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Understanding the Factors Influencing the Success of Housing and Settlement Information Systems: A Case Study of Rental Flats in Jakarta Using the Delone & McLean Model

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Abstract

Background: Jakarta's rapid urban expansion has intensified housing demand, leading the government to deploy the Housing and Settlement Information System (SIRUKIM) as a digital tool to enhance transparency and administrative efficiency in subsidized rental flat management. Despite this initiative, notable shortcomings persist in areas such as service responsiveness, openness of information, and the willingness of users to engage with the platform.
Objective: This study examines the key determinants of SIRUKIM's operational success by employing an augmented version of the DeLone and McLean Information Systems Success Model, enriched with trust and perceived security as supplementary explanatory variables.
Methods: A quantitative research approach was applied, collecting primary data from 396 active SIRUKIM users during April to May 2024. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS.
Results: Findings reveal that service quality significantly shapes both system use and user satisfaction, whereas system quality and information quality show no meaningful impact on usage behavior. User satisfaction emerged as the strongest predictor of both system use and net benefits. Trust was found to be a critical antecedent of all three quality constructs, while perceived security did not significantly influence usage.
Conclusion: The results affirm that user satisfaction and institutional trust are central to the success of government-run information systems. These insights offer practical guidance for Jakarta policymakers and the SIRUKIM development team, particularly in terms of improving service quality and cultivating trust-enhancing mechanisms to drive broader system adoption.

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INTRODUCTION

Jakarta, the capital city of Indonesia, is a living illustration of the rapid urbanization that has changed the face of major cities around the world. As one of the most populous metropolises in the world, Jakarta continues to witness rapid population growth, with thousands of people migrating to the city every year. The population of DKI Jakarta in 2026 is 10.669.702 people with an annual population growth rate of 0.17 percent, while when compared to the area of Jakarta itself, the population density in Jakarta in 2026 is very high, which is 21,699 people per 1 km^2 (Jakarta, 2026). Central Jakarta City has the highest population density in DKI Jakarta Province, which is 20,618 people/km^2.

The high population density and urbanization rate in Jakarta have led to various complex social issues related to the provision of public utilities and employment opportunities. These

issues are evident through various indicators, such as the emergence of slums and informal settlements, as well as high levels of poverty and unemployment in urban areas (Jamaludin, 2017). Slum settlements themselves represent living environments with highly inadequate quality, characterized by extremely high building densities in limited spaces, susceptibility to social and environmental diseases, low-quality structures, inadequate environmental infrastructure, and endangerment to the sustainability of residents' lives and livelihoods (Budihardjo, 1992). The low number of households that have access to adequate housing in Jakarta (around 36.39% in 2022) makes the Jakarta local government strive to overcome this issue. One of these efforts is to build Rental flats, as an alternative for residents who find it difficult to get a decent place to live in the middle of a dense and expensive city.

However, along with these efforts, the management of information and registration for prospective residents of flats still faces significant challenges. In order to improve transparency and efficiency, the DKI Jakarta Government developed the Housing and Settlement System (SIRUKIM) application as a digital solution. Since its development in 2019 the application of the Housing and Settlement System (SIRUKIM) has been downloaded 94,264 times. Housing and Settlement System (SIRUKIM) application has been downloaded 94,264 times, with active user data of 86,747 users. The large number of people who active users shows how enthusiastic the citizens are to use the use the Housing and Settlement System application to get information related to rental flats. Other data owned by Pusdatin PRKP (Public Housing and Settlement Areas) DKI Jakarta, shows that 41,644 people who have registered as residents of rental flats through the Housing and Settlement System application. through the Housing and Settlement System application as shown in table 1 below.

Table 1. Number of Housing and Settlement Information System application users

No	Data	Quantity
1	Number of SIRUKIM application downloads (IOS+Amdroid)	94.262
2	Number of SIRUKIM application downloads (IOS)	2.471
3	Number of SIRUKIM application downloads (Android)	91.791
4	Active users of the SIRUKIM application	86.747
5	Rusunawa applicants using the SIRUKIM application	41.644

However, the problem is the user assessment of the housing and settlement system application in PlayStore. As of October 2025 the assessment of the Housing and Settlement System application is not very good, only getting a rating of 3.38 (out of a scale of 5). Based on the reviews in the playstore, this application actually still has obstacles related to data and information transparency related to flat waiting system. On the basis of these problems, this research was conducted as a form of evaluation of existing Information Systems, as well as to determine the variables that affect success and user acceptance.

Evaluation needs to be carried out on every system that has been implemented because it is necessary to assess or evaluate the performance of the system to see the extent of its success in achieving the original goals and objectives set. Overall, the purpose of system evaluation is to reduce data loss in the system that can cause losses and improve control in the system to minimize errors The novelty of this study lies in its extension of the DeLone and McLean IS Success Model by integrating Trust and Perceived Security, applied specifically to SIRUKIM — a government housing information system in Jakarta targeting low-income urban residents. This contributes domain-specific empirical evidence from a developing country e-government context, distinguishing this work from prior studies on generic government portals (Weber, 1999).

