Journal of Management, Entrepreneurship and Tourism
https://skillerindonesia.id/index.php/jmet

Vol. 3, No. 1: January 2025
E-ISSN: 3024-9899
pp 73-86
Email:jmet@skillerindonesia.id

User Satisfaction Analysis of SMOPI Application: The Role of User Interface, Perceived Ease of Use, and Behavioral Intention at the Irrigation Engineering Center - Ministry of Public Works and Public Housing

Azharul Iman[1*],Muhammad Fauzan Azhmy[2], Rini Indahwati[3]
[1,2,3]Postgraduate program, faculty of business economics, Universitas Harapan Medan

*Corresponding Author Email: aroel96@gmail.com

Article History
Received: 27-11-2024
Revised: 14-12-2024
Published: 27- 01-2025

Key Words:
User satisfaction Analysis, behavioral Intention, irrigation Engineering Center.

Abstract: This research analyzed how the user interface, perceived ease of use, and behavioral intention impact user satisfaction with the SMOPI application based on the technology acceptance model. A quantitative survey using a cross-sectional design collected data from application users through sampling. Structural equation modeling with SMARTPLS analyzed the results. The findings demonstrated that the user interface significantly influenced satisfaction, with a path coefficient of 0.645 and P-value of 0.021, indicating a comfortable and relevant interface enhances satisfaction. However, perceived ease of use and behavioral intention did not significantly impact satisfaction, recording path coefficients of -0.015 (P-value 0.947) and 0.189 (P-value 0.591), respectively. In closing, the user interface emerged as the most consequential factor in determining satisfaction with the SMOPI application. Optimizing features to align with consumer needs while refining the design were recommended to boost satisfaction overall. Adopting the technology acceptance model in this research provided useful insights into user acceptance and the satisfaction-influencing elements.

How to Cite: iman, azharul, Fauzan Azhmy, M., & Indahwati, R. (2025). User Satisfaction Analysis of SMOPI Application: The Role of User Interface, Perceived Ease of Use, and Behavioral Intention at the Irrigation Engineering Center - Ministry of Public Works and Public Housing. *JMET: Journal of Management Entrepreneurship and Tourism*, *3*(1), 73–86. https://doi.org/10.61277/jmet.v3i1.166

https://doi.org/10.61277/jmet.v3i1.166ss

Introduction

Effective and efficient, fair and sustainable irrigation management is the dream of irrigation managers. This dream can be supported by good irrigation performance. However, irrigation performance in irrigated areas in Indonesia continues to decline. Apart from the declining condition of infrastructure and supporting facilities for irrigation management, the decline in irrigation performance is also caused by a decline in poor irrigation management.

The decline in poor irrigation management is the government's encouragement to be able to carry out irrigation management with the concept of modern irrigation. Modern irrigation is a participatory irrigation management system that is oriented to improving irrigation services (*Level of Irrigation Service*) on the basis of a complete, effective, efficient and sustainable irrigation management system and to support the productivity of farming businesses to increase agricultural production in the context of national food security and farmers' welfare. Modern irrigation is realized by increasing the reliability of irrigation water supply, improving irrigation facilities and infrastructure, improving irrigation management, strengthening irrigation management institutions, and empowering irrigation managers.

Irrigation management will be oriented towards the rights and obligations of the community in order to access local resources in a fair manner to support food sovereignty policies and other agriculture, be open, participatory, accountable, efficient, effective, easy to operate, accurate, support management towards real time, real allocation, real losses basis. To be able to guarantee its implementation, information and communication technology will be used.

One of the best management practices in irrigation is to allow for improvements through the application of new technologies (Wahditiya et al., 2024). To facilitate irrigation operations, one of them is the use of the Irrigation Operation and Maintenance Management System (SMOPI) application. The application of internet-based technology in the SMOPI application is expected to be able to answer the challenge of irrigation management. The development of irrigation operation and maintenance management system technology is a step to support irrigation modernization as a form of support for the implementation of irrigation modernization by providing alternative solutions to the irrigation management system which is the 3rd pillar of Irrigation Modernization, namely Step 19 improvement of the blank system: 12 O blanks and 10 P blanks.

The SMOPI development stage in 2022 was evaluated by evaluating the SMOPI work system, namely the identification of the assignment flow and SMOPI account menu as well as the flow of reporting irrigation operations and maintenance. Identification is carried out gradually and periodically so that in the future this application can answer the needs and challenges of irrigation management throughout Indonesia.

Research Method

The methodology used in this study is the Technology Acceptance Model (TAM). This model explains and predicts the user's acceptance of a technology and describes the behavior of the use of the technology. This model places the attitude factor and each behavior of the user with two variables, namely perceived usefulness and perceived ease of use. Data collection was carried out by distributing questionnaires to a population at the Irrigation Engineering Center by collecting data through filling out questionnaires by irrigation managers at the research location ranging from mantri, observers to UPT staff involved in this study. The questionnaire results data were statistically analyzed with the help of SMART-PLS software to obtain the level of acceptance of local irrigation managers in using this SMOPI.

