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User Acceptance and Usability Evaluation of the SIMORA Information System Using the Technology Acceptance Model and System Usability Scale

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Abstract: The Vehicle and Room Reservation Information System (SIMORA) was developed by the Communication and Informatics Office (Diskominfo) of Jombang Regency to digitalize the reservation of official vehicles and meeting rooms. Although fully developed, the system remains at the pre-implementation stage, making an early evaluation of user acceptance and usability essential before full deployment. This study evaluates SIMORA using the Technology Acceptance Model (TAM), a partial Human Organization Technology-Fit (HOT-FIT) approach focusing on the Organization Structure dimension, and the System Usability Scale (SUS). A quantitative survey involving 60 Diskominfo Jombang employees was conducted using a census (total sampling) technique. Data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS, complemented by descriptive analysis of the SUS score. The results indicate that all proposed hypotheses were supported, demonstrating that organizational support significantly influenced perceived ease of use and perceived usefulness, which subsequently affected behavioral intention. The usability evaluation produced a mean SUS score of 75.33, categorized as acceptable, Grade B, and good. These findings indicate that SIMORA has achieved favorable user acceptance and usability, supporting its readiness for full implementation at Diskominfo Jombang Regency. This study contributes by integrating a partial HOT-FIT approach, TAM, and SUS to evaluate organizational readiness, user acceptance, and usability during the pre-implementation stage of an internal government information system.

Keywords: Technology Acceptance Model; System Usability Scale; HOT-FIT; User Acceptance; Usability.

1. Introduction

Digital transformation in the government sector has made information systems a critical enabler of public services that are effective, efficient, transparent, and accountable (Adham, 2024), forming part of the broader implementation of e-government to improve governance quality (Fitriyanti, 2024). However, the success of an information system depends not only on the quality of the technology itself but also on organizational readiness and the level of user acceptance (Sala & Subriadi, 2023). This is because implementation often encounters user-related obstacles, such as difficulty understanding system features and unintuitive navigation (Dyayu *et al.*, 2023). As a result, a technically sound system is not necessarily used optimally if users perceive it as difficult or of limited benefit. Organizational factors also shape this success, as explained by the Human Organization Technology-Fit (HOT-FIT) model, which emphasizes the fit between human, organizational, and technological aspects (Yusof *et al.*, 2008). Within internal government systems in particular, leadership support, organizational structure, communication, and the working environment all play an important role in sustaining system use (Sala & Subriadi, 2023).

The Communication and Informatics Office (Diskominfo) of Jombang Regency developed the Vehicle and Room Reservation Information System (SIMORA) to digitalize the reservation of official vehicles and meeting rooms, a process that was previously handled manually and was prone to disorganized record-keeping, administrative errors, and double bookings. SIMORA was developed as a web-based system so that reservation management could be more effective, structured, and easily accessible. Although development and hosting have been completed, SIMORA has not yet been fully implemented and therefore remains at the pre-implementation stage, making an early evaluation of its ease of use and perceived benefits essential before it is deployed more broadly (Davis, 1989).

User acceptance is commonly evaluated through approaches such as the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), or HOT-FIT. TAM was selected for this study because its structure is comparatively simple yet consistently able to explain technology acceptance through two core constructs, namely Perceived Ease of Use (PEOU) and Perceived Usefulness (PU), both of which influence Behavioral Intention (BI) (Andarwati *et al.*, 2025; Davis, 1989; Gemawaty & Yuliani, 2026). The main dependent variable in this study is BI rather than Actual System Use (ASU), since SIMORA has not yet been fully deployed and its actual usage cannot yet be measured. Using BI without ASU is a common approach in studies conducted at the pre-implementation stage or focused on users' initial intentions (Davis, 1989; Li & Lay, 2024).

In addition to TAM, this study incorporates HOT-FIT on a partial basis, focusing on the Organization Structure dimension, which is positioned as an external variable influencing PEOU and PU without a direct path to BI. This adjustment reflects the fact that, in government system contexts, organizational factors play an important role in supporting users' perceptions of system ease of use and usefulness, thereby contributing to successful information system implementation (Sala & Subriadi, 2023; Yusof *et al.*, 2008). This is consistent with evidence that organizational support contributes to creating an environment in which users perceive information systems as easier to use and more beneficial (Sala & Subriadi, 2023; Yusof *et al.*, 2008). Usability was evaluated using the System Usability Scale (SUS), a simple instrument capable of capturing a system's usability level even with a relatively small number of respondents; (Ardhana & Mulyodiputro, 2023; Brooke, 1995; Jatmiko *et al.*, 2026). While TAM primarily focuses on users' acceptance of technology through perceptions of usefulness and ease of use (Davis, 1989), SUS evaluates the overall usability of a system by assessing aspects such as learnability, consistency, user confidence, and satisfaction (Putra *et al.*, 2024).