Literatur Review

Information System

Nowadays, many organizations across various sectors of industry, commerce, and government heavily rely on their information systems as a critical component of their daily operations. A system is a collection of interconnected components, consisting of input, process, and output, working together to achieve a specific goal and having clear boundaries (O'Brien &

Marakas, 2012). Information is data that has been processed, thereby gaining meaning and value for humans (Laudon & Laudon, 2017). Laudon (2017) describes an Information System as a network of interconnected components designed to gather, process, store, and distribute information to facilitate decision-making and control within an organization. Additionally, these systems assist managers and employees in problem-solving, understanding complex issues, and developing new products. This definition highlights that an Information System comprises interrelated components that collaboratively function to support organizational decision-making and control.

IS Success Model

IS Success Model developed by DeLone and McLean was first introduced in 1992 (DeLone & McLean, 1992). The model aims to provide a comprehensive conceptual framework for measuring the success of information systems (IS) in various organizations. In its initial version, the model comprised six key dimensions considered as indicators of IS success: System Quality, Information Quality, Use, User Satisfaction, Individual Impact, and Organizational Impact (DeLone & McLean, 2003).

In 2003, DeLone and McLean updated their model to address criticisms and feedback from the academic and practitioner communities. They introduced two new dimensions: Service Quality, and replaced Individual Impact and Organizational Impact with Net Benefits. This update aimed to reflect changes in information technology practices and the growing importance of service quality in modern IS environments (DeLone & McLean, 2003). The DeLone and McLean IS Success Model proposes that the success of an information system can be evaluated through several interrelated variabels:

1. System Quality: Refers to the technical performance of the information system, including aspects such as reliability, flexibility, integrity, and efficiency. High system quality is a critical prerequisite for user adoption and satisfaction (Sabeh et al., 2021).
2. Information Quality: Information Quality in DeLone and McLean refers to the quality of information presented on a system (DeLone & McLean, 2003).
3. Service Quality: Service Quality focuses on the quality of service provided by a system to users (DeLone & McLean, 2003; Sabeh et al., 2021).
4. Use: Measures the extent and manner in which the information system is used by its users. High usage is generally considered an indicator that the system is useful and accepted by users (DeLone & McLean, 1992; Sabeh et al., 2021).
5. User Satisfaction: User Satisfaction focuses on user satisfaction with a system (DeLone & McLean, 2003; Sabeh et al., 2021).
6. Net Benefits: Net Benefit focuses on the benefits obtained by users when or after using a system (DeLone & McLean, 2003; Sabeh et al., 2021).

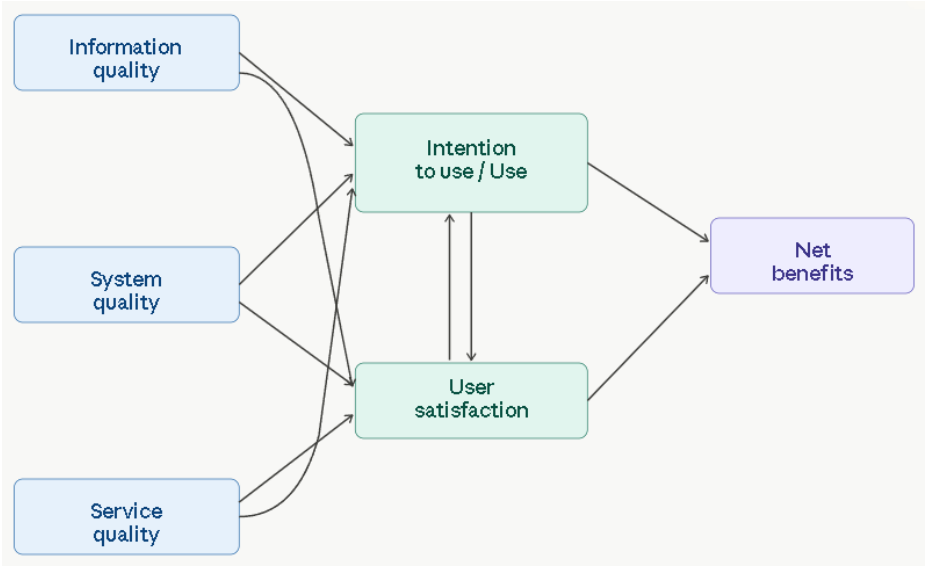

Figure 1. IS Delon & Mclean Model

Trust

Research by Carter (2005), highlights the importance of trust in the context of e-Government services. They found that trust in online government services (e-Government) consists of two main aspects: trust in the entity providing the online service (government) and trust in the reliability of the technology. These two aspects play an important role in influencing users' intention to use e-Government services such as e-filing in Indonesia. Other research views transparency as one of the key factors in building public trust to use e-Government. Another study that looked at the relationship between Trust variables and the Delon & McLean model on government-owned information systems was also conducted.

