



The Effect of Perceived Ease of Use and Perceived Usefulness on Reuse Intention with E-Satisfaction as a Mediation Variable (Study on SIGNAL Application Users in Denpasar City)



Komang Ayu Trishantika Dewi^a
I Nyoman Nurcaya^b

Article history:

Submitted: 27 May 2025

Revised: 09 June 2025

Accepted: 18 July 2025

Keywords:

Expectation Disconfirmation Theory (EDT);

perceived ease of use;

perceived usability;

reuse intention;

Technology Acceptance Model (TAM);

Abstract

In the ever-evolving digital era, mobile applications have become an integral part of daily life, including in the management of public services. This study aims to examine the role of e-satisfaction in mediating the influence of perceived ease of use and perceived usefulness on reuse intention based on the technology acceptance model and expectation disconfirmation theory. This study uses a quantitative approach with the causal associative method. The sampling technique used was non-probability sampling, and the number of samples used was 180 users. Data were collected through a Likert scale questionnaire and analyzed using the Structural Equation Modeling method based on Partial Least Squares (PLS-SEM) to test the direct and indirect relationships between variables. The findings of the study show that perceived ease of use and perceived usefulness have a positive and significant effect on reuse intention, perceived ease of use and perceived usefulness have a positive and significant effect on e-satisfaction, and e-satisfaction has a positive and significant effect on reuse intention. The results of the mediation role test showed that e-satisfaction partially mediated the effect of perceived ease of use and perceived usefulness on reuse intention. The results of this study provide practical implications for the government or application managers as input and consideration in efforts to improve application services and usage. Further research is suggested to explore other variables that influence reuse intention with a wider range of time, population, and characteristics.

International research journal of management, IT and social sciences © 2025.

This is an open access article under the CC BY-NC-ND license

(<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

Corresponding author:

Komang Ayu Trishantika Dewi,

Faculty of Economics and Business, Udayana University, Denpasar, Indonesia.

Email address: ayutrishantika31@gmail.com

^a Faculty of Economics and Business, Udayana University, Denpasar, Indonesia

^b Faculty of Economics and Business, Udayana University, Denpasar, Indonesia

1 Introduction

Digital transformation in the government sector has encouraged the implementation of electronic government (e-government) as an effort to improve the efficiency, transparency, and accountability of public services (Ahmad et al., 2022). E-government allows people to access government services online anytime and anywhere. Despite its potential, its implementation in developing countries shows a low success rate. A study by Elkadi (2013) and Furuholt & Wahid (2008) revealed that more than 60% of e-government projects in developing countries fail to meet expectations, even leading to a waste of resources and loss of government reputation.

In Indonesia, one of the implementations of e-government is realized through the National Digital Samsat (SIGNAL) application, which is designed to make it easier to pay motor vehicle taxes without having to visit the Samsat office in person (Prasetyo & Fadholi, 2024). However, based on data from the App Store, the SIGNAL app received a low rating (1.5/5 rating) with many complaints regarding system failures, face verification, and unsuccessful transactions. A preliminary survey in Denpasar City showed that out of 23 SIGNAL users, only 10 people had the intention to use it again. This indicates low reuse intention for the application, even though the number of vehicles in the city continues to increase (Prayudi et al., 2022).

Reuse intention is the user's intention to reuse a service or application after initial use, which is influenced by satisfaction and perception of the benefits and convenience of technology (Kotler & Keller, 2016 and Kumar & Shah, 2021). Based on the Technology Acceptance Model (TAM), perceived ease of use and perceived usefulness are the main factors in the formation of reuse intentions (Davis, 1989). However, the results of research related to the influence of these two variables on reuse intention are still inconsistent Ariffin & Lim (2020) & Dwijayanti et al., (2023), thus raising the need to examine the role of e-satisfaction as a mediating variable.

E-satisfaction, which refers to the level of user satisfaction with digital services, is considered to play an important role in strengthening the relationship between user perception and reuse intent (Ahn et al., 2004; Miao et al., 2022). The Expectation Disconfirmation Theory approach Oliver (1980), emphasizes that satisfaction is created when the performance of a service meets or exceeds the user's initial expectations, and this influences the decision to reuse it in the future (Bhattacharjee, 2001). Various studies Folia & Djumarno (2022); Jayantari et al., (2021); Nuralam et al., (2024) have shown that e-satisfaction has a positive influence on reuse intention.

Based on these research phenomena and gaps, this study aims to analyze the influence of perceived ease of use and perceived usefulness on reuse intention, with e-satisfaction as a mediating variable in SIGNAL application users in Denpasar City.

Literature Review and Research Hypothesis

Technology Acceptance Model

The Technology Acceptance Model is a development of the Theory of Reasoned Action (TRA) introduced by Fishbein & Ajzen (1977), then refined by Davis (1989) TAM explained that user acceptance of information technology is influenced by two main constructs, namely perceived ease of use and perceived usefulness. Both constructs play a role in shaping the attitude and intention of user behavior, which ultimately impacts the actual use of information systems (Davis, 1989; Venkatesh & Davis, 2000). In this study, TAM was used to understand how the perception of the ease and benefits of using the SIGNAL application affects the intention of reuse mediated e-satisfaction.