A substantial body of prior research has evaluated information systems using either the Technology Acceptance Model (TAM), the Human Organization Technology-Fit (HOT-FIT) model, or the System Usability Scale (SUS). Previous studies have predominantly focused on user acceptance using TAM, implementation success using HOT-FIT, or usability using SUS as separate evaluation approaches. Although several studies have integrated TAM and SUS to provide a broader assessment of user acceptance and usability (Rahmanto *et al.*, 2024), these approaches do not adequately capture organizational readiness, which is a critical factor influencing successful implementation, particularly in government institutions (Sala & Subriadi, 2023). Moreover, the Organization Structure dimension has been identified as the most influential organizational factor affecting information system acceptance (Pangaiyan *et al.*, 2023). Likewise, HOT-FIT has been widely applied to evaluate implementation success after systems are operational, while studies on e-government applications consistently report positive relationships between Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and user acceptance (Fauzi *et al.*, 2025). However, limited attention has been given to evaluating information systems prior to full deployment by simultaneously considering organizational readiness, user acceptance, and usability. This limitation is particularly evident for internal government information systems such as SIMORA, where implementation success depends not only on technology acceptance but also on organizational support and users' initial experience before full deployment.

This study addresses the identified research gap by integrating a partial HOT-FIT approach, TAM, and SUS within a single evaluation framework for an internal government information system at the pre-implementation stage. Unlike previous studies, the HOT-FIT model is applied only to the Organization Structure dimension as an external factor influencing PEOU and PU, while TAM is employed to evaluate user acceptance and SUS is used independently to assess usability. Accordingly, this study offers three main contributions: (1) applying only the Organization Structure dimension of HOT-FIT rather than the complete HOT-FIT model; (2) integrating HOT-FIT, TAM, and SUS into a comprehensive evaluation framework; and (3) conducting the evaluation before full system implementation, enabling organizations to assess implementation readiness prior to operational deployment. Based on this background, the present study aims to: (1) evaluate the level of user acceptance of SIMORA using TAM, examined through PEOU, PU, and BI; (2) analyze the effect of Organization Structure on PEOU and PU using the HOT-FIT approach; and (3) evaluate the usability level of SIMORA using SUS. The findings are expected to provide a picture of SIMORA's readiness prior to full implementation and to serve as a basis for consideration by Diskominfo Jombang Regency in improving system quality and supporting successful, sustainable implementation.

2. Related Work

2.1 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) has been widely used to evaluate user acceptance of information systems by explaining how users' perceptions influence their intention to use a technology. In TAM, Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) are central constructs, and they influence Behavioral Intention (BI) (Davis, 1989). Subsequent studies applying TAM in different contexts continue to support the relevance of these constructs for understanding acceptance toward information technology, including digital platforms and information systems (Andarwati *et al.*, 2025; Gemawaty & Yuliani, 2026; Li & Lay, 2024). In e-government and related public service contexts, perceived ease of use and perceived usefulness have also been reported to relate to user acceptance of digital services (Fauzi *et al.*, 2025).

2.2 Human Organization Technology–Fit (HOT-FIT)

While TAM primarily focuses on users' beliefs about ease of use and usefulness, the Human Organization Technology-Fit (HOT-FIT) framework emphasizes the "fit" between human, organizational, and technology aspects. This perspective highlights that adoption and successful information system outcomes are not determined solely by technical quality, but also by organizational support and contextual factors (Yusof *et al.*, 2008). In public-sector settings, HOT-FIT-based research frequently points to the importance of organizational and structural elements in shaping information system effectiveness and acceptance (Sala & Subriadi, 2023). Studies that operationalize HOT-FIT with greater attention to organizational dimensions suggest that organization-related factors can be influential in explaining users' perceptions and acceptance outcomes (Pangaiyan *et al.*, 2023). These findings align with the broader HOT-FIT view that organizational context affects how users experience and engage with a system (Yusof *et al.*, 2008).

2.3 System Usability Scale (SUS)

Beyond acceptance, usability is often evaluated using standardized instruments. The System Usability Scale (SUS) is a widely used method for assessing perceived usability through a set of ten items covering learnability, consistency, confidence, and satisfaction (Brooke, 1995). SUS has been applied to evaluate usability in diverse systems and user interfaces, and it provides an interpretable scoring range that facilitates comparison and reporting of usability quality (Ardhana & Mulyodiputro, 2023; Ramadhan, 2024; Putra *et al.*, 2024; Jatmiko *et al.*, 2026). Because SUS can capture usability based on user responses without requiring long-term operational use, it is particularly useful when systems are still at early stages of development or when a full deployment has not yet occurred.

2.4 Integration of Approaches and Research Gap

Prior studies have commonly evaluated user acceptance using TAM, examined implementation-related outcomes with HOT-FIT, and measured usability through SUS, often as separate evaluation streams. Some research has integrated TAM and SUS to provide a broader assessment of user acceptance and usability (Rahmanto *et al.*, 2024). Nevertheless, an integrated perspective that explicitly considers organizational readiness within an evaluation framework—particularly during the pre-implementation stage of internal government information systems—has received less attention. In internal government contexts, organizational support and organizational structure are expected to shape users' perceptions of ease of use and usefulness, while usability reflects users' initial interaction experience. Accordingly, there is a need for an evaluation design

that combines organizational antecedents with acceptance constructs and usability assessment prior to full deployment, as reflected in the choices made in this study.