Trust In Government

Trust in government is the public's perception of the integrity and ability of government institutions to deliver public services. This definition highlights that public trust in government is formed from the belief that the government will act in the best interests of its people. In other words, the level of trust in government is closely related to the performance and responsiveness of the government to the needs and expectations of the community. Studies by Carter (2005) emphasize that people will tend to trust the government if they believe that the government is committed to acting in accordance with the best interests of its people. In addition, another study Karkin (2014) shows that trust in government is highly dependent on the performance of the government in carrying out its duties, including in providing quality public services and being responsive to the needs of the community. Thus, trust in government is a key factor in building a positive relationship between the government and the community, as well as in increasing the acceptance and adoption of public services provided by the government, including government-owned Information System services. By improving government performance and transparency in delivering public services, it is expected that the level of public trust in government can also be improved.

Trust In Technology

Trust in technology refers to potential users' perceptions of the reliability of the internet in providing accurate information and secure transactions. Technology acceptance depends on the belief that the internet can be relied upon to provide precise information and secure transactions. Many users have concerns about sharing personal data online due to feelings of insecurity and associated privacy risks. They worry that their personal data could be misused or accessed by unauthorized third parties, or even rented or sold to other parties without their consent.

In addition, trust in technology is also related to people's trust in the use of the internet in the making (Carter & Bélanger, 2005) . In the context of government applications. Transparency of information and processes carried out affects public trust in the government and the technology in it.

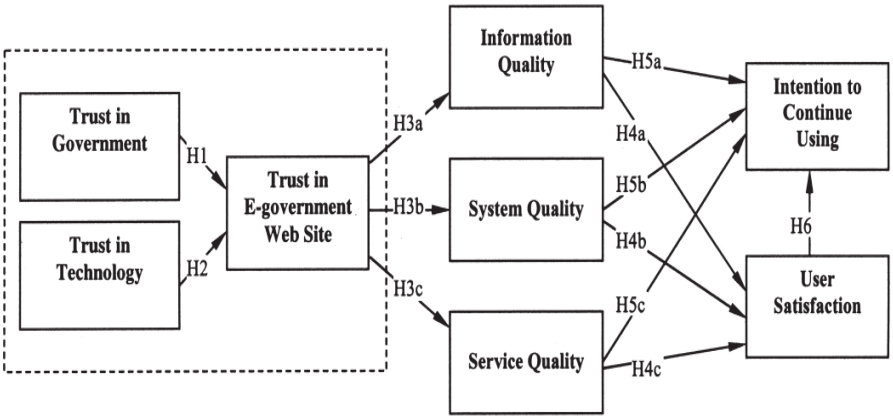

Figure 2. Trust and IS Delon & Mclean Model
source : (Teo et al., 2008)

Transparency

Transparency plays a crucial role in the success of government applications based on the IS Success Model. In this context, the quality of transparent information and services can enhance user satisfaction and public trust, ultimately leading to increased usage and net benefits of the application. High transparency in the dissemination of information by government information systems not only meets user expectations but also strengthens accountability and public participation in the governance process (Karkin & Janssen, 2014). Other research Alessandro (2021) shows a relationship between trust and transparency. Trust in various social, organizational and interpersonal contexts is often influenced by how transparent the parties involved are in communication and decision making. In the context of government applications. Transparency of information and processes carried out affects public trust in the government and the technology in it.

Perceived Security

Perceived security is a vital factor within the IS Success Model, particularly in government applications that handle sensitive personal data. The primary reason for the deficit in citizens' trust includes fears of misuse of sensitive financial and personal information shared on e-government services and the potential lack of security in online transactions (Gupta et al., 2024).

The perception of security is critical in the context of the Housing and Settlement Information System due to its handling of sensitive user data and personal information. Given the system's integration with government data, including Taxpayer Identification Numbers, Bank Account Numbers, and Resident Identity Cards, the risks related to information security and privacy are significantly heightened.

According to Wheeler (2011) information security risks can be categorized into Four main aspects: Confidentiality, Integrity, Availability and Accountability. Meanwhile, another research Hartono (2014) detailed the dimensions of perceived security into non-repudiation, confidentiality, integrity, and availability. Marianus (2021), has added non-repudiation, authentication, access control, secure communication, and privacy to the perceived security construct. It is important to investigate user perceptions of data and information security issues for several reasons (Mekovec & Hutinski, 2012):

1) Technology's impact on privacy: Technology makes it easier to digitize information, making it easier to collect and search for information about individuals.
2) Inability to delete digital information: Digital information tends to be difficult to delete, so an individual's activities in the digital world may remain recorded for a long time.
3) User awareness about privacy: Online users are increasingly aware of the lack of privacy protection and the potential invasion of their privacy. Perceptions of security are also linked to threats that can cause economic hardship through data corruption, denial of service, fraud and abuse of authority. The term online privacy is often associated with concerns about the privacy of personal information and data.

In the future context, Housing and Settlement Information System is expected to be used not only to receive information and conduct rental registration, but also as a tool to make rental payments. Therefore, it is important to ensure that the system is equipped with robust security measures to protect user data and privacy and prevent potential security risks arising from the expansion of its functionality.