Expectation Disconfirmation Theory

Expectation Disconfirmation Theory (EDT) is used to explain post-consumption behavior based on the fit between initial expectations and actual experiences. According to Oliver (1980), user satisfaction occurs when the performance of a product or service meets or exceeds initial expectations (positive disconfirmation), while dissatisfaction arises when expectations are not met (negative disconfirmation). This theory states that the satisfaction formed from the user experience directly impacts the intention to reuse a service (Bhattacharjee, 2001; Susanto et al., 2016). In the context of SIGNAL applications, EDT is used to explain the mediating role of satisfaction in the relationship between initial perception of technology and reuse intention.

The influence of perceived ease of use on reuse intention

According to Davis (1989), the perception of ease of use is the dominant factor in technology adoption. In the context of e-government, system ease is understood as the ability of users to interact with applications without barriers. Studies show that the ease of navigation and accessibility of digital services can increase reuse intentions (Mushi, 2024; Santhanamery & Ramayah, 2019). Therefore, the hypothesis proposed is:

H1: Perceived ease of use has a positive and significant effect on reuse intention.

The Effect of Perceived Usefulness on Reuse Intention

Perceived usefulness refers to the belief that technology increases work effectiveness (Davis, 1989). In public digital services, tangible benefits such as efficiency and transaction speed are the main drivers of reuse intentions (Mushi, 2024; Puthur et al., 2020; Rahi & Ghani, 2019). Therefore, the hypothesis proposed is:

H2: Perceived usefulness has a positive and significant effect on reuse intention.

The Effect of Perceived Ease of Use on E-Satisfaction

Ease of use has been shown to play a role in the formation of user satisfaction, especially when user expectations are met or exceeded (Davis, 1989; Oliver, 1980). Intuitive navigation and responsive design enhance the positive user experience (Kaya et al., 2019; Miao et al., 2022). Previous findings also support a positive relationship between convenience and satisfaction (Nuralam et al., 2024). Thus, the hypothesis proposed:

H3: Perceived ease of use has a positive and significant effect on e-satisfaction.

The Effect of Perceived Usefulness on E-Satisfaction

The perceived benefits of the system, exceeding the expectations of the user, will form satisfaction (Oliver, 1980). When an application can help complete tasks efficiently, users tend to feel satisfied (Jayantari et al., 2021). Therefore, the hypothesis is:

H4: Perceived usefulness has a positive and significant effect on e-satisfaction.

The Effect of E-Satisfaction on Reuse Intention

According to Expectation Disconfirmation Theory, post-use satisfaction is the main predictor of sustainable intent (Bhattacharjee, 2001). Satisfied users tend to maintain the use of the app (Al Amin et al., 2020; Jin & Ryu, 2024). So, the hypothesis proposed:

H5: E-satisfaction has a positive and significant effect on reuse intention.

The Role Of E-Satisfaction Mediates the Influence of Perceived Ease of Use on Reuse Intention

Ease of use not only has a direct impact on reuse intent but also indirectly through user satisfaction. When users experience convenience that exceeds expectations, they feel satisfied and encouraged to reuse the app (Jayantari et al., 2021). So, the hypothesis:

H6: E-satisfaction mediates positively the effect of perceived ease of use on reuse intention.

The Role Of E-Satisfaction Mediates the Influence of Perceived Usefulness on Reuse Intention

The perceived benefits of technology will have an impact on satisfaction when meeting the expectations of users (Oliver, 1980). This satisfaction then increases the intention of reuse. Research shows that satisfaction is an important mediator in this relationship (Nuralam et al., 2024). So, the hypothesis:

H7: E-satisfaction mediates positively the influence of perceived usefulness on reuse intention.

Conceptual models can explain the relationships between the variables to be studied as follows.