3. Methodology

This study adopted a quantitative, causal-associative survey design to test the relationships among variables through structured measurement and statistical analysis (Al-Adwan *et al.*, 2023; Hair & Alamer, 2022). Data were collected using a questionnaire with a 1–5 Likert scale and were subsequently analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) in SmartPLS 4, complemented by a descriptive analysis of SIMORA's usability level using the System Usability Scale (SUS). All data were collected during the pre-implementation stage of SIMORA described earlier, i.e., before the system was used in full operational capacity by employees.

The study was conducted at the Diskominfo of Jombang Regency. The population consisted of all employees who were potential users of SIMORA, totaling approximately 60 people. A census (total sampling) technique was used, in which every member of the population served as a respondent due to the relatively small and manageable population size (Andarwati & Jatmika, 2017). Before completing the questionnaire, respondents were shown the same three-minute demonstration video of SIMORA and were provided with identical guidance and equal opportunities to explore the system directly prior to completing the questionnaire. This procedure ensured that respondents' answers were grounded in genuine interaction experience under consistent evaluation conditions for all participants. The questionnaire was distributed via Google Forms and yielded 60 respondents from four divisions: Informatics Applications (20), Secretariat (18), Public Relations and Communication (12), and Statistics and Cryptography (10). SEM-PLS was selected because it is suitable for small sample sizes and, unlike covariance-based SEM, does not require multivariate normality assumptions to be strictly met (Hair & Alamer, 2022; Jhantasana, 2023).

The SEM-PLS model tested in this study comprised four constructs: Organization Structure (OS) as the exogenous variable, Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) as intervening variables, and Behavioral Intention (BI) as the endogenous variable. In addition, one descriptive variable—SUS score—was evaluated independently of the SEM-PLS model. The relationships among these variables were formulated into five hypotheses: OS positively affects PEOU (H1) and PU (H2); PEOU positively affects PU (H3) and BI (H4); and PU positively affects BI (H5), as illustrated in the study's conceptual framework (Figure 1). The indicators for the four main constructs are presented in Table 1.

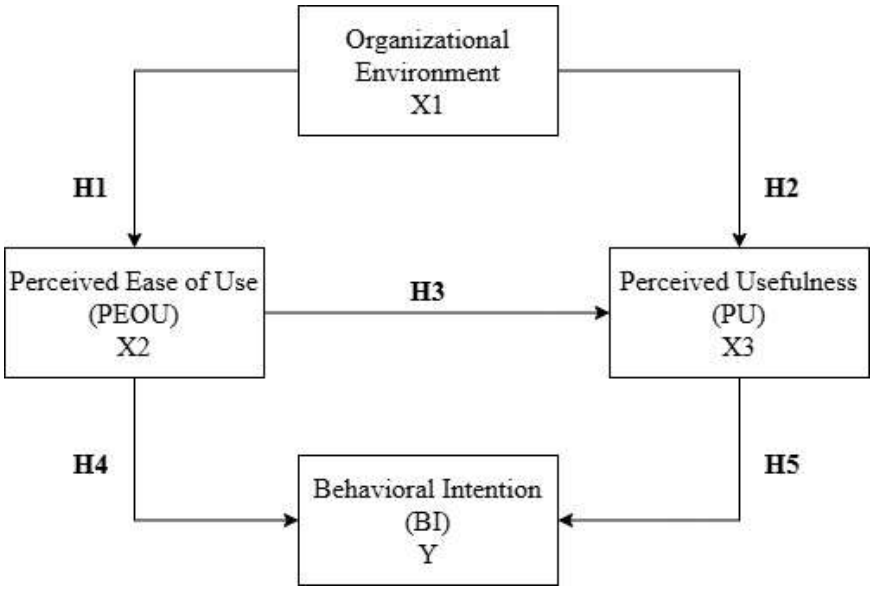

Figure 1. Conceptual Framework of the Study

Table 1. Research Variables and Indicators

Variable	Indicators	Source
Organization Structure (OS)	Strategic fit; digital work culture; peer support; organizational communication.	(Sala & Subriadi, 2023; Yusof *et al.*, 2008)
Perceived Ease of Use (PEOU)	Ease of learning; ease of operation; ease of mastering the system.	(Davis, 1989; Gemawaty & Yuliani, 2026)

Perceived Usefulness (PU)	Helps with work tasks; improves effectiveness.	(Davis, 1989; Gemawaty & Yuliani, 2026)
Behavioral Intention (BI)	Intention to use the system; future usage plans; readiness to adopt the system.	(Davis, 1989; Gemawaty & Yuliani, 2026)

The research instrument consisted of two parts. The first comprised 16 statements measuring Organization Structure (5 items), PEOU (4 items), PU (4 items), and BI (3 items) on a 1–5 Likert scale (1 = strongly disagree to 5 = strongly agree). The second part consisted of the ten standard System Usability Scale statements developed by Brooke (1995), rated on a 1–5 Likert scale, as presented in Table 2. Within the SUS instrument, odd-numbered statements are worded positively, while even-numbered statements are worded negatively.