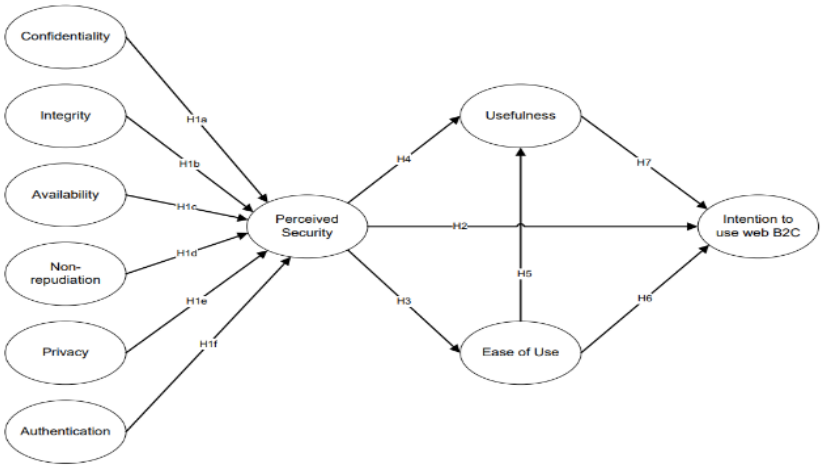

Figure 3. Perceived Security dan intention to use [20]

METHOD

Research Methodology and Hypothesis

The D&M IS Success Model is the most cited model in research on IS success Nguyen (2015) and Elazzaoui (2022), then DeLone and McLean updated the success model information system. However, in a broader context, there are other variables that also have a significant influence on the success of information systems, including trust and perceived security. Therefore, modifications to this model were made by including trust and perceived security variables into the IS Success Model framework. The Modification of the model in this study was referenced by (Tjen et al., 2019).

Furthermore, in the research of Tjen (2019) the relationship between trust and System Quality, Information Quality and Service Quality is seen, while through the research of Manalu (2022), the relationship between Perceived Security and intention of use is seen, where in this study there is evidence that Perceived Security in using SI is the cause of the user's intention to reuse the application (intention to use). Derived from the Delon and Mclean IS Success Model, Trust and Perceived Security and several related studies, the model designed for this research as follows.

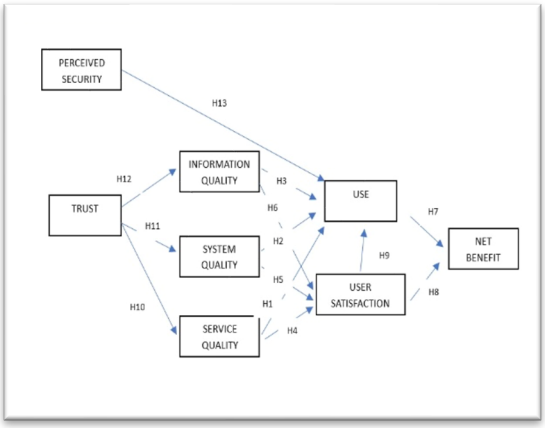

Figure 4. Research Model

Thus, below is the design of the hypothesis:

H1: Service Quality has an affects on Use
H2: System Quality has an affects on Use
H3: Information Quality has an affects on Use.
H4: Service Quality has an affects on User Satisfaction.
H5: System Quality has an affects on User Satisfaction.
H6: Information Quality has an affects on User Satisfaction.

H7: Use has an affects on Net Benefit.
H8: User Satisfaction has an affects on Net Benefit.
H9: User Satisfaction has an affects on Use.
H10: Trust has an affects on Service Quality
H11: Trust has an affects on system quality
H12: Trust has an affects on Information Quality
H13: Perceveid Security has an affects on Use

Research Instrument

Questionnaire was used as a research vehicle for data collection. This method is one of the most popular methods of IS Success Model, This questionnaire was created using Gforms and allocated online. The scale used in the questionnaire for this study is a Likert scale from 1 to 5. From the results of the data collection, it will be known related to the biographies of the respondents, who are the residents of rental flats using this application, age, verification of gender. The questionnaire instrument consisted of 7 main variables with 39 indicator items as detailed in Table 2. [Clarification needed: The original text states "22 variables with 39 indicators," but Table 2 lists only 7 variables (Use, User Satisfaction, Perceived Security, Trust, Net Benefit, and their sub-dimensions). Please reconcile this discrepancy—if "22" refers to the number of indicator items or sub-dimensions across all constructs, this should be clearly explained.] The following are the variabel and sources used in the research questionnaire.