This processing aims to find out whether the questions asked in the questionnaire can be used as a reference or not. The tests carried out include Validity and Reliability tests. After the validity test is carried out, it is necessary to conduct an r test to find out the validity of the data. The Reliability Test aims to show the extent of the degree of consistency of measurement from one respondent to another or in other words the extent to which the question can be understood so that it does not cause different interpretations in the understanding of the question. Furthermore, the normality test was used to determine whether the data population in the variables X1 (convenience), X2 (benefit), X3 (Behavioral Intention and Y (attitude) was normally distributed or not. The heteroscedasticity test is used to determine whether or not there is a deviation from the classical assumption of heteroskemastiness, namely the existence of variance inequality from residual for all observations in the regression model, if the significance value is 1.00, then heteroscedasticity does not occur. The autocorrelation test is used to determine whether or not there is a deviation from the classical assumption of autocorrelation, which is the correlation that occurs between the residuals of one observation and another observation in the regression model.

Types and Data Sources

The type of data used in this study is primary data, which is data obtained directly from the first source at the location or object of research. According to Rahardjo (2021), primary data is information collected directly by researchers through various methods such as interviews, surveys, observations, experiments, and questionnaires. The use of these methods ensures that the data obtained has high relevance and accuracy in accordance with the research objectives. In addition, Pratama (2023) stated that the use of primary data allows researchers to obtain specific and targeted data according to research needs, while providing full control over the data collection process. Sutrisno (2022) also emphasized the importance of primary data in ensuring the validity and reliability of research results, because the data was obtained directly from the original source without intermediaries. Therefore, the selection of primary data, including the use of questionnaires as one of the data collection methods, is an important step in designing systematic and trustworthy research.

The data used in this study are data on user perceptions of the usefulness and ease of use of SMOPI, as well as user opinions regarding actual attitudes, interests, and uses of SMOPI. In this study, the source of data is SMOPI Application users who have used the SMOPI application under the auspices of the Irrigation Engineering Center of the Ministry of PUPR.

Research Population and Sample

The population in this study is several employees of the River Area Center under the auspices of the Irrigation Engineering Center totaling 30 people. Population is a general collection consisting of research subjects and objects that have certain qualities and characteristics determined by the researcher to be analyzed and drawn conclusions. According to Haryanto (2021), the population includes all elements relevant to the research objectives, which allows researchers to generalize the results of the study. In addition, Nugroho and Wibowo (2023) stated that the determination of the right population is very important to ensure that the samples taken are representative of the entire population, so that the results of the study can be generalized accurately. Putri (2022) also emphasized that the characteristics of the population must be clear and specific so that research can be carried out systematically and the results can be trusted. Therefore, population identification and definition is a fundamental step in an effective and efficient research planning process.

Certain characteristics of a phenomenon obtained through the data source in the study are the subject from which it can be obtained. The decision to choose a data source will determine the wealth of data obtained. The sources of data obtained by the researcher are primary and secondary data. Primary data is data that comes from original or primary sources, either from individuals or individuals, such as data from questionnaire respondents. Primary data is in the form of data obtained from questionnaires given to Users under the auspices of the Irrigation Engineering Center, while secondary data in this study comes from library sources and official website publications related to this research.

Data Collection Methods

The data collection method used in this study is divided into two data collection methods as follows:

1. Methodology Concentrations

According to Sujarweni, a questionnaire is a data collection technique by giving a set of questions or written statements to the respondents to answer. With this questionnaire, it is relatively practical, especially if the respondents are quite large and spread in various places. This questionnaire or questionnaire has several advantages, namely: 1) If the location of the respondents is far enough, the easiest method of data collection is by questionnaire, 2) The questions that have been prepared are an efficient time to reach a large number of respondents, 3) With a questionnaire it will give the respondent an easy opportunity to discuss with his friends if he finds a question that is difficult to answer, 4) With the questionnaire, respondents can more freely answer it anywhere, anytime, without feeling forced. The questionnaire here uses the measurement while the Likert Scale measures the attitude, opinion, and perception of a person/group of people about social phenomena. Generally, the Likert scale contains answer options such as:

Table 1. Likert

Likert scale Kode	Information	Shoes
SA	Strongly Agree	5
A	Agree	4
N	Neutral	3
D	Disagree	2
SD	Strongly disagree	1

2. Literature methods

Literature review, also known as literature review, is a structured process of collecting, analyzing, and putting together relevant literature on the research topic. The main purpose of a literature study is to understand the development of theories, concepts, and findings of previous research and to identify shortcomings or gaps that can be filled by the research being conducted (Hartanto, 2022).