Table 2. System Usability Scale (SUS) Items

Code	Statement
SUS1	I think that I would like to use this system frequently.
SUS2	I found the system unnecessarily complex.
SUS3	I thought the system was easy to use.
SUS4	I think that I would need the support of a technical person to be able to use this system.
SUS5	I found the various functions in this system were well integrated.
SUS6	I thought there was too much inconsistency in this system.
SUS7	I would imagine that most people would learn to use this system very quickly.
SUS8	I found the system very cumbersome to use.
SUS9	I felt very confident using the system.
SUS10	I needed to learn a lot of things before I could get going with this system.

Data analysis followed two parallel tracks. The first track evaluated the SEM-PLS model, including both the outer (measurement) model and the inner (structural) model. The outer model was assessed through convergent validity using outer loadings (≥ 0.70) and Average Variance Extracted (AVE ≥ 0.50); discriminant validity using the Fornell–Larcker criterion and the Heterotrait–Monotrait Ratio (HTMT < 0.90); and construct reliability using Composite Reliability and Cronbach's Alpha (≥ 0.70) (Jhantasana, 2023; Li & Lay, 2024). Indicators with outer loadings below the threshold were considered for removal unless their removal failed to meaningfully improve AVE and Composite Reliability (Dybro Liengaard, 2024; Sari *et al.*, 2025). The inner model was evaluated through the coefficient of determination (R^2: weak = 0.25, moderate = 0.50, substantial = 0.75) (Jhantasana, 2023) and path coefficients tested through bootstrapping with 10,000 subsamples (Becker *et al.*, 2023). A hypothesis was considered supported when the t-statistic exceeded 1.96 and/or the p-value was below 0.05. The second track conducted a descriptive analysis of the SUS score. Scores were calculated using the standard formula (Brooke, 1995): for odd-numbered statements, the item score equals the response value minus 1; for even-numbered statements, the item score equals 5 minus the response value. All item scores were summed and multiplied by 2.5 to produce a final score ranging from 0 to 100. Score interpretation followed the established grade scale (Ramadhan, 2024): Grade A (≥ 80.3), Grade B (74 to < 80.3), Grade C/OK (68 to < 74), Grade D (51 to < 68), and Grade E (≤ 51), as well as the acceptability range (Ardhana & Mulyodiputro, 2023): acceptable (71–100), marginal (51–70.9), and not acceptable (0–50.9).

4. Result and Discussion

4.1 Results

4.1.1 Respondent Characteristics and Descriptive Statistics

The study involved 60 respondents from Diskominfo Jombang Regency, drawn from four divisions: Informatics Applications (33.3%), Secretariat (30.0%), Public Relations and Communication (20.0%), and Statistics and Cryptography (16.7%). This spread of respondents across divisions indicates that the evaluation reflects perceptions of users from a range of work units that are potential users of SIMORA. The descriptive analysis showed that all research variables obtained mean scores above 4.00 on a 1–5 scale, as presented in Table 3. Organization Structure (OS) obtained the highest mean score (4.39), Perceived Usefulness (PU) obtained a mean score of 4.38, Perceived Ease of Use (PEOU) obtained 4.32, while Behavioral Intention (BI) obtained the lowest mean score (4.26), though it still falls within a high category.

Table 3. Mean Scores of Research Variables

Variable	Mean
Organization Structure (OS)	4.39
Perceived Ease of Use (PEOU)	4.32
Perceived Usefulness (PU)	4.38
Behavioral Intention (BI)	4.26

4.1.2 Measurement Model (Outer Model) Evaluation

Outer model evaluation was carried out to assess the validity and reliability of the instrument used to measure the OS, PEOU, PU, and BI constructs. The initial convergent validity test identified four indicators with outer loading values below the established threshold—OS4, PEOU2, PU2, and PU4—which were removed from the model. The re-estimated results are shown in Table 4.

Table 4. Outer Loading Results

Indicator	Outer Loading
BI1	0.805
BI2	0.912
BI3	0.675
OS1	0.720
OS2	0.759
OS3	0.700
OS5	0.793
PEOU1	0.828
PEOU3	0.792
PEOU4	0.834
PU1	0.912
PU3	0.804

As shown in Table 4, most indicators had outer loading values above 0.70. Two indicators—BI3 (0.675) and OS3 (0.700)—were slightly below 0.70 but were retained in the model because their removal did not meaningfully improve AVE or Composite Reliability, consistent with the view that indicators with loadings in the 0.40–0.70 range may still be retained provided their overall contribution to construct validity and reliability remains adequate (Dybro Liengaard, 2024; Sari *et al.*, 2025). Although removing BI3 and OS3 increased the AVE values for Behavioral Intention (from 0.645 to 0.800) and Organization Structure (from 0.553 to 0.617) constructs, all AVE values had already exceeded the recommended threshold of 0.50 before removal. Moreover, removing these indicators reduced internal consistency of the Organization Structure construct, where Cronbach's Alpha decreased from 0.730 to 0.690 and rho_A decreased from 0.734 to 0.692, both falling below the recommended threshold of 0.70. Therefore, BI3 and OS3 were retained to preserve construct reliability while maintaining acceptable convergent validity.