Table 2. Variables and Indicators

Variable	Dimentions	Code	References
System Quality	Adaptability	AD	(Al-Rahmi et al., 2022; DeLone & McLean, 2003; Zaied, 2012)
	Availability	AV	
	Reliability	REL	
	Response Time	RES	
	Usability	USA	
Service Quality	Assurance	ASS	(Al-Rahmi et al., 2022; Azeez & Lakulu, 2018; DeLone & McLean, 1992; Sabeh et al., 2021; Zaied, 2012)
	Empathy	EM	
	Responsiveness	RES	
Information Quality	Completeness	COM	(Al-Rahmi et al., 2022; Azeez & Lakulu, 2018; DeLone & McLean, 1992; Sabeh et al., 2021; Zaied, 2012)
	Ease of understanding	EOU	
	Personalization	PERS	
	Relevance	REL	
Variable	Dimentions	Code	References
Use	Frequenty of Use	USE	(Al-Rahmi et al., 2022; Azeez & Lakulu, 2018; DeLone & McLean, 2003; Zaied, 2012)
User Satisfaction	Recommended	REC	(Al-Rahmi et al., 2022; Azeez & Lakulu, 2018; DeLone & McLean, 2003; Zaied, 2012)
Perceived To Security	Confidentiality	CON	(Al-Azawei et al., 2023; Manalu et al., 2022; Marianus & Ali, 2021)
	Integrity	INT	
	Availability	AVAIL	
	Privacy	PRIV	
Trust	Trust To Goverment	TRG	(Alessandro et al., 2021; Carter & Bélanger, 2005; Teo et al., 2008; Tjen et al., 2019)
	Trust To Tecnology	TRATEC	
	Transperancy	TRANS	
Net Benefit	Benefit	BEN	(DeLone & McLean, 2003; Sabeh et al., 2021)

Data Collection and Data Analysis Techniques

Data were collected through an online survey distributed to residents of rental flats in Jakarta who use the SIRUKIM application. Clarification needed: The sampling method (random, purposive, or proportional stratified across the five Jakarta municipalities shown in Table 3) must be explicitly stated. Please clarify how respondents were selected from each municipality and describe the proportional allocation if applicable. the number of residents of who use the Housing and Settlement Information System application are as follows Settlement Information System application as follows.

Table 3. Rental Flat applicants through the SIRUKIM application per municipality

No	Municipality	Number of Population
1	West Jakarta	6,525
2	Central Jakarta	8,085
3	South Jakarta	571
4	East Jakarta	18,545
5	North Jakarta	7,914
Total		41,644

From a population of 41,644 users of the application, the sample needed to represent the population was calculated with a margin of error of 5% (95% confidence level) using the Slovin formula: n = N / (1 + N·e^2), where N = 41,644 and e = 0.05, yielding n = 41,644 / (1 + 41,644 × 0.0025) ≈ 396 respondents.

$$n = \frac{\mathrm{N}}{1 + \mathrm{Ne}^{2}}$$

$$n = \frac{41.644}{1 + (41.644 * (0.005)^2)}$$

n = 396 user

Data analysis in this study was carried out using SmartPLS software. The measurement model consisted of validity and reliability tests, and all statistical procedures followed the guidelines recommended for PLS-SEM (Hair Jr et al., 2014; Hair & Alamer, 2022). Regarding research ethics, respondents participated voluntarily and were informed of the study purpose prior to completing the questionnaire. All responses were collected anonymously through Google Forms, and no personally identifiable information was retained. Respondent data were used exclusively for academic research purposes and stored securely in accordance with applicable data protection principles., where validity test is carried out with two types, namely convergent validity by analyzing the factor loadings and AVE values, and discriminant validity by analyzing the cross loading value. The reliability test will be carried out by analyzing the value of cronbach's alpha and composite reliability. Then, an analysis of the results of the structural model consisting of R-Square, t-statistics, and p-value was carried out.

RESULTS AND DISCUSSION

Demografic Result

In this research, respondents are residents of rental flats in Jakarta who use the application. The number of valid respondents in this study amounted to 396 user The distribution of this questionnaire was conducted over approximately two months, from April to May 2024, and was carried out through a Google Form.

Table 4. Respondents Demographics

Demographic Characteristic	Frequency	Percent (%)

	Female	177	44.7%
Gender	Male	219	55.3%
Age	18 - 27	26	6.6%
	28 - 37	171	43.2%
	38 - 47	139	35.1%
	48 - 59	56	14.1%
	> 60	4	1%
Education			
	elementary school	6	1.5%
	Junior high school	24	6.1%
	High School	238	60.1%
	Bachelor	126	31.8%
	Magister	2	0.5%

Table 4 shows respondents' demographic data covering three main characteristics: gender, age, and education level. The majority of respondents were men, which was 55.3%, while women were 44.7%. The largest age group is 28 – 37 years old with 43.2%, followed by the 38 – 47 years old age group with 35.1%. The age group of 18 - 27 years and over 60 years has the least percentage. The majority of respondents had a high school education (60.1%), followed by Bachelor education (31.8%) while Master and Elementary School education levels have the least percentages of 0.5% and 1.5%

Measurement Model

In the data analysis process, the author conducted PLS-SEM and bootstrapping tests to obtain results for the measurement model (outer model), structural model (inner model), and hypothesis testing. The results of the first PLS-SEM test can be seen in Figure 5.