3. Documentation

The documentation method is information that comes from important records from an institution, organization, or individual. In this study, documentation was obtained from the academic side about information on the entire number of employees at the Irrigation Engineering Center

Result and Discussion

Questionnaire

In this study, the researcher used 12 questions for the questionnaire

Independent Variables Question:

X1: User Interface

SMOPI features are easy to fit my needs

The SMOPI app meets my expectations in daily use

I feel interested in using the features of the SMOPI App in the future

X2: Perceived Ease of Use (Kemudahan Penggunaan)

I will continue to use the SMOPI App because I am satisfied with its performance

The SMOPI application makes it easier for me to do my daily work

I am satisfied with the overall performance of the SMOPI App

X3: Behavioral Intention (Niat Keperilakuan)

I feel like the SMOPI App improves my productivity

SMOPI App Interface is convenient to use for a long time

The process of completing tasks using this system feels fast and efficient

Dependent Variable:

Y1: User Satisfaction

I intend to use this system regularly in my daily work

I find it easy to learn how to use this systemI feel that this system helps me achieve my job goals

I feel like this system helps me achieve my job goals

Test Requirements Analysis

Validity Test

Outer Loadings

Convergence Validity Criteria: Generally, outer loading above 0.7 is recognized as a good indicator of convergent validity. If the outer loading value is below 0.7, this may indicate that the indicator may be less valid in measuring the construct in question, and should be reviewed further.

Outer Loadings Details for Each Construct:

Construct X1: User Interface

"SMOPI App Interface is convenient to use for a long time": 0.864 (Valid)

"SMOPI features are easy as I need": 0.921 (Valid)

"I feel interested in using the features of the SMOPI App in the future": 0.793 (Valid)

All indicators in this construct have an outer loading above 0.7, indicating strong convergence validity, so the User Interface construct is considered valid as a whole.

Construct X2: Perceived Ease of Use

"The SMOPI application makes it easier for me to do my daily work": 0.761 (Valid)

"I will continue to use the SMOPI App because I am satisfied with its performance": 0.773 (Valid)

"I am satisfied with the overall performance of the SMOPI App": 0.808 (Valid)

The indicators in this construct also show good convergent validity, with all values above 0.7, reinforcing that the Perceived Ease of Use construct is valid.

3. Construct X3: Behavioral Intention

"I feel the SMOPI App improves my productivity": 0.778 (Valid)

"The process of completing tasks using this system feels fast and efficient": 0.865 (Valid)

A good outer loading value for these two indicators indicates that the Behavioral Intention construct has sufficient convergent validity.

4. Construct Y1: User Satisfaction

"I intend to use this system regularly in my daily work": 0.830 (Valid)

"I find it easy to learn how to use this system": 0.684 (Less Valid)

"I feel this system is helping me achieve my job goals": 0.880 (Valid)

While most of the User Satisfaction construct indicators show good convergent validity, one indicator—"I find it easy to learn how to use this system"—has an outer loading value of slightly below 0.7 (0.684). This indicates that the indicator is at the threshold of convergent validity, and while marginally acceptable, further consideration is needed as to whether it is worth maintaining or needs to be refined. Overall, the convergence validity for most constructs is quite strong, with only one indicator needing further attention

Average Variance Extracted (AVE)

AVE is used to assess the convergent validity of a latent construct, with an AVE value > 0.5 indicating that the construct has sufficient convergent validity. This means that most of the variance of the indicators in the construct can be explained by the construct itself.

Results for Each Construct:

X1: User Interface

AVE Value: Approximately 0.72 Interpretation: With an AVE value of 0.72, the User Interface construct has excellent convergence validity. This suggests that the majority of the variance measured by these construct indicators can be explained by the construct itself, signaling strong consistency in measuring the user experience with the application interface.

X2: Perceived Ease of Use

AVE Value: Approximately 0.60 Interpretation: An AVE value of 0.60 indicates that the Perceived Ease of Use construct has fairly good convergent validity. This means that the perception of ease of use has an adequate correlation with the indicators used to measure it.

X3: Behavioral Intention

AVE Value: Approximately 0.70 Interpretation: With an AVE of 0.70, the Behavioral Intention construct also has good convergent validity, meaning that relevant indicators consistently measure the user's behavioral intent to use the app in the future.

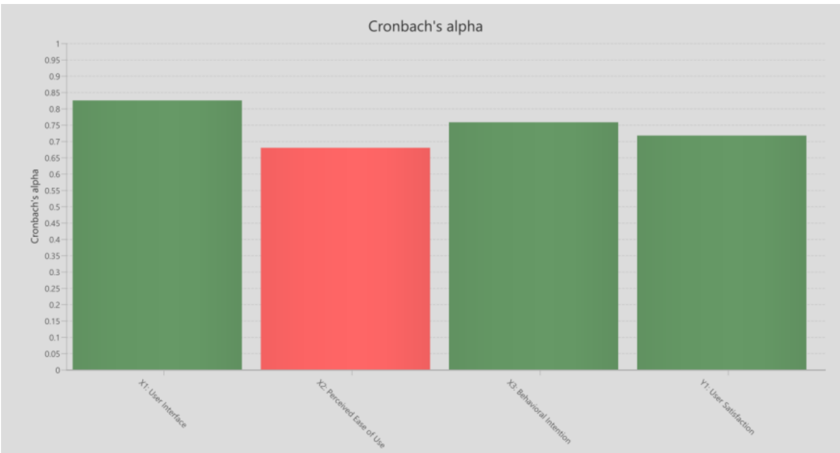
Y1: User Satisfaction

AVE Value: Approximately 0.69 Interpretation: An AVE value of 0.69 indicates that the User Satisfaction construct has good convergent validity. This indicates that existing indicators accurately measure user satisfaction, so this construct can account for most of the variance of the user satisfaction experience.

