significantly; the public now expects services that are fast, easily accessible, transparent, and efficient. In this context, digital transformation emerges as a strategic solution to enhance the quality of public services. The phenomena underlying this research can be identified across several aspects. First is the public's growing need for digital-based services driven by information technology advancements. Second is the persistence of various obstacles in manual service delivery, such as slow processing times, long queues, and limited personnel resources. Third is the digital literacy gap among the public, which affects the utilization rate of digital services. Fourth is the suboptimal implementation of public service applications at the local level, particularly at the sub-district level. The literature review that the author used in the chapter "Introduction" is such previous research to explain the difference of the manuscript with other papers, that it is innovative; it is used in the chapter "Research Method" to describe the steps of research and used in the chapter "Results and Discussion" to support the analysis of the results [2]. If the manuscript was written to really have high originality, which proposes a new method or algorithm, an additional chapter after the "Introduction" chapter and before the "Research Method" chapter can be added to briefly explain the theory and/or the proposed method/algorithm [4]. To address this challenge, the Air Batu District government in Asahan Regency developed the SIMAWAR application as a digital-based administrative service innovation. The application was designed to make it easier for the public to access services without needing to visit the district office in person. However, in practice, the application's utilization has not been fully optimized, as some residents still prefer

manual services indicating a gap between the innovation provided and its actual usage. Public satisfaction, serving as a key indicator of successful public service delivery, also remains a critical concern. Such satisfaction is influenced not only by the service outcome but also by the service process, ease of access, and the user experience associated with the digital platform.

Previous research indicates a relationship between service digitalization and public satisfaction. Rahmawati (2021) found that digital services enhance satisfaction through ease of use and service speed. Sari and Lubis (2023) demonstrated that digital public service applications significantly influence service quality. Nugraha et al. (2024) confirmed that digital service quality has a direct impact on public satisfaction. Kurniawan (2022) stated that the successful implementation of digital services is influenced by digital literacy and human resource readiness. Hidayat and Amanah (2020) concluded that public satisfaction is influenced by the alignment between expectations and service quality.

However, existing studies have not specifically examined the impact of using public service applications at the sub-district level on public satisfaction, particularly regarding the SIMAWAR application in Kecamatan Air Batu, Kabupaten Asahan. Therefore, this study addresses this gap by empirically analyzing the influence of the SIMAWAR application on public satisfaction with administrative services.

This study employs an approach centered on the digital transformation of public services and the quality of electronic-based public services themes that have gained prominence in Indonesian public administration studies over the past decade. According to Agus Dwiyanto (2021), high-quality public service is key to achieving good governance; services must be oriented toward public satisfaction, guided by the principles of effectiveness, efficiency, transparency, and accountability. In the modern context, public services have moved beyond conventional methods, transforming into digital-based services. Furthermore, research by Sari Sisilianingsih et al. (2023) explains that the digital transformation of public services entails shifting from manual systems to information technology-based ones, aiming to enhance accessibility, speed, and service quality for the public. This transformation has become essential, particularly given the shift in service delivery patterns during the digital era.

Additionally, Saputra and Frinaldi (2023) emphasize that digital-based public service innovation represents a form of bureaucratic reform capable of boosting efficiency and service quality while meeting public demands for faster, more transparent services. Moreover, research by Patmawati and Putri (2025) demonstrates that the digitalization of public services significantly influences increased public satisfaction, primarily by improving accessibility, responsiveness, and service efficiency. Regarding public satisfaction, Kotler and Keller (2016) define it as the feeling of pleasure or disappointment an individual experiences after comparing their perception of a product or service's performance or outcome against their expectations.

2. RESEARCH METHOD/MATERIAL AND METHOD/LETERATURE REVIEW

This study employs a quantitative approach using a survey method. The sample consists of 373 respondents selected through purposive sampling. Data collection was conducted using a Likert-scale questionnaire. Data analysis was performed using SPSS V27, encompassing tests for validity, reliability, and normality, as well as simple linear regression, the t-test, and the coefficient of determination.

The variables in this study are illustrated in the figure below:

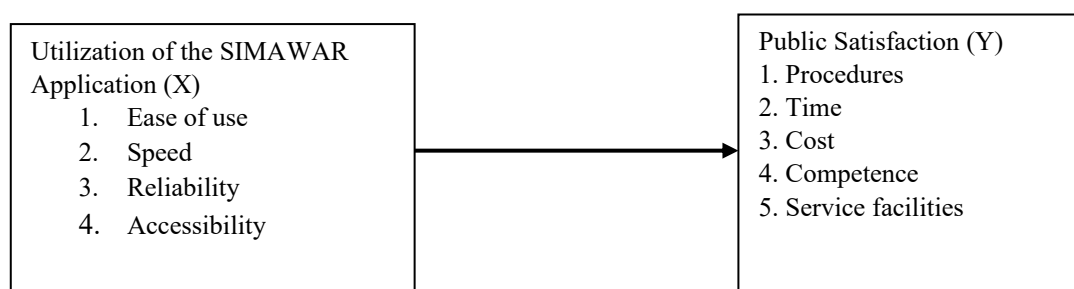


Figure 1. Research Variables

Hypothesis:

H₁: There is a significant influence of the use of the SIMAWAR application on public satisfaction.