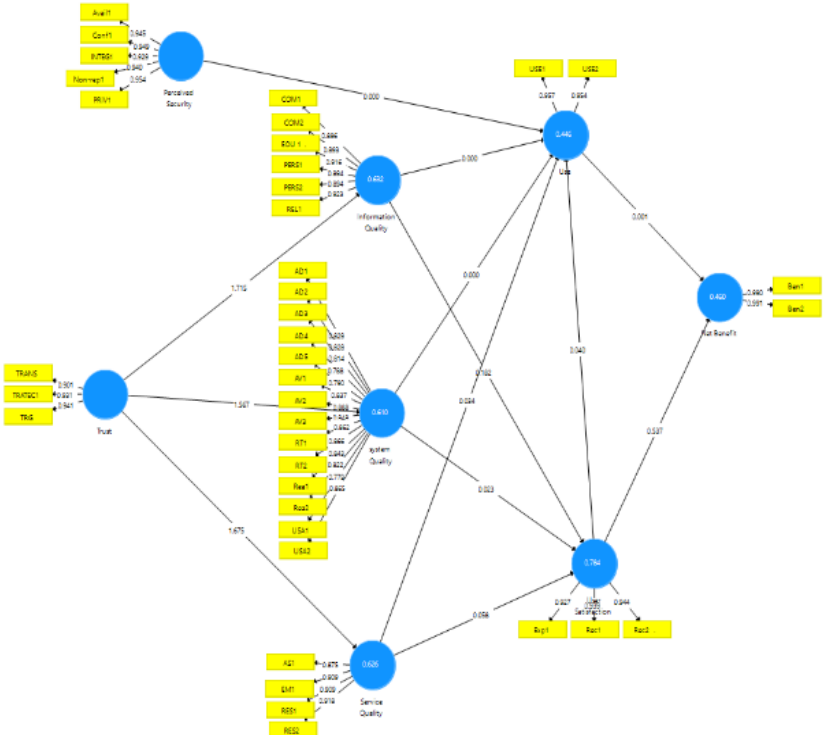

Figure 5. Research Model on PLS

Refer to Figure 5, it is evident that all variables and indicators have an AVE value of 0.5, while the lower limit for outer loading and cross loading is 0.7, so no adjustments are necessary

Validity Test

Validity test is done by looking at the AVE value, outerloading, and crossloading. The lower limit for AVE is 0.5 while the lower limit for outerloading and cross loading is 0.7 (Hair Jr et al.,

2014; Hair & Alamer, 2022).

Table 5. AVE Result

Variable	AVE
Information Quality (IQ)	0.815
Net Benefit (NB)	0.981
Perceived Security (PS)	0.890
Service Quality (SQ)	0.816
Trust (TR)	0.855
Use (USE)	0.914
User Satisfaction (STF)	0.878

Refer to Table 5 above, the AVE values for all variables are greater than 0.5, indicating that all variables and items used in this study meet the criteria for validity in measuring the variables. The next validity test is cross loading, in which this test is carried out to ensure that the indicators used actually reflect one variable. The next validity test is discriminant validity, assessed through cross-loading analysis to ensure that each indicator predominantly reflects its own construct, with a minimum loading value of 0.7 (Hair Jr et al., 2014). Discriminant validity should also be reported using the Fornell-Larcker criterion (AVE square root of each construct should exceed its correlations with other constructs) or the HTMT ratio (values below 0.85 indicate adequate discriminant validity), as these are standard requirements in PLS-SEM research (Hair Jr et al., 2014; Hair & Alamer, 2022). Please add the Fornell-Larcker matrix or HTMT table to this section.

Table 6. Factor Loading

Variable	Indicators	Loading Factors	Result
System Quality	AD1	0.829	Valid
	AD2	0.828	Valid
	AD3	0.814	Valid
	AD4	0.788	Valid
	AD5	0.790	Valid
	AV1	0.837	Valid
	AV2	0.888	Valid
	AV3	0.848	Valid
	RT1	0.862	Valid
	RT2	0.866	Valid
	REA1	0.843	Valid
	REA2	0.822	Valid
	USA1	0.779	Valid
	USA2	0.865	Valid
Information Quality	COM1	0.896	Valid
	COM2	0.893	Valid
	EOU	0.916	Valid
	PERS1	0.894	Valid
	PERS2	0.894	Valid
	REL	0.923	Valid
Service Quality	AS	0.875	Valid
	EM	0.909	Valid
	RES1	0.909	Valid
	RES2	0.918	Valid
Use	USE1	0.957	Valid
	USE2	0.954	Valid
User	EXP	0.927	Valid

Satisfaction	REC1	0.939	Valid
	REC2	0.944	Valid
Net Benefit	BEN1	0.990	Valid
	BEN2	0.991	Valid
Perceived Security	AVAIL	0.945	Valid
	CONF	0.949	Valid
	INTEG	0.929	Valid
	NON-REP	0.940	Valid
	PRIV	0.954	Valid
Trust	TRANS	0.901	Valid
	TRATEC	0.931	Valid
	TRG	0.941	Valid

Derived from the results above, all indicators in the survey model have values above 0.7, indicating that all indicators have been validated

Reliability Test

Reliability test was carried out by analyzing the value of cronbach's alpha and composite reliability on each research variables (F. Hair Jr et al., 2014).