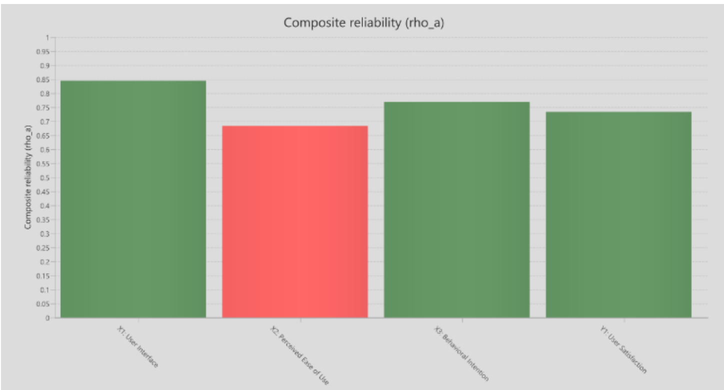
Conclusion: All constructs in the model (X1, X2, X3, and Y1) have an AVE value above 0.5, which indicates that convergent validity for each construct is acceptable. The User Interface construct (X1) has the highest AVE value, indicating that the variance described by the indicators in this construct is very high, indicating strong consistency in describing the user interface.

Reliability Test

Cronbach's Alpha



Cronbach's Alpha is a tool used to assess the internal consistency of a construct. A Cronbach's Alpha value of more than 0.7 indicates that the indicators in a construct have good consistency. If it is below 0.7, this indicates an inconsistency in the measurement.
Here is a reliability analysis based on Cronbach's Alpha values:
Construct X1: User Interface
Cronbach's Alpha: ~0.85 (above 0.7, good reliability)
User Interface constructs show strong internal consistency, which means that the indicators within these constructs correlate well with each other in measuring user interface aspects. With a score above 0.7, the reliability is already very good.
Konstruk X2: Perceived Ease of Use
Cronbach's Alpha: ~0.65 (slightly below 0.7)
The lower Cronbach's Alpha value on the Perceived Ease of Use construct indicates that there is an inconsistency between the indicators in measuring the perception of ease of use. This may indicate the presence of one or more indicators that are less aligned or do not reflect this construct as a whole. To improve reliability, it is necessary to evaluate existing indicators or add new indicators that are more representative.
Construct X3: Behavioral Intention
Cronbach's Alpha: ~0.78 (above 0.7, good reliability)
The Behavioral Intention construct shows quite good reliability, with adequate internal consistency. The indicators are aligned in measuring the user's intention to behave or act based on the application used.
Konstruk Y1: User Satisfaction
Cronbach's Alpha: ~0.75 (above 0.7, good reliability)
The User Satisfaction construct also indicates acceptable reliability. The indicators used to measure user satisfaction are consistent, with values above 0.7.
Conclusion:
The X1 (User Interface), X3 (Behavioral Intention), and Y1 (User Satisfaction) constructs show good reliability, with Cronbach's Alpha values above 0.7. This means that the construct's indicators are consistent in their measurements.
The X2 (Perceived Ease of Use) construct has a Cronbach's Alpha slightly below 0.7, indicating a potential measurement inconsistency. Therefore, further analysis is needed to determine if any indicators need to be revised or replaced to improve reliability
Composite Reliability (CR)



Vol. 3, No. 1: January 2025
E-ISSN: 3024-9899
pp 73-86
Email:jmet@skillerindonesia.id

Composite Reliability (CR) provides a more flexible picture of construct reliability than Cronbach's Alpha, considering each indicator's contribution based on its outer loading weight. Here is a reliability analysis of each construct based on CR:

Construct X1: User Interface

Composite Reliability: ~0.85 (Good Reliability)

The User Interface construct demonstrates strong reliability, with all indicators contributing consistently to the construction measurement. This indicates that this construct has good internal consistency, similar to the results of Cronbach's Alpha. Its solvency is considered to be excellent and does not require further improvement.

Konstruk X2: Perceived Ease of Use

Composite Reliability: ~0.68 (Slightly below 0.7, Less Strong Reliability)

This CR value shows that the internal consistency of the Perceived Ease of Use construct is still not optimal. This finding is consistent with Cronbach's Alpha results, which are also below 0.7. A low CR score indicates that there are indicators that do not contribute to the measurement of this construct. Possible improvements include replacing or revising weak indicators or adding more representative indicators.