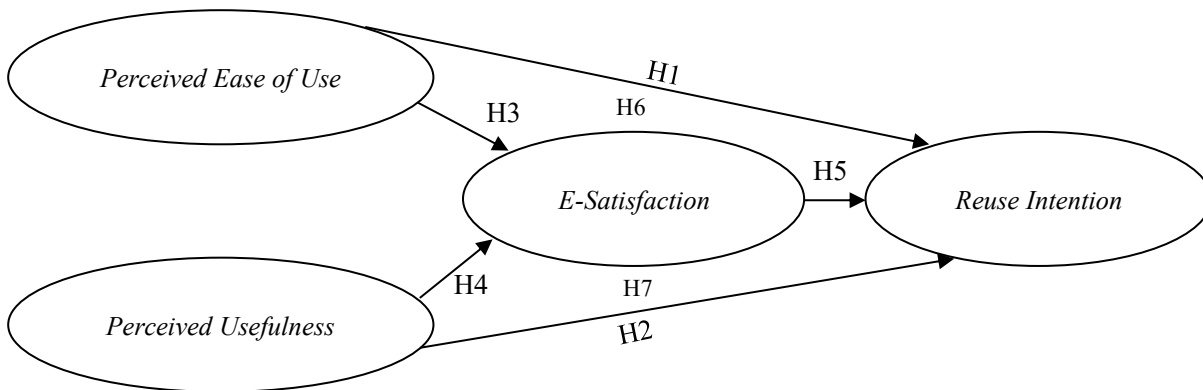


Figure 1. Conceptual Framework

2 Materials and Methods

Sample and Sampling Method

The population in this study is all users of the SIGNAL application in Denpasar City, which are determined based on certain characteristics. The sample determination technique used in this study is non-probability sampling with the purposive sampling method. Non-probability sampling is a sampling technique that does not provide equal opportunities or opportunities for every element or member of the population to be selected as a sample (Sugiyono, 2016). The purposive sampling method is a sample determination technique with certain considerations. The non-probability sampling determination technique is used based on limited access to complete data of SIGNAL users. In addition, the user population is not fully identified.

Data Collection and Analysis Procedure

This study is associative research with a quantitative approach that aims to examine the relationship between perceived ease of use, perceived usefulness, e-satisfaction, and reuse intention. This study used questionnaire-based surveys with a Likert Scale ranging from 1 (strongly disagree) to 5 (strongly agree) to collect data. The collected responses were analyzed using the SEM-PLS approach through SmartPLS software to assess the relationship between the study variables. This study uses quantitative data obtained from surveys, which are compiled based on certain research indicators. Primary data, sourced directly from 180 SIGNAL app users, was obtained through an online questionnaire distributed through the Google Forms platform.

Table 1
Variables and Measurements

Variable	Indicator	Source
<i>Perceived Ease of Use (X1)</i>	1) Ease of use of the app (X _{1.1}).	McLean et al., (2020)
	2) Easy to learn applications (X _{1.2}).	
	3) Time and energy efficiency (X _{1.3}).	
	4) Flexibility in use (X _{1.4}).	
	5) Simplicity in interaction (X _{1.5}).	
	6) Convenience of using the service (X _{1.6}).	
<i>Perceived Usefulness (X2)</i>	1) Improves performance (X _{2.1}).	Nookhao & Kiattis (2023)
	2) Completing tasks faster (X _{2.2}).	
	3) Reduced usage costs (X _{2.3}).	
	4) Overall gives profit (X _{2.4}).	
<i>E-satisfaction (M)</i>	1) Satisfied with the overall experience (M _{1.1}).	Alshammari et al., (2022); Nookhao & Kiattis (2023)
	2) Happy with the overall experience (M _{1.2}).	
	3) Experience meets expectations (M _{1.3}).	
	4) Precise use decisions (M _{1.4}).	
<i>Reuse Intention (Y)</i>	1) Keep using the app (Y _{1.1}).	Kim et al., (2019); Luo et al., (2021); Rahi & Ghani, (2019); Yang & Jong, (2021)
	2) Use continuously (Y _{1.2}).	
	3) Favorite service (Y _{1.3}).	
	4) Recommendation (Y _{1.4}).	

Source: Journal review, 2025

Descriptive Analysis

This study involved 180 respondents, consisting of 53.3% women and 46.7% men. Most of them are 27-36 years old (46.1%) and live in North Denpasar (28.3%). The level of education is dominated by Bachelor's graduates (68.9%), and the majority work in the private sector (51.7%). In terms of income, more than half of the respondents (53.3%) earn between IDR 5,000,000 and IDR 10,000,000 per month, while 37.2% earn less than IDR 5,000,000.

3 Results and Discussions

This study uses the PLS-SEM method with Smart PLS 4.0 software. Model evaluation is carried out in two stages: Measurement Model Evaluation and Structural Model Evaluation. The result can be seen in Figure 2.