Table 7. Reliability Results

Variable	Cronbach's Alpha	Composite Reliability	Result
System Quality (SQ)	0,966	0,969	Reliable
Information Quality (IQ)	0,954	0,963	Reliable
Service Quality (SQ)	0,925	0,947	Reliable
Use (USE)	0,905	0,955	Reliable
User Satisfaction (STF)	0,93	0,956	Reliable
Net Benefit	0,981	0,99	Reliable
Perceived Security (PS)	0,969	0,976	Reliable
Trust (TR)	0,915	0,946	Reliable

Derived from the results above, all variables are reliable because cronbach's alpha and composite reliability are at least 0.7.

Structural Model

Therefore, the structural model is tested to see the correlation among variables. R-square is used to measure how well the model used in research. The R2 ranges from 0 to 1, with higher levels indicating a higher degree of explanatory power. As a rough rule of thumb, the R2 values of 0.75, 0.50, and 0.25 can be considered substantial, moderate, and weak (Hair et al., 2014; Sarstedt et al., 2020).

From the existing R-square results, it is found that the model is subtantial for predicting for User Satisfaction and moderate in predicting Information Quality, Service Quality and Syetem Quality. The R-Square value listed in Table 8.

Table 8. R-Square Results

Variable	R Square
Information Quality	0.632
Net Benefit	0.460
Service Quality	0.626
Use	0.446
User Satisfaction	0.784
system Quality	0.610

Hypothesis Test

The hypothesis is tested by looking at the significance value (p-value) and t-value (T-statistics). p-value must be less than 0.05 and T-statistics must be greater than 1.97 so that the previously made hypothesis can be accepted

Table 9. Hypothesis Results

Hypothesis		T -Statistics	P - Values	Result
H1	Service Quality -> Use	3,182	0,002	Accept
H2	system Quality -> Use	0,276	**0,783**	**Not Accept**
H3	Information Quality -> Use	0,001	**1**	**Not Accept**
H4	Service Quality -> User Satisfaction	3,448	0,001	Accept
H5	system Quality -> User Satisfaction	2,292	0,022	Accept
H6	Information Quality -> User Satisfaction	5,568	0	Accept
H7	Use -> Net Benefit	0,646	**0,518**	**Not Accept**
H8	User Satisfaction -> Net Benefit	11,738	0	Accept
H9	User Satisfaction -> Use	3,128	0,002	Accept
H10	Trust -> Service Quality	23,629	0	Accept
H11	Trust -> system Quality	23,957	0	Accept
H12	Trust -> Information Quality	28,068	0	Accept
H13	Perceived Security -> Use	0,386	**0,699**	**Not Accept**

The results of the hypothesis testing indicate that the majority of the proposed relationships within the model have been supported. Out of the 13 hypotheses tested, four (4) were not supported: System Quality → Use (H2), Information Quality → Use (H3), Use → Net Benefit (H7), and Perceived Security → Use (H13). [Note to authors: Please add a path coefficient (β) column to Table 9 as recommended by the reviewer, since path coefficients are standard in PLS-SEM reporting (Hair Jr et al., 2014; Hair & Alamer, 2022). The β values should be derived from the SmartPLS bootstrapping output.]

Discussion

H1: Service Quality has a significant effect on Use

H1 indicates that Service Quality has a p-value lower than 0.05 (p-value = 0.002 < 0.05; T-statistics = 3.182), confirming a statistically significant positive effect on Use (Al-Rahmi et al., 2022; Kaban et al., 2023; Sugesti et al., 2020). System quality is considered to represent the technical capability of a system. Quality is to provide users with ease of use of applications, availability of applications for access, and response time of applications to user requests.

H2: System Qualitity has no significant effect on Use

H2 indicates that System Quality has a p-value greater than 0.05 (p-value = 0.783 > 0.05; T-statistics = 0.276; β = negligible), indicating no statistically significant positive impact on Use. This finding contrasts with previous studies by Al-Rahmi (2022), which demonstrated a positive relationship between System Quality and Use. However, it aligns with the results of study Tan (2015) which also found no positive influence of System Quality on Use. In this research, the System Quality of the application was found not to affect user application usage.

H3: Information Qualitity has no significant effect on Use

The results of H3 indicate that Information Quality has a p-value greater than 0.05 (p-value = 1.000 > 0.05; T-statistics = 0.001; β ≈ 0), suggesting that the Information Quality variable does not have a significant positive effect on Use, as found in the study by Tan (2015), which stated

that information quality does not affect the intensity of Information System usage in the public sector. Contrasting results can be seen in studies conducted by Kaban (2023), which found a positive relationship between Information Quality and Use.