AVE values for all constructs exceeded the 0.50 threshold—BI = 0.645, OS = 0.553, PEOU = 0.669, and PU = 0.739—indicating that all four constructs satisfied the convergent validity criterion. Construct reliability, assessed through Composite Reliability and Cronbach's Alpha (Table 5), showed that all constructs achieved a Composite Reliability above 0.70. The Cronbach's Alpha value for the PU construct (0.657) was slightly below 0.70; however, the construct was still considered reliable because its Composite Reliability (0.849) met the criterion. Composite Reliability is regarded as more representative in SEM-PLS for this purpose, as it accounts for differences in outer loadings across indicators (Li & Lay, 2024; Putri *et al.*, 2025).

Table 5. Average Variance Extracted (AVE) and Construct Reliability

Construct	AVE	Composite Reliability	Cronbach's Alpha
BI	0.645	0.843	0.721
OS	0.553	0.832	0.730
PEOU	0.669	0.859	0.754
PU	0.739	0.849	0.657

Discriminant validity was tested using the Fornell–Larcker criterion and HTMT. The Fornell–Larcker results (Table 6) showed that the square root of the AVE for each construct exceeded its correlations with other constructs, satisfying this criterion. HTMT values between constructs—BI↔OS = 0.811, BI↔PEOU = 0.888, BI↔PU = 0.811, OS↔PEOU = 0.884, OS↔PU = 0.861, and PEOU↔PU = 0.801—were all below the recommended threshold of 0.90. Although several values exceeded the more conservative threshold of 0.85,

they remained within an acceptable range; therefore, discriminant validity was considered adequate (Li & Lay, 2024; Panahi *et al.*, 2023).

Table 6. Fornell–Larcker Criterion Results

Construct	BI	OS	PEOU	PU
BI	0.803			
OS	0.599	0.744		
PEOU	0.669	0.667	0.818	
PU	0.571	0.609	0.597	0.860

Taken together, the outer model results indicate that the research instrument satisfied the required validity and reliability criteria and was therefore suitable for structural model testing.

4.1.3 Structural Model and Hypothesis Testing (Inner Model)

Inner model evaluation was carried out to assess the model's ability to explain the relationships among the latent constructs, using the coefficient of determination (R^2) and path coefficients. The R^2 results are shown in Table 7.

Table 7. R-Square Values

Endogenous Variable	R-Square	R-Square Adjusted
Behavioral Intention (BI)	0.493	0.475
Perceived Ease of Use (PEOU)	0.445	0.435
Perceived Usefulness (PU)	0.436	0.416

The R^2 value for PEOU (Table 7) was 0.445, indicating that 44.5% of the variance in PEOU is explained by OS. The R^2 value for PU was 0.436, indicating that 43.6% of the variance in PU is explained jointly by OS and PEOU. The R^2 value for BI was 0.493, indicating that 49.3% of the variance in BI is explained by PEOU and PU. Using the benchmark in which an R^2 of 0.75 is considered substantial, 0.50 moderate, and 0.25 weak (Jhantasana, 2023), all three R^2 values fall within the moderate category, indicating reasonably good explanatory power for the model.

Hypothesis testing was carried out through a bootstrapping procedure with 10,000 subsamples (Becker *et al.*, 2023), applying the acceptance criteria of a t-statistic greater than 1.96 and/or a p-value below 0.05. The path coefficient and hypothesis testing results are presented in Table 8.

Table 8. Path Coefficients and Hypothesis Testing Results

Hypothesis	Relationship	Path Coefficient (β)	T Statistics	P Values	Decision
H1	OS → PEOU	0.667	8.568	0.000	Supported
H2	OS → PU	0.379	2.582	0.010	Supported
H3	PEOU → PU	0.344	2.466	0.014	Supported
H4	PEOU → BI	0.509	4.376	0.000	Supported
H5	PU → BI	0.268	2.492	0.013	Supported