Construct X3: Behavioral Intention Composite Reliability: ~0.78 (Good Reliability)

The Behavioral Intention construct shows good reliability with a CR value above 0.7, confirming the consistency of the indicator in measuring user behavioral intention. These results are consistent with previous Cronbach's Alpha analysis, which also shows that this construct has acceptable consistency.

Conclusion Y1: User Satisfaction Composite Reliability: ~0.76 (Reliabilitas Baik)

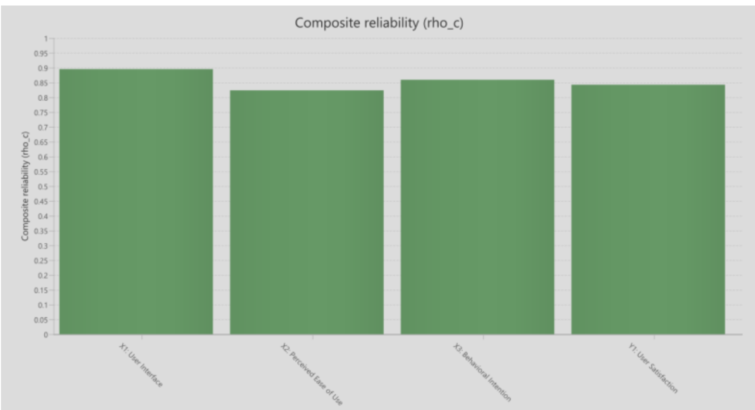
The User Satisfaction construct also shows good reliability with a CR value above 0.7. This shows that the indicators in this construct are consistent in their measurements and do not require significant changes.

Conclusion:

Constructs X1 (User Interface), X3 (Behavioral Intention), and Y1 (User Satisfaction) show good reliability, with Composite Reliability values above 0.7, which means these constructs have strong and reliable measurement consistency.

Construct X2 (Perceived Ease of Use) has a Composite Reliability that is below 0.7 (~0.68), indicating a potential reliability problem. To improve the reliability of this construct, it is possible to evaluate indicators that contribute less, or add new, more representative indicators to improve internal consistency.

Composite Realibility (rho_c)



JMET
Journal of Management, Entrepreneurship and Tourism
https://skillerindonesia.id/index.php/jmet
Vol. 3, No. 1: January 2025
E-ISSN: 3024-9899
pp 73-86
Email:jmet@skillerindonesia.id

Gambar 1. Composite reliability (rho_x)

Composite Reliability (rho_c) is a more accurate measure of assessing the internal consistency of a construct, taking into account the contribution of each indicator calculated based on outer loadings. With the criterion that a value rho_c > 0.7 indicates good reliability, while a value between 0.6 and 0.7 requires more attention, here is a detailed analysis of each construct:

1. Construct X1: User Interface Composite Reliability (rho_c): ~0.90 (Very Good)

User Interface constructs have very strong reliability. With near-perfect rho_c values, the indicators in this construct are very consistent in measuring aspects of the user interface. This reliability shows that the indicators in this construct work together optimally.

2. Construct X2: Perceived Ease of Use Composite Reliability (rho_c): ~0.78 (excellent close to 0.8)

Although in Cronbach's Alpha test, the Perceived Ease of Use construct showed less than optimal results (below 0.7), but based on the rho_c value, this construct showed better reliability, with a value above 0.7. This shows that, despite some inconsistencies, overall, this construct is still quite reliable in measuring the perception of ease of use. Further review of indicators that contribute low is still recommended, but their reliability is generally acceptable.

3. Konstruk X3: Behavioral Intention Composite Reliability (rho_c): ~0.85 (Baik)

The Behavioral Intention construct shows a good rho_c value, with strong reliability in measuring user intent. The indicators in this construct consistently describe user behavior towards the application, and no signs of reliability issues need to be fixed.

4. Konstruk Y1: User Satisfaction Composite Reliability (rho_c): ~0.85 (Baik)

The User Satisfaction construct also shows an excellent reliability value, with rho_c above 0.8. This confirms that this construct's indicators work harmoniously to measure user satisfaction. No significant issues were detected in the reliability of this construct.

Conclusion:

The X1 (User Interface), X3 (Behavioral Intention), and Y1 (User Satisfaction) constructs all show excellent reliability, with Composite Reliability (rho_c) values above 0.85. This shows that the indicators in these constructs are consistent and work well together.

Although Cronbach's Alpha analysis shows a slight shortcoming in the X2 (Perceived Ease of Use) construct, with a value of rho_c ~0.78, it is now at an acceptable level and shows fairly good reliability. This indicates that this construct may not require significant changes, although a review of certain indicators can be beneficial to ensure higher consistency.