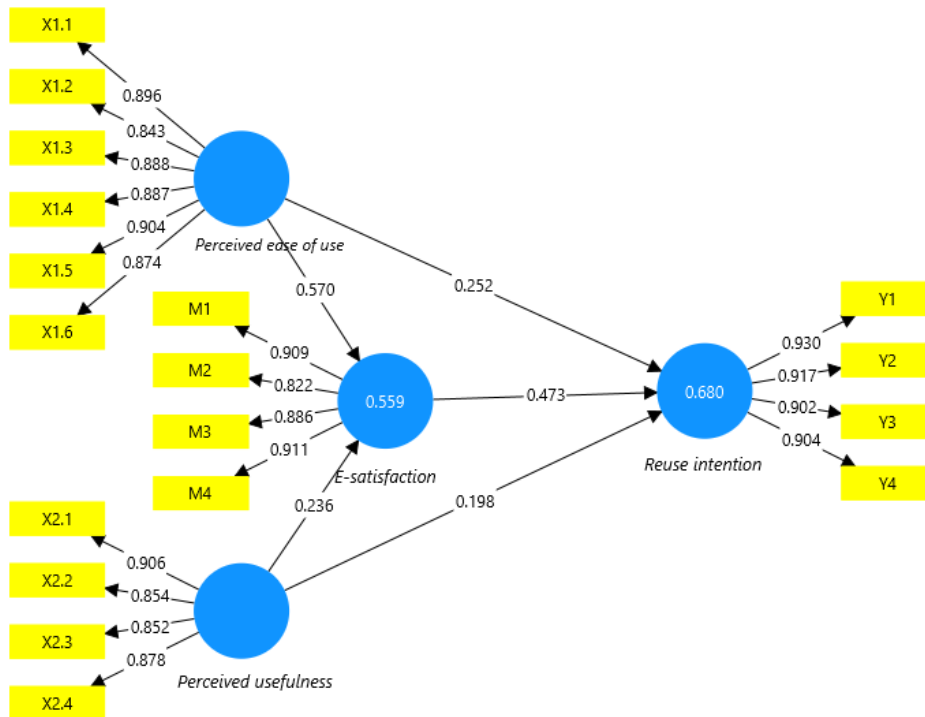


Figure 2. Result of Evaluation of the Measurement Model

Evaluation of the Measurement Model (Outer Model)

The measurement model is measured based on validity and reliability. Assessing validity with reflective indicators is evaluated through convergent and discriminant validity, while assessing reliability with reflective indicators is evaluated through composite reliability (Hair et al., 2017).

Convergent Validity

Convergent validity is used to measure the extent to which a construct is positively correlated with another construct (Hair et al., 2017). The value of the external charge is considered significant if the value is > 0.70; then the indicator is declared valid (Hair et al., 2017). Based on Table 1, the output results have met the convergent validity because the charge factor is above 0.70, so it can be said that all the indicators of the research variables are valid.

Table 2
Outer Loadings Result

	Original Sample (O)	T Statistics (O/STDEV)	P Values
M1 <- E-satisfaction	0,909	52,202	0,000
M2 <- E-satisfaction	0,822	26,568	0,000
M3 <- E-satisfaction	0,886	29,031	0,000
M4 <- E-satisfaction	0,911	48,225	0,000
X1.1 <- Perceived ease of use	0,896	38,844	0,000
X1.2 <- Perceived ease of use	0,843	22,105	0,000
X1.3 <- Perceived ease of use	0,888	35,064	0,000
X1.4 <- Perceived ease of use	0,887	45,562	0,000
X1.5 <- Perceived ease of use	0,904	43,267	0,000
X1.6 <- Perceived ease of use	0,874	33,857	0,000

	Original Sample (O)	T Statistics (O/STDEV)	P Values
X2.1 <- Perceived usefulness	0,906	35,804	0,000
X2.2 <- Perceived usefulness	0,854	20,247	0,000
X2.3 <- Perceived usefulness	0,852	25,285	0,000
X2.4 <- Perceived usefulness	0,878	38,704	0,000
Y1 <- Reuse intention	0,930	61,268	0,000
Y2 <- Reuse intention	0,917	48,381	0,000
Y3 <- Reuse intention	0,902	57,195	0,000
Y4 <- Reuse intention	0,904	38,399	0,000

Source: Data processed, 2025

Based on Table 4, the output results have met the convergent validity. This is indicated by the loading factor value of each indicator that is above the minimum limit, which is 0.70. This value shows that each indicator has a strong enough correlation to the construct (latent variable) it measures, so that it can be concluded that all indicators used in this study are valid and able to represent the research variables well.

Discriminant Validity

a. Cross Loading

The discriminant validity using cross-loading is achieved when the cross-loading value of each indicator is higher for its variable compared to the other variables. If these conditions are met, the indicator is considered valid.

Table 3
Discriminant Validity - Cross-Loading Test Results

	E-satisfaction	Perceived ease of use	Perceived usefulness	Reuse intention
M1	0.909	0.623	0.534	0.715
M2	0.822	0.668	0.570	0.736
M3	0.886	0.618	0.493	0.616
M4	0.911	0.648	0.564	0.663
X1.1	0.650	0.896	0.586	0.640
X1.2	0.591	0.843	0.527	0.523
X1.3	0.655	0.888	0.583	0.653
X1.4	0.632	0.887	0.605	0.678
X1.5	0.686	0.904	0.627	0.713
X1.6	0.624	0.874	0.583	0.621
X2.1	0.538	0.593	0.906	0.564
X2.2	0.513	0.479	0.854	0.544
X2.3	0.523	0.612	0.852	0.528
X2.4	0.567	0.630	0.878	0.644
Y1	0.729	0.738	0.649	0.930
Y2	0.734	0.651	0.587	0.917
Y3	0.665	0.612	0.551	0.902
Y4	0.707	0.647	0.603	0.904

Source: Data processed, 2025

Based on the results of discriminant validity, it can be seen that the correlation of the perceived ease of use (X1) variable with the indicator is higher than the correlation of perceived usefulness (X2), e-satisfaction (M), and reuse intention (Y). The correlation variable perceived usefulness (X2) with the indicator is higher than perceived ease of use (X1), e-satisfaction (M), and reuse intention (Y). Then the correlation of the e-satisfaction variable (M) with the indicator was higher than the correlation of the perceived ease of use (X1), perceived usefulness (X2), and reuse intention (Y) indicators. Furthermore, the correlation of reuse intention (Y) with the indicator is higher than the

correlation of *perceived usefulness* (X2), *e-satisfaction* (M), and *perceived ease of use* (X1) indicators. It can be explained that all indicators in each variable are *valid*.