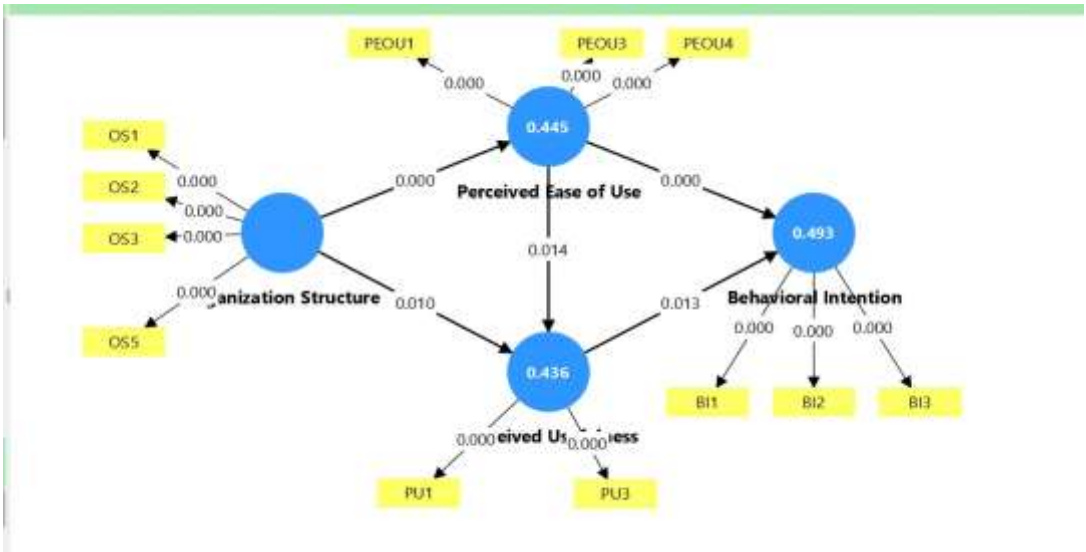

Figure 2. SmartPLS Bootstrapping Results

As shown in Table 8 and Figure 2, all t-statistic values exceeded 1.96 and all p-values were below 0.05; therefore, all five hypotheses (H1–H5) were supported. The strongest effect was found for OS on PEOU (β = 0.667; t = 8.568; p = 0.000). OS also had a significant positive effect on PU (β = 0.379; t = 2.582; p = 0.010). PEOU had a significant positive effect on PU (β = 0.344; t = 2.466; p = 0.014) and, with the second-strongest effect in the model, on BI (β = 0.509; t = 4.376; p = 0.000*). The effect of PU on BI (β = 0.268; t = 2.492; p = 0.013) was the weakest among the five paths but remained statistically significant.

4.1.4 Usability (SUS) Results

SIMORA's usability was evaluated descriptively, independent of the SEM-PLS model, using the ten standard SUS items (Brooke, 1995). Based on responses from 60 participants, the mean SUS score was 75.33. The interpretation of this score is presented in Table 9.

Table 9. SUS Score Interpretation

Interpretation Aspect	Result
SUS Score	75.33
Acceptability Range	Acceptable
Grade Scale	B
Adjective Rating	Good

The SUS score of 75.33 falls within the acceptable category, with a Grade Scale of B (Ardhana & Mulyodiputro, 2023; Ramadhan, 2024). This value is above the standard SUS benchmark mean of 68, indicating a favorable and acceptable level of usability for SIMORA.

4.2 Discussion

The strong positive effect of Organization Structure on PEOU (H1) indicates that stronger organizational support for SIMORA's implementation translates into a higher perceived ease of use among employees. This finding is consistent with the HOT-FIT perspective, which positions organizational factors as key determinants of information system acceptance (Sala & Subriadi, 2023; Yusof *et al.*, 2008). It also aligns with prior evidence that organizational support and leadership create conditions that facilitate effective system adoption and implementation (Yusof *et al.*, 2008). The positive effect of OS on PU (H2) further suggests that organizational support strengthens employees' perceptions of the system's usefulness, not only its ease of use.

The positive effect of PEOU on PU (H3) is consistent with a core tenet of TAM, namely that ease of use enhances users' perceptions of usefulness (Davis, 1989). PEOU also had a significant, and comparatively strong, direct effect on BI (H4), underscoring the importance of ease of use in driving employees' intention to adopt SIMORA even independent of its perceived benefits. Because SIMORA remains at the pre-implementation stage, Behavioral Intention in this study reflects employees' intention to use the system rather than their actual usage behavior. Accordingly, these findings should be interpreted as reflecting users' readiness to adopt SIMORA once it is fully implemented. The weaker, though still significant, effect of PU on BI (H5) nonetheless confirms that perceived usefulness remains one of the key factors shaping technology usage intention, in line with TAM theory (Davis, 1989).

Compared with prior studies, the dominant influence of the organizational dimension on system acceptance observed in this study is consistent with research on academic information systems, in which the organization structure variable was found to be the most dominant HOT-FIT variable (Pangaiyan *et al.*, 2023). The positive and significant effect of PU on BI is also consistent with other TAM-based studies (Gemawaty & Yuliani, 2026), although the magnitude of the coefficients may differ due to variations in organizational context and implementation stage. The importance of PEOU and PU in evaluating e-government application acceptance is further supported by Fauzi *et al.* (2025), who demonstrated that these TAM constructs are relevant for assessing users' perceptions toward digital public service applications.