Inner Model

The structural model (inner model) evaluates the relationship between latent constructs (independent and dependent variables). From the table shared, we see that constructs such as X1: User Interface, X2: Perceived Ease of Use, X3: Behavioral Intention, and Y1: User Satisfaction have a value of 1 diagonally, which usually indicates self-correlation, not the relationship between constructs.

To be clearer, we usually need to look at some information in the analysis of the inner model:

Path Coefficients.

Figure. 1 Path coefficients

Path coefficients - List

	Path coefficients
X1: User Interface -> Y1: User Satisfaction	0.645
X2: Perceived Ease of Use -> Y1: User Satisfaction	-0.015
X3: Behavioral Intention -> Y1: User Satisfaction	0.189

Vol. 3, No. 1: January 2025
E-ISSN: 3024-9899
pp 73-86
Email:jmet@skillerindonesia.id

Path coefficients provide insight into the strength and direction of the relationship between independent and dependent variables in structural models. Coefficient values range from -1 to +1, where values close to +1 or -1 indicate an increasingly strong relationship. The following is an analysis of the path coefficients for each relationship in the model:
X1: User Interface → Y1: User Satisfaction
Path Coefficient: 0.645
Interpretation: The relationship between User Interface and User Satisfaction shows a strong positive influence, with a coefficient value of 0.645. This means that the better the user interface (UI), the higher the user satisfaction. This influence is significant, suggesting that UI plays a key role in shaping user satisfaction. In the context of app design, UI improvements can directly improve user experience and satisfaction.
b. X2: Perceived Ease of Use → Y1: User Satisfaction
Path Coefficient: -0.015
Interpretation: The relationship between Perceived Ease of Use and User Satisfaction is weak and negative, with a coefficient value of -0.015. This association is very small and close to zero, suggesting that the perception of ease of use has no significant influence on user satisfaction. Even if the results were negative, the value was too small to be significant. This indicates that users may not value ease of use as a key factor in determining satisfaction, or that this factor is influenced by other variables that are not measured in this model.
c. X3: Behavioral Intention → Y1: User Satisfaction
Path Coefficient: 0.189
Interpretation: Positive relationship between Behavioral Intention and User Satisfaction with a path coefficient of 0.189. Although the relationship is positive, this value shows a weaker influence compared to the relationship between User Interface and User Satisfaction. This suggests that behavioral intent to use the app in the future does affect user satisfaction, but the influence is not as strong as the UI aspect. Users may be interested in using the app, but their satisfaction depends more on the quality of the UI than their behavioral intent.
Conclusion:
User Interface (X1) has the greatest influence on User Satisfaction (Y1), with a coefficient of 0.645. This suggests that improvements to the user interface can significantly improve user satisfaction.
Perceived Ease of Use (X2) does not appear to have a significant effect on user satisfaction, with a very small negative coefficient (-0.015). This indicates that users may focus more on other factors than ease of use in assessing their satisfaction.
Behavioral Intention (X3) had a positive effect on user satisfaction, although it had a weaker effect than User Interface, with a coefficient of 0.189. This signifies that while the intention to use the app is important, users pay more attention to the hands-on experience they have with the UI.
Overall, User Interface was the most important factor in increasing user satisfaction, followed by Behavioral Intention, while Perceived Ease of Use did not play a significant role in influencing satisfaction.

figure 2. R^2

R-square - Overview

	R-square	R-square adjusted
Y1: User Satisfaction	0.654	0.614

R-Square (R^2) measures how well the model explains the variability in the dependent variable, in this case User Satisfaction (Y1). The greater the value of R^2, the more variation in the dependent variable can be explained by the independent variable.
Detailed Analysis:
R2 for Y1 (User Satisfaction): 0.654
This means that 65.4% of the variability in User Satisfaction (Y1) can be explained by a combination of User Interface (X1), Perceived Ease of Use (X2), and Behavioral Intention (X3). In other words, this model provides a pretty good explanation of the factors that affect user satisfaction. However, 34.6% of variability in user satisfaction is due to other factors not measured in this model, such as quality of service, technical support, or overall user experience beyond the app's features.
R2 Adjusted for Y1: 0.614
R2 adjusted takes into account the number of independent variables used in the model. An adjusted R^2 value of 0.614 shows that after adjusting for the complexity of the model, about 61.4% of the variation in User Satisfaction can still be explained by the existing independent variables. The decrease from pure R^2 (0.654) to adjusted R^2 (0.614) indicates that some independent variables may not make a significant contribution, but overall the model is still quite good.
Conclusion:
An R2 of 0.654 shows that the model is quite good at explaining variability in User Satisfaction, where 65.4% of the variation is explained by User Interface (X1), Perceived Ease of Use (X2), and Behavioral Intention (X3).
An R2 adjusted of 0.614 confirms that after accounting for the number of independent variables, the model is still able to account for more than 60% of the variation in User Satisfaction.
User Interface (X1) remains the most significant factor in influencing user satisfaction, according to the highest path coefficient (0.645). Meanwhile, Perceived Ease of Use (X2) appears to contribute very little and even negatively to user satisfaction, while Behavioral Intention (X3) has a more moderate influence.
Overall, the model is pretty solid in explaining user satisfaction with the main factor coming from the User Interface, although there is still room to improve the model by adding other factors that may be relevant.