Average Variance Extracted Values

Discriminant validity was measured by comparing the square root value of the average variance extracted (\sqrt{AVE}) with the correlation between latent variables. The model is said to have discriminant validity if the (\sqrt{AVE}) is greater than the correlation between the other variables in the model.

Table 4
Average Variance Extracted Values

Research Variables	AVE	(\sqrt{AVE})	<i>e-satisfaction</i>	<i>Perceived ease of use</i>	<i>Perceived usefulness</i>	<i>Reuse intention</i>
<i>E-satisfaction</i>	0.780	0.883	1.000	0.727	0.615	1.777
<i>Perceived ease of use</i>	0.778	0.882	0.727	1.000	0.665	0.727
<i>Perceived usefulness</i>	0.762	0.872	0.615	0.665	1.000	0.656
<i>Reuse intention</i>	0.834	0.913	0.777	0.727	0.656	1.000

Source: data processed, 2025

The model also has *discriminant validity* if the AVE value is above 0.50 (Hair et al., 2017). Based on Table 5.10, it can be explained that all variables have an AVE value above 0.50, and the correlation value is greater than the correlation between other variables in the model. The \sqrt{AVE} The output results show that the model can be said to be *valid*.

b. Composite Reliability

The group of indicators that measure a variable has good composite reliability if the composite reliability value is above 0.60 (Ghozali, 2014)

Table 5
Summary of Composite Reliability Test

Variable	Cronbach's Alpha	Composite Reliability	Information
E-satisfaction	0.905	0.934	Reliabel
Perceived ease of use	0.943	0.955	Reliabel
Perceived usefulness	0.896	0.927	Reliabel
Reuse intention	0.934	0.953	Reliabel

Source: data processed, 2025

The results of *composite reliability* output and *Cronbach's alpha* for the variables *perceived ease of use*, *perceived usefulness*, *e-satisfaction*, and *reuse intention* were all above 0.70. It can therefore be concluded that the model has good reliability.

Evaluation of Measurement Model (Inner Model)

The *inner test of the model* was carried out by looking at the R-squared value, which is a test of *the goodness of fit of the model*. The R-square model of the PLS can be evaluated by looking at the R-square *predictive relevance* for the variable model. R-squared measures how well the observed value is produced by the model and also the estimation of its parameters.

a. R-Square

The calculation of the R-squared value (R^2) aims to determine how much influence exogenous variables have on endogenous variables in structural models. A high R-squared value indicates that the model has a strong explanatory power for the variable under study.

Table 6
R-square Result

Variable	R-Square
<i>E-satisfaction</i>	0.559
<i>Reuse intention</i>	0.680

Source: data processed, 2025

b. Q-Square predictive relevance

Q-Square (Q^2) is used to see how well the model can predict the value of the outcome variable (endogenous). If the Q^2 value is more than 0, it means that the model has good predictive power. If it's 0 or less, the model can't predict well. The value of Q^2 ranges from 0 to 1, and the closer it is to 1, the better the model is at predicting.

$$\begin{aligned}
 Q^2 &= 1 - (1 - R^2) (1 - R^2) \\
 &= 1 - (1 - 0,559) (1 - 0,680) \\
 &= 1 - (0,441) (0,320) \\
 &= 1 - 0,141 = 0,859
 \end{aligned}$$

The result of the Q^2 calculation is 0.859, close to 1, so the conclusion is that the *reuse intention* in this study has a relevant predictive value of 85.9% because it can explain the information in this study.

Hypothesis Testing

Hypothesis testing using p-values. If the p-value is less than 0.05, the result is significant. This means that the variable is influential. If it is more than 0.05, the result is insignificant. Significant external loading means that the indicator is valid for measuring a variable. A significant internal model means that one variable influences another. PLS analysis shows how each variable affects the others.

Hipotesis	Original Sample	T Statistics	P-values	Information
<i>Direct Influence</i>				
E-satisfaction -> Reuse intention	0.473	4.939	0.000	Accepted
Perceived ease of use -> E-satisfaction	0.570	7.006	0.000	Accepted
Perceived ease of use -> Reuse intention	0.252	2.060	0.041	Accepted
Perceived usefulness -> E-satisfaction	0.236	2.508	0.013	Accepted
Perceived usefulness -> Reuse intention	0.198	2.121	0.035	Accepted
<i>Indirect Influence</i>				
Perceived ease of use -> E-satisfaction -> Reuse intention	0.269	4.065	0.000	Accepted
Perceived usefulness -> E-satisfaction -> Reuse intention	0.111	2.347	0.020	Accepted

Source: data processed, 2025

Discussion

The Effect of Perceived Ease of Use on Reuse Intention

The results of the study show that perceived ease of use has a positive effect on reuse intention. The ease of operating the SIGNAL app, such as its simple navigation and intuitive interface, encourages users to return to it. This supports the TAM model Davis (1989) which states that ease of use directly influences the intention to use technology. These

findings are reinforced by the research of [Ahmad et al. \(2022\)](#), [Kuswanadji et al. \(2024\)](#), and [Silva et al. \(2023\)](#) who also found that the perception of ease of use is positively correlated with the intention of reusing digital applications.