From a usability standpoint, SIMORA's SUS score of 75.33 is comparable to the 75.58 (Grade B) reported for an academic information system (Ardhana & Mulyodiputro, 2023), and higher than the 72.81 reported in a study integrating SUS and TAM for UI/UX testing (Rahmanto *et al.*, 2024). This convergence strengthens the indication that SIMORA is easy to use from an experiential standpoint, consistent with the high descriptive PEOU score (4.32) reported above. The TAM and SUS results therefore complement and reinforce one another, jointly indicating that SIMORA is well positioned to support full implementation. At the same time, the SUS score has not yet reached the Grade A (excellent) category, suggesting that there remains room for interface refinement and feature enhancement in future development.

Taken together, these findings provide both theoretical contributions and practical implications for the implementation of internal government information systems. Theoretically, they support extending TAM with an organizational antecedent drawn from HOT-FIT when evaluating an internal government information system at the pre-implementation stage. Practically, they suggest that Diskominfo Jombang Regency can

support successful implementation of SIMORA by sustaining the organizational strengths reflected in the retained Organization Structure indicators—namely strategic fit with operational needs, a supportive digital work culture, peer support among staff, and clear organizational communication—while directing development efforts toward the interface and feature refinements indicated by the usability evaluation. These findings also provide practical guidance for decision-makers to prioritize organizational readiness, strengthen internal communication, provide continuous user support, and conduct periodic usability improvements before the system is fully deployed across the organization.

5. Conclusion and Recommendations

This study evaluated user acceptance and usability of the Vehicle and Room Reservation Information System (SIMORA) at the Diskominfo Jombang Regency using TAM, a partial HOT-FIT approach centered on the Organization Structure dimension, and the System Usability Scale (SUS). The descriptive analysis showed mean scores of 4.32, 4.38, and 4.26 for Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and Behavioral Intention (BI), respectively, all of which fall into the very high category. The SEM-PLS results indicated that Organization Structure had a positive and significant effect on both PEOU and PU. PEOU also had a positive and significant effect on both PU and BI, and PU had a positive and significant effect on BI. Accordingly, all five hypotheses (H1–H5) were supported. These findings suggest that organizational support plays an important role in shaping employees' perceptions of SIMORA's ease of use and usefulness, which in turn strengthens their intention to use the system.

The usability evaluation using SUS produced a mean score of 75.33, categorized as acceptable (Grade B) with an adjective rating of "good," indicating that SIMORA provides a favorable and acceptable level of ease of use for its users. Overall, SIMORA demonstrates favorable user acceptance and usability in terms of organizational support, ease of use, perceived usefulness, usage intention, and overall user experience. This indicates strong potential for full implementation as a system supporting the management of official vehicle and meeting room reservations at the Diskominfo Jombang Regency. This study is limited to the pre-implementation stage and uses Behavioral Intention rather than Actual System Use as the dependent variable; therefore, it does not yet capture actual usage behavior. Future research is recommended to conduct a follow-up evaluation after SIMORA has been fully implemented, to extend the model with additional variables or approaches, and to examine system quality, information quality, and the impact of system use on organizational performance in greater depth.

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References

Adham, M. F. (2024). Analisis implementasi sistem informasi: Studi literatur. *Jurnal Teknologi Sistem Informasi, 5*(1), 264–275.

Al-Adwan, A. S., Li, N., Al-Adwan, A., Abbasi, G. A., Albelbisi, N. A., & Habibi, A. (2023). Extending the technology acceptance model (TAM) to predict university students' intentions to use metaverse-based learning platforms. *Education and Information Technologies, 28*(11), 15381–15413. https://doi.org/10.1007/s10639-023-11816-3

Andarwati, M., & Jatmika, D. (2017). *Analisis pengaruh kualitas sistem informasi akuntansi terhadap penerimaan teknologi di sektor UKM dengan pendekatan model TAM* [Skripsi, Universitas Merdeka Malang]. https://eprints.unmer.ac.id/85/

Andarwati, M., Yuniarti, S., Jatmiko, A. R., Putra, F. A.-I. A., Swalaganata, G., & Andriono, A. T. (2025). User satisfaction in AI-driven Islamic fintech: An extended technology acceptance model with task–technology fit and sharia compliance. *International Journal of Advanced Computer Science and Applications, 16*(10). https://doi.org/10.14569/IJACSA.2025.0161035

Ardhana, V. Y. P., & Mulyodiputro, M. D. (2023). Pengujian usability sistem informasi akademik (SISKA) Universitas Qamarul Huda Badaruddin menggunakan System Usability Scale (SUS). *SainsTech Innovation Journal, 6*(2), 421–427. https://doi.org/10.37824/sij.v6i2.2023.598

Becker, J.-M., Cheah, J.-H., Gholamzade, R., Ringle, C. M., & Sarstedt, M. (2023). PLS-SEM's most wanted guidance. *International Journal of Contemporary Hospitality Management, 35*(1), 321–346. https://doi.org/10.1108/IJCHM-04-2022-0474

Brooke, J. (1995). SUS: A quick and dirty usability scale. In P. W. Jordan, B. Thomas, B. A. Weerdmeester, & I. L. McClelland (Eds.), *Usability evaluation in industry* (pp. 189–194). Taylor & Francis.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008