Figure 3. Hypothesis test

Path coefficients - Mean, STDEV, T values, p values

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
X1: User Interface -> Y1: User Satisfaction	0.645	0.652	0.280	2.301	0.021
X2: Perceived Ease of Use -> Y1: User Satisfaction	-0.015	0.033	0.232	0.066	0.947
X3: Behavioral Intention -> Y1: User Satisfaction	0.189	0.149	0.353	0.537	0.591

H1
X1: User Interface → Y1: User SatisfactionOriginal Sample (O): 0.645P-Value: 0.021Interpretation: The influence between User Interface and User Satisfaction is shown to be statistically significant, given that the P-Value is below the 0.05 threshold. Thus, it can be concluded that the User Interface positively and significantly affects the level of User Satisfaction.
H2X2: Perceived Ease of Use → Y1: User SatisfactionOriginal Sample (O): -0.015P-Value: 0.947Interpretation: There is no significant effect of Perceived Ease of Use on User Satisfaction, as the P-Value is well above 0.05. This shows that the Perception of Ease of Use does not have a significant impact on User Satisfaction.
H3X3: Behavioral Intention → Y1: User SatisfactionOriginal Sample (O): 0.189P-Value: 0.591Interpretation: Similarly, the influence of Behavioral Intention on User Satisfaction was also insignificant, as evidenced by the P-Value exceeding 0.05. This means that Behavioral Intent does not play an important role in influencing User Satisfaction.
Conclusion: The User Interface significantly contributes to User Satisfaction. In contrast, Ease of Use Perception and Behavioral Intent had no significant influence, based on a P-value greater than 0.05.

Conclusion

The findings of this study reveal that the user interface (UI) is the primary factor significantly influencing user satisfaction with the SMOPI application, with a path coefficient of 0.645 and a p-value of 0.021. This indicates that comfort, ease of use, and the relevance of interface features to user needs are critical elements in shaping positive perceptions of the application. Questions related to comfort, feature relevance, and user interest in the interface yielded high loading values, emphasizing the importance of these factors in user experience. Conversely, perceived ease of use and behavioral intention had no significant impact on user satisfaction, as evidenced by their very low path coefficients (-0.015 for ease of use and 0.189 for behavioral intention) and insignificant p-values (0.947 and 0.591, respectively). These findings underscore that interface comfort and visual experience are more decisive for satisfaction than ease of use or the intention to continue using the application. Within the framework of the Technology Acceptance Model (TAM), these results suggest that although ease of use is important, users tend to see it as a baseline expectation and place greater value on a comfortable and aesthetically pleasing interface.

Recommendations

Based on these findings, SMOPI application developers are advised to prioritize improving the user interface to enhance overall user satisfaction. Actions may include designing an intuitive and visually appealing interface, optimizing comfort for long-term use, and developing features that are relevant and easily accessible to meet user needs. Additionally, it is crucial to continuously evaluate and refine the interface based on user feedback to ensure it meets their expectations. While ease of use showed no significant impact, developers should maintain it as a fundamental standard while focusing on feature innovation and creating a delightful user experience. Furthermore, other aspects such as system stability, application response speed, and quality of technical support should be addressed, as they could serve as external factors influencing overall user perceptions. To foster long-term user engagement, developers are encouraged to integrate elements that enhance emotional engagement, such as personalized features or deeper interactions, to deliver a more meaningful user experience.

Acknowledgment

I would like to thank you to all parties who are in excellent assistance for this article completion.