The Effect of Perceived Usefulness on Reuse Intention

The next finding shows that perceived usefulness has a significant effect on reuse intention. The SIGNAL application is perceived to provide real benefits such as time efficiency and ease of access to services. In TAM, perceived usefulness is the main construct that influences the decision to accept and continue to use the system [Davis \(1989\)](#). These results are in line with the research of [Rahi & Ghani \(2019\)](#), [Puthur et al. \(2020\)](#), [Daragmeh et al. \(2021\)](#) which confirms that usability perception is a strong predictor of digital technology reuse intentions.

The Effect of Perceived Ease of Use on E-Satisfaction

The ease of use of the SIGNAL application has been proven to contribute positively to e-satisfaction. When users find the app easy to understand and operate, it creates a satisfying experience. These findings support the Expectation Disconfirmation Theory [Oliver \(1980\)](#), which explains that satisfaction arises when the performance of a system meets or exceeds user expectations. Previous research by [Keni \(2020\)](#), [Jayantari et al. \(2021\)](#), [Nuralam et al. \(2024\)](#) also supports a positive relationship between perceived ease of use and user satisfaction in the context of digital applications.

The Effect of Perceived Usefulness on E-Satisfaction

In addition, perceived usefulness has a significant influence on e-satisfaction. When users feel that the app helps complete tasks efficiently, satisfaction increases. According to EDT, actual performance that meets expectations will result in positive evaluations that create satisfaction ([Oliver, 1980](#)). These findings are in line with the research of [Daragmeh et al. \(2021\)](#), [Ladkoom & Thanasopon \(2020\)](#), [Jayantari et al. \(2021\)](#), which found that the perception of the usability of technology positively affects user satisfaction.

The Influence of E-Satisfaction on Reuse Intention

This study also found that e-satisfaction has a direct effect on reuse intention. Users who are satisfied with the app's performance are likely to use it again in the future. This is in line with EDT, which states that satisfaction is a strong predictor of continued post-use behavior. These results are reinforced by research by [Al Amin et al. \(2020\)](#), [Miao et al. \(2022\)](#), [Jin & Ryu \(2024\)](#), which identified that digital satisfaction drives sustainable intent in the use of public service applications.

E-Satisfaction as a Mediator between Perceived Ease of Use and Reuse Intention

The results of the mediation test showed that e-satisfaction partially mediated the perceived effect of ease of use on reuse intention. This means that ease of use not only influences reuse intent directly, but also through positive experiences that increase satisfaction. These findings are in line with the integration of TAM and EDT [Click or tap here to enter text.](#) [Davis \(1989\)](#), [Oliver \(1980\)](#), and reinforced by the findings of [Jayantari et al. \(2021\)](#), [Keni \(2020\)](#), [Folia & Djumarno \(2022\)](#) who found that satisfaction mediates the influence of convenience perception on reuse intention.

E-Satisfaction as a Mediator between Perceived Usefulness and Reuse Intention

Finally, e-satisfaction has also been shown to mediate the relationship between perceived usefulness and reuse intention. Perception of benefits drives satisfaction, and satisfaction reinforces reuse intentions. These findings are consistent with the TAM and EDT models, where cognitive perceptions of system usability need to be followed by affective evaluation (satisfaction) in order to influence user behavior in an ongoing manner. These results are also in line with studies by [Nuralam et al. \(2024\)](#), [Jayantari et al. \(2021\)](#), [Ladkoom & Thanasopon \(2020\)](#) which affirmed the role of satisfaction mediation in the relationship between perceived usefulness and reuse intention.

4 Conclusion

This study shows that perceived ease of use and perceived usefulness have a direct and significant effect on the reuse intention of SIGNAL application users. Both also affect e-satisfaction, which partially mediates the relationship. These findings confirm that users' perceptions of the ease and benefits of applications, as well as satisfaction during use, are important factors in driving the sustainability of digital public service applications. In theory, these results strengthen the validity of the TAM and EDT models in explaining user behavior in the context of e-government.

Theoretically, these findings contribute to the development of a Technology Acceptance Model study that is integrated with the Expectation Disconfirmation Theory approach. This integration provides a more comprehensive understanding of the relationship between cognitive perception, affective evaluation, and user behavioral intentions towards digital systems.

Meanwhile, practically, the results of this research can be a reference for SIGNAL application developers and managers in improving the sustainability of application use. The focus of improvement can be directed at improving ease of navigation, improving relevant and functional features, and maintaining a satisfactory user experience to create long-term digital loyalty.

Limitation

This study has limitations that need to be considered for future research. It is recommended to conduct usability testing to evaluate the interface and interaction flow of the SIGNAL application to make it easier for users to understand. Future research can also examine the effectiveness of onboarding features, tutorials, or digital training in improving user skills.