3. RESULTS AND DISCUSSION

This section outlines the research results obtained through data collection and processing, which were subsequently analyzed using established statistical techniques. These results are then discussed systematically by relating the empirical data, the theoretical framework, and findings from previous studies, thereby providing a clear picture of the impact of using the SIMAWAR application on the level of public satisfaction with administrative services.

A. Validity Test

Table 1

Correlations			
		Utilization of the SIMAWAR-X Application	Public Satisfaction_Y
Utilization of the SIMAWAR Application_X	Pearson Correlation	1	.918**
	Sig. (2-tailed)		.000
	N	373	373
Public Satisfaction_Y	Pearson Correlation	.918**	1
	Sig. (2-tailed)	.000	
	N	373	373

Table 1 shows that the validity test results conducted using IBM SPSS Statistics version 27 with 373 respondents (df = 371) yielded a calculated r-value of 0.918, which exceeds the r-table value of 0.101 ($0.918 > 0.101$), with a significance level of $0.000 < 0.05$. Consequently, all research instruments are deemed valid and suitable for further analysis.

B. Reliability Test

Table 2

Reliability Statistics	
Cronbach's Alpha	N of Items
0,950	2

Table 2 shows that the reliability test results using IBM SPSS Statistics yielded a Cronbach's Alpha value of 0.950 (> 0.60); therefore, the research instrument is considered highly reliable and demonstrates a high level of consistency.

C. Normality Test Table 3

One-Sample Kolmogorov-Smirnov Test				
		Utilization of the SIMAWAR Application_X	Public Satisfaction_Y	
N		373	373	
Normal Paramete rs	Mean	69,5657	87,4182	
	Std. Deviation	5,80638	6,89724	
Most Extreme Differenc es	Absolute	0,286	0,276	
	Positive	0,150	0,161	
	Negative	-0,286	-0,276	
Test Statistic		0,286	0,276	
Asymp. Sig. (2-tailed) ^c		0,000	0,000	
Monte Carlo Sig. (2-tailed) ^d	Sig.	0,000	0,000	
	99% Confide nce Interval	Low er Bou nd	0,000	0,000
		Upp er Bou nd	0,000	0,000

Table 3 shows that the One-Sample Kolmogorov-Smirnov normality test, conducted using IBM SPSS Statistics, yielded a significance value of 0.000 (< 0.05) for both variables, indicating that the data are not normally distributed. However, given the large sample size ($n = 373$), the data can still be used for parametric analysis, as they are considered to approximate normality (Ghozali, 2021).

D. Multiple Linear Regression

Table 4

Coefficients ^a								
Model		Unstandardized Coeffisients		Standardized Coefficients	t	Sig.	Collinearity Statistic	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	11,590	1,711		6,774	0,000		
	Utilization of the SIMAWAR- X Application	1,090	0,025	0,918	44,473	0,000	1,000	1,000
a. Dependent Variable: Public Satisfaction_Y								

The regression equation indicates that the constant of 11.590 represents the level of public satisfaction when application usage is zero, while the regression coefficient of 1.090 shows that every increase in the use

of the SIMAWAR application leads to increased public satisfaction, indicating a positive relationship. The t-test results show a calculated t-value of 44.473 with a significance level of 0.000 (< 0.05); thus, it can be concluded that the use of the SIMAWAR application has a positive and significant effect on public satisfaction.

4. CONCLUSION

Based on the analysis and discussion, it is determined that the use of the SIMAWAR application has a positive and significant impact on public satisfaction regarding administrative services in Kecamatan Air Batu, Kabupaten Asahan. This is evidenced by the t-test results, showing a calculated t-value of 44.473 (exceeding the t-table value of 1.966) and a significance level of 0.000 (below 0.05); thus, the hypothesis is accepted. Regression results indicate that increased application usage correlates with higher public satisfaction, reflecting how service digitalization enhances the ease, speed, and effectiveness of public services. Furthermore, the coefficient of determination (R^2) of 0.842 indicates that the use of the SIMAWAR application influences 84.2% of public satisfaction, while the remaining 15.8% is attributed to other factors. Consequently, the SIMAWAR application plays a substantial role in improving service quality and fostering positive public perception.

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