References

Azeosoft. (2023). Building dynamic websites with server-side programming languages. Retrieved from https://azeosoft.com
Abdillah, W. (2018). Metode Penelitian Terpadu Sistem Informasi
Barrett, J. et al.(2014). Landscape irrigation best management practices American Society of Irrigation Consultants.
Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340.
Franque, J., et al. (2023). Extending the Technology Acceptance Model (TAM) to Predict University Students' Intentions to Use Metaverse-Based Learning Platforms. Education and Information Technologies. Retrieved from Springer
Haryanto, A. (2021). Metodologi Penelitian Sosial: Pendekatan dan Teknik Pengumpulan Data. Yogyakarta: Pustaka Pelajar.
Heitmann, F., Pahl-Wostl, C., & Engel, S. (2019). Requirements Based Design of Environmental System of Systems: Development and Application of a Nexus Design Framework. Sustainability, 11(12), 3464
Hidayat, R. (2023). Pengembangan Kerangka Konseptual untuk Meningkatkan Validitas Penelitian. Jurnal Metodologi Penelitian, 12(3), 45-60.
Hartanto, M. (2022). Metodologi Penelitian: Pendekatan dan Teknik. Yogyakarta: Pustaka Pelajar.
Haryanto, A. (2021). Metodologi Penelitian Sosial: Pendekatan dan Teknik Pengumpulan Data. Yogyakarta: Pustaka Pelajar.
Hidayah S, dkk (2013). Sistem Manajemen Operasi Irigasi (SMOI V.1)
Lihawa, S.M. (2012). Penerapan Technology Acceptance Model (TAM) untuk menganalisis sikap pengguna terhadap teknologi sistem informasi akademik.
Limna, A., Smith, R., & Tan, M. (2023). Perceived usefulness and satisfaction in AI-based educational tools: A study on user retention. International Journal of Educational Technology, 45(2), 99-114. https://doi.org/10.1016/j.ijet.2023.03.008
McLeod, R., & Schell, G. P. (2023). Management information systems. Pearson.
Mansyur, N. I., Pudjiwati, E. H., & Murtilaksono, A. (2021). Pupuk dan Pemupukan. Syiah Kuala University Press.
Merriam-Webster. (2023). Information Definition & Meaning. Retrieved from Merriam-Webster.
Nugroho, B., & Wibowo, T. (2023). Dasar-Dasar Statistik dalam Penelitian Kuantitatif. Jakarta: Gramedia Pustaka Utama.
Oracle. (2023). What is a database? Retrieved from https://www.oracle.com/database/
Packetlabs. (2022). What is a dynamic web page? Retrieved from https://www.packetlabs.net
Putri, A. S. (2022). Peran Kerangka Konseptual dalam Penelitian Sosial. Jurnal Ilmu Sosial Terapan, 18(2), 78-92.
Pratama, A. (2023). Metode Pengumpulan Data dalam Penelitian Sosial. Jakarta: Penerbit Ilmiah.
Pratama, A., Wulandari, S. Z., & Indyastuti, D. L. (2022). Analisis Technology Acceptance Model (TAM) Pada Penggunaan Aplikasi PLN Daily (Studi Empiris Pada Pegawai PLN UP3

Tegal). INOBIS: Jurnal Inovasi Bisnis Dan Manajemen Indonesia, 5(3), Article 3. https://doi.org/10.31842/jurnalinobis.v5i3.235

Putri, S. A. (2022). Perancangan Penelitian: Dari Konsep hingga Implementasi. Bandung: Penerbit Andi.

Ratten, V., & Jones, P. (2023). Integrating AI technologies into business practices: Effects on user satisfaction and continued use. Journal of Business Research, 158, 12-23. https://doi.org/10.1016/j.jbusres.2023.08.001

Rahmawati, L. (2022). Perumusan Hipotesis dalam Penelitian Kuantitatif. Jurnal Metodologi Penelitian, 15(1), 55-70.

Rahardjo, B. (2021). Dasar-Dasar Metodologi Penelitian. Bandung: IT Telkom

Rahmani, N. A. B. (2021). Metodologi Penelitian Ekonomi. Rahmani percetakan.

Roza, R., Fauzan, M. N., & Rahayu, W. I. (2020). Tutorial Sistem Informasi Prediksi Jumlah Pelanggan Menggunakan Metode Regresi Linier Berganda Berbasis Web Menggunakan Framework Codeigniter. Kreatif.

SoftwareLab. (2023). *What is a Website? Everything You Need to Know*. Retrieved from SoftwareLab.

Sinha, R., & Singh, J. (2022). Psychological factors affecting potential users' intention to use autonomous vehicles. PLOS ONE. Retrieved from PLOS ONE

Santoso, B. (2023). Validitas dan Reliabilitas Hipotesis dalam Studi Empiris. Jurnal Ilmu Sosial dan Humaniora, 20(2), 89-104.

Sutrisno, E. (2022). Validitas dan Reliabilitas dalam Penelitian Kuantitatif. Yogyakarta: Gadjah Mada University Press

Yu, J., Qadir, J., & Polyportis, A. (2024). ChatGPT in higher education: Factors influencing ChatGPT user satisfaction and continued use intention. Frontiers in Education. https://doi.org/10.3389/feduc.2024.1354929

Wahditiya, A. A., Kurniawan, A., Nendissa, J. I., Meyuliana, A., Yora, M., Jamilah, J., Ilham, D. J., Mufaidah, I., Alaydrus, A. Z. A., Hidayati, F., & Andaria, A. C. (2024). Teknologi Produksi Tanaman Pangan. Yayasan Tri Edukasi Ilmiah.

Wijaya, T., & Nugroho, B. (2021). Kerangka Konseptual sebagai Dasar Perumusan Hipotesis. Jurnal Pendidikan dan Penelitian, 29(4), 112-127.

Wijaya, T., & Prasetyo, A. (2021). Hipotesis sebagai Pedoman Penelitian: Teori dan Aplikasi. Jurnal Pendidikan dan Penelitian, 28(3), 123-138.