The addition of features such as tax reminders is considered to increase benefits and user satisfaction. In addition, application managers need to continue to pay attention to the aspects of convenience, usefulness, and satisfaction to increase user loyalty. For academic development, it is recommended to add other relevant variables and expand the research area with a comparative approach between regions, in order to explore digital cultural differences and the acceptance rate of SIGNAL applications more broadly.

Conflict of interest statement

The authors declared that they have no competing interests.

Statement of authorship

The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

Acknowledgments

The author respectfully expresses sincere gratitude to Dr. I Nyoman Nurcaya, S.E., M.M. for her invaluable guidance, encouragement, and support throughout the course of this research. Her expertise has been instrumental in the successful completion of this study. The author also sincerely thanks all users of the SIGNAL application in Denpasar who participated as respondents, whose honest and valuable feedback greatly contributed to the success of this research.

References

- Ahmad, A. R., Meuthia, R. F., & Ferdawati. (2022). The Effect of Perceived Ease of Use, Perceived Usefulness, and Compatibility on the Intention to Use the Samsat Digital National (SIGNAL) Application in Padang. *Proceeding Applied Business and Engineering Conference*.
- Ahn, T., Ryu, S., & Han, I. (2004). The impact of the online and offline features on the user acceptance of Internet shopping malls. *Electronic commerce research and applications*, 3(4), 405-420. <https://doi.org/10.1016/j.elerap.2004.05.001>
- Al Amin, M., Arefin, M. S., Sultana, N., Islam, M. R., Jahan, I., & Akhtar, A. (2020). Evaluating the customers' dining attitudes, e-satisfaction and continuance intention toward mobile food ordering apps (MFOAs): evidence from Bangladesh. *European Journal of Management and Business Economics*, 30(2), 211-229.
- Alshammari, T., Messom, C., & Cheung, Y. (2022). M-government continuance intentions: an instrument development and validation. *Information Technology for Development*, 28(1), 189-209.
- Ariffin, S. K., & Lim, K. T. (2020). Investigating factors affecting intention to use mobile payment among young professionals in Malaysia. In *First ASEAN Business, Environment, and Technology Symposium (ABEATS 2019)* (pp. 6-11). Atlantis Press.
- Bhattacharjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS quarterly*, 351-370.
- Daragmeh, A., Sági, J., & Zéman, Z. (2021). Continuous intention to use e-wallet in the context of the covid-19 pandemic: Integrating the health belief model (hbm) and technology continuous theory (tct). *Journal of open innovation: technology, market, and complexity*, 7(2), 132. <https://doi.org/10.3390/joitmc7020132>
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *Management Information Systems Research Center, University of Minnesota*, 13(3), 319-340.
- Dwijayanti, N. M. A. M., Suasana, I. G. A. K. G., Giantari, I. G. A. K., & Suparna, G. (2023). The Role of Satisfaction Mediates The Effect of Perceived Usefulness and Perceived Ease of Use on The Intension of reuse Shopeepay. *American Journal of Humanities and Social Sciences Research*, 7(8), 1-14.
- Elkadi, H. (2013). Success and failure factors for e-government projects: A case from Egypt. *Egyptian Informatics Journal*, 14(2), 165-173. <https://doi.org/10.1016/j.eij.2013.06.002>
- Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research.
- Folia, S. L., & Djumarno. (2022). Intention to Reuse on the Go-Pay Digital Wallet Application; Technology Acceptance Model (TAM) Theory Approach with Customer Satisfaction as a Mediating Variable. *International Journal of Scientific Research in Science and Technology*, 458-469.
- Furuholt, B., & Wahid, F. (2008). E-government Challenges and the Role of Political Leadership in Indonesia: the Case of Sragen. In *Proceedings of the 41st Annual Hawaii International Conference on System Sciences (HICSS 2008)* (pp. 411-411). IEEE.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd Editio).
- Jayantari, I. A. A. U., Wardana, M., Giantari, I. G. A. K., & Setiawan, Y. (2021). *Perceived Usefulness, Perceived Ease of Use, and Consumer Satisfaction on Repurchase Intention of Digital Wallet Service (e-wallet)*. 23, 56-61.
- Jin, J., & Ryu, M. H. (2024). Sustainable Healthcare in China: Analysis of User Satisfaction, Reuse Intention, and Electronic Word-of-Mouth for Online Health Service Platforms. *Sustainability*, 16(17), 7584.
- Kaya, B., Behraves, E., Abubakar, A. M., Kaya, O. S., & Orús, C. (2019). The Moderating Role of Website Familiarity in the Relationships Between e-Service Quality, e-Satisfaction and e-Loyalty. *Journal of Internet Commerce*, 18(4), 369-394.
- Keni, K. (2020). How Perceived Usefulness and Perceived Ease of Use Affecting Intent to Repurchase? *Jurnal Manajemen*, 24(3), 481.
- Kim, K. H., Kim, K. J., Lee, D. H., & Kim, M. G. (2019). Identification of critical quality dimensions for continuance intention in mHealth services: Case study of onecare service. *International Journal of Information Management*, 46, 187-197. <https://doi.org/10.1016/j.ijinfomgt.2018.12.008>
- Kotler, P., & Keller, K. L. (2016). *Marketing Management* (15th Editi). Person Education.
- Kumar, S., & Shah, A. (2021). Revisiting food delivery apps during COVID-19 pandemic? Investigating the role of emotions. *Journal of Retailing and Consumer Services*, 62, 102595. <https://doi.org/10.1016/j.jretconser.2021.102595>