Dyayu, A. L., Beny, B., & Yani, H. (2023). Evaluasi usability aplikasi PeduliLindungi menggunakan metode usability testing dan system usability scale (SUS). *Jurnal Manajemen Teknologi dan Sistem Informasi (JMS)*. https://ejournal.unama.ac.id/index.php/jms/article/view/720

Dybro Liengaard, B. (2024). Measurement invariance testing in partial least squares structural equation modeling. *Journal of Business Research, 177*, 114581. https://doi.org/10.1016/j.jbusres.2024.114581

Fauzi, M. A. N., Indriati, R., & Harini, D. (2025). Pengukuran penerimaan aplikasi e-government menggunakan technology acceptance model. *Jurnal Sistem Informasi Triguna Dharma (JURSI TGD), 4*(4), 928–934.

Fitriyanti, E. (2024). The effect of digital transformation on governance in Indonesia: A case study of e-government implementation in public services. *Journal of Political Innovation and Analysis, 1*(1), 26–32.

Gemawaty, C. A., & Yuliani, Y. (2026). Faktor-faktor yang mempengaruhi penerimaan sistem informasi menggunakan model TAM. *Jurnal Indonesia: Manajemen Informatika dan Komunikasi, 7*(1), 68–78. https://doi.org/10.63447/jimik.v7i1.1693

Hair, J., & Alamer, A. (2022). Partial least squares structural equation modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics, 1*(3), 100027. https://doi.org/10.1016/j.rmal.2022.100027

Jatmiko, A. R., Islama, F. A. P. Al, & Ismail, M. (2026). Integrasi heuristic evaluation dan cognitive walkthrough sebagai instrumen penjaminan mutu desain user-centered pada sistem informasi. *Jurnal Sistem Informasi Akuntansi, 7*(1), 41–49. https://doi.org/10.31294/justian.v7i1.12380

Jhantasana, C. (2023). Should a rule of thumb be used to calculate PLS-SEM sample size. *Asia Social Issues, 16*(5), e254658.

Li, W., & Lay, Y. F. (2024). Examining the reliability and validity of measuring scales related to informatization instructional leadership using PLS-SEM approach. *Dinamika Jurnal Ilmiah Pendidikan Dasar, 16*(1), 12–32.

Panahi, S., Bazrafshani, A., & Mirzaie, A. (2023). Development and validation of a modified LibQUAL scale in health sciences libraries: Application of structural equation modeling. *Journal of the Medical Library Association, 111*(4), 792–801. https://doi.org/10.5195/jmla.2023.1348

Pangaiyan, S. A., Yusuf, R., Padiku, I. R., & Lahinta, A. (2023). Evaluasi penerapan SIAT menggunakan model TAM dan HOT-Fit di Fakultas Teknik Universitas Negeri Gorontalo. *Diffusion: Journal of Systems and Information Technology, 3*(2), 92–100.

Putra, D. M. D. U., Kusuma, A. S., Willdahlia, A. G., & Pande, N. K. N. N. (2024). Evaluasi usability e-modul basis data menggunakan metode System Usability Scale (SUS). *Jurnal Ilmiah Global Education, 5*(2), 1800–1809. https://doi.org/10.55681/jige.v5i2.2764

Putri, S. A., Titing, A. S., & Stiadi, M. (2025). The effect of e-service quality, e-trust, and ease of use on e-satisfaction on the JKN mobile application. *Jurnal Manajemen, Bisnis dan Kewirausahaan, 5*(1), 251–263. https://doi.org/10.55606/jumbiku.v5i1.5468

Rahmanto, A. N., Nurhasan, U., & Rozan, N. (2024). Pengembangan aplikasi pengujian UI/UX dengan metode SUS dan TAM. *Jurnal Ilmiah Komputasi, 23*(4). https://doi.org/10.32409/jikstik.23.4.3656

Ramadhan, R. M. N. (2024). Evaluasi usability sistem informasi Sitabah tanggap bencana dan musibah menggunakan metode System Usability Scale (SUS). *JIMT: Jurnal Informatika, Multimedia dan Teknik, 1*(1), 24–29.

Sala, E. E., & Subriadi, A. P. (2023). Hot-Fit model to measure the effectiveness and efficiency of information system in public sector. *The Winners, 23*(2), 131–141. https://doi.org/10.21512/tw.v23i2.7423

Sari, N., Haryanto, H., & Jais, S. (2025). Validity and reliability test for assessing the bleeding factor in breast cancer wounds. *Malahayati International Journal of Nursing and Health Science, 7*(12), 1522–1531. https://doi.org/10.33024/minh.v7i12.645

Yusof, M. M., Kuljis, J., Papazafeiropoulou, A., & Stergioulas, L. K. (2008). An evaluation framework for health information systems: Human, organization and technology-fit factors (HOT-fit). *International Journal of Medical Informatics, 77*(6), 386–398. https://doi.org/10.1016/j.ijmedinf.2007.08.011