- Kuswanadji, A., Kuswardani, D., & Utaminingsih, A. (2024). Analyzing The Effects of Customer Satisfaction as An Intervening Variable on The Perceived Usefulness and Ease of Use on The Intention to Reuse (Study on The Use of The New Sakpole Application). *Management Studies and Entrepreneurship Journal*, 5(2), 3946-3954.
- Ladkoom, K., & Thanasopon, B. (2020). Factors influencing reuse intention of e-payment in Thailand: A case study of promptpay. *ICEIS 2020 - Proceedings of the 22nd International Conference on Enterprise Information Systems*, 1, 743–750.
- Luo, Y., Wang, G., Li, Y., & Ye, Q. (2021). Examining Protection Motivation and Network Externality Perspective Regarding the Continued Intention to Use M-Health Apps. *International Journal of Environmental Research and Public Health*, 18(11), 5684.
- McLean, G., Osei-Frimpong, K., Al-Nabhani, K., & Marriott, H. (2020). Examining consumer attitudes towards retailers'm-commerce mobile applications—An initial adoption vs. continuous use perspective. *Journal of Business Research*, 106, 139-157. <https://doi.org/10.1016/j.jbusres.2019.08.032>
- Miao, M., Jalees, T., Zaman, S. I., Khan, S., Hanif, N. ul A., & Javed, M. K. (2022). The influence of e-customer satisfaction, e-trust and perceived value on consumer's repurchase intention in B2C e-commerce segment. *Asia Pacific Journal of Marketing and Logistics*, 34(10), 2184–2206.
- Mushi, R. M. (2024). Assessing the factors influencing intention to use e-government in Tanzania: the perspective of trust, participation and transparency. *Journal of Electronic Business & Digital Economics*, 3(2), 156-169.
- Nookhao, S., & Kiattisin, S. (2023). Achieving a successful e-government: Determinants of behavioral intention from Thai citizens' perspective. *Heliyon*, 9(8).
- Nuralam, I. P., Yudiono, N., Fahmi, M. R. A., Yuliaji, E. S., & Hidayat, T. (2024). Perceived ease of use, perceived usefulness, and customer satisfaction as driving factors on repurchase intention: the perspective of the e-commerce market in Indonesia. *Cogent Business and Management*, 11(1).
- Oliver, R. L. (1980). A Cognitive Model of the Antecedence and Consequences of Satisfaction Decisions. *Journal of Marketing Research*, 17(4), 460–469.
- Prasetyo, Z., & Fadholi, A. (2024). Pengaruh Penerapan Aplikasi Signal Dan Layanan Samsat Keliling Terhadap Kepatuhan Wajib Pajak Kendaraan Bermotor Di Samsat Jakarta Utara. *Jurnal Intelek Dan Cendekiawan Nusantara*, 1(5), 6947-6958.
- Prayudi, I. G., Sukaatmadja, I. P. G., Yasa, N. N. K., & Giantari, I. G. A. K. (2022). The role of trust in mediation the effect of perception of ease of use and perception of usefulness on intention to re-using the mobile banking service. *International Research Journal of Management, IT and Social Sciences*, 9(4), 482–493. <https://doi.org/10.21744/irjmis.v9n4.2102>
- Puthur, J. K., George, A. P., & Mahadevan, L. (2020). Understanding citizen's continuance intention to use e-government services: the case of the Indian railway e-ticket booking site. *International Journal Business Information Systems*, 34(2), 183–203.
- Rahi, S., & Abd. Ghani, M. (2019). Integration of expectation confirmation theory and self-determination theory in internet banking continuance intention. *Journal of Science and Technology Policy Management*, 10(3), 533-550.
- Santhanamery, T., & Ramayah, T. (2019). Explaining and Predicting Users' Continuance Usage Intention Toward E-Filing Utilizing Technology Continuance Theory. In *Advanced Methodologies and Technologies in Business Operations and Management*.
- Silva, F. A., Shojaei, A. S., & Barbosa, B. (2023). Chatbot-Based Services: A Study on Customers' Reuse Intention. *Journal of Theoretical and Applied Electronic Commerce Research*, 18(1), 457–474.
- Sugiyono, S. (2016). Metode penelitian kuantitatif, kualitatif, R&D. *Bandung: Alfabeta*, 1(11).
- Susanto, A., Chang, Y., & Ha, Y. (2016). Determinants of continuance intention to use the smartphone banking services: An extension to the expectation-confirmation model. *Industrial Management & Data Systems*, 116(3), 508-525.
- Venkatesh, V., & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, 46(2), 186–204.
- Yang, J., & Jong, D. (2021). Understanding Continuance Intention Determinants to Adopt Online Health Care Community: An Empirical Study of Food Safety. *International Journal of Environmental Research and Public Health*, 18(12), 6514.