H4: Service Qualitity has a significant effect on User Satisfaction

The result in H4 shows that Service Quality has a p-value lower than 0.05 (p-value = 0.001 < 0.05; T-statistics = 3.448; β = positive), indicating a statistically significant positive effect on User Satisfaction. This finding aligns with another study by Sugesti (2020), which states that the quality of service perceived by users, such as reliability, convenience, and responsiveness, directly affects user satisfaction. Research conducted by Azeez (2018) found that Users who feel that m-Government services meet their expectations are likely to be more satisfied and use the services more frequently.

H5: Sistem Qualitity has a significant effect on User Satisfaction.

Refer to Table 9, System Quality has a p-value lower than 0.05 (p-value = 0.022 < 0.05; T-statistics = 2.292; β = positive), indicating a statistically significant positive effect on User Satisfaction, as in the results of previous research conducted by (Sorongan & Hidayati, 2020). Based on research conducted by Azeez (2018), it was found that, system quality plays a crucial role in ensuring that m-Government services are easily accessible to users. High system quality significantly impacts user satisfaction as it allows them to access services smoothly without technical issues. This is directly related to the user experience when interacting with the service

H6: Information Qualitity has a significant effect on User Satisfaction

H6 indicates that Information Quality has a p-value lower than 0.05 (p-value = 0.000 < 0.05; T-statistics = 5.568), confirminga statistically significant positive effect on User Satisfaction. These findings are consistent with previous studies (Sorongan & Hidayati, 2020). Table 9, explaining that the completeness and ease of understanding of information will impact the satisfaction of service users. Based on research conducted by Azeez (2018), The quality of information provided by m-Government services is one of the main factors influencing users' perceptions of the service. Accurate, relevant, and up-to-date information enhances users' trust and User Satisfaction, as they feel that the service effectively meets their informational needs

H7: Use has no significant effect on Net Benefit

The results of H7 show that Use has a p-value greater than 0.05 (p-value = 0.518 > 0.05; T-statistics = 0.646; β ≈ negligible), indicating no statistically significant positive effect on Net Benefit. Use has a significant effect on Net Benefit. However, the results of this study are in line with previous research conducted by Sorongan (2020), where in their research, the use of E-Government applications by users did not have a significant positive effect on Net Benefit

H8: User Satisfaction has a significant effect on Net Benefit

H8 indicates that User Satisfaction has a p-value lower than 0.05 (p-value = 0.000 < 0.05; T-statistics = 11.738; β = positive), confirming a statistically significant positive effect on Net Benefit, as in the results of previous research conducted by (Sorongan & Hidayati, 2020).

H9: User Satisfaction has a significant effect on Use

H9 indicates that the P-Value for User The p-value for the *User Satisfaction* variable is less than 0.05 (p-value = 0.049 < 0.05), indicating that *User Satisfaction* has a significant positive effect on *Use*. This finding aligns with previous research conducted by DeLone (2003) which asserts that user satisfaction with an application positively influences its future usage. In other words, higher levels of user satisfaction are associated with a greater likelihood of continued use of the application. This result underscores the importance of ensuring user satisfaction to enhance the adoption and sustained utilization of the application

H10: Trust has a significant effect on Service Quality

H10 indicated that the P-Value for Trust variable less than 0.05 (p-value = 0.049 < 0.05), indicating that Trust has a significant positive effect on Service Quality. Previous research

conducted by Zhang (2023) has shown similar results to this study, indicating that trust has a positive effect on Service Quality.

H11: Trust has a significant effect on System Quality

H11 indicated that the P-Value for Trust variable less than 0.05 (p-value = 0.049 < 0.05), indicating that Trust has a significant positive effect on System Quality. Previous research conducted by Zhang (2023) has shown similar results to this study, indicating that trust has a positive effect on System Quality

H12: Trust has a significant effect on Information Quality

H12 indicated that the P-Value for Trust variable less than 0.05 (p-value = 0.049 < 0.05), indicating that Trust has a significant positive effect on Information Quality. Previous research conducted by Zhang (2023) has shown similar results to this study, indicating that trust has a positive effect on Information Quality.

H13: Perceived Security has no significant effect on Use

H13 indicates that Perceived Security has a p-value greater than 0.05 (p-value = 0.699 > 0.05; T-statistics = 0.386; $\beta \approx$ negligible), indicating no statistically significant positive effect on Use. The findings related to Perceived Security and its impact on unsupported use differ from those in previous studies, such as those by (Marianus & Ali, 2021). However, this finding aligns with the results from Kompas, which reported that 59% of survey respondents in Indonesia stated that they never check the security of the applications on their mobile phones.

CONCLUSION

This study evaluated the Housing and Settlement Information System (SIRUKIM) in Jakarta, applying the DeLone and McLean IS Success Model extended with Trust and Perceived Security. Based on PLS-SEM analysis of 396 respondents, findings demonstrate that user satisfaction is the strongest predictor of system success (R^2 = 0.784), driven by service quality, system quality, and information quality. Trust significantly influenced all three quality dimensions. System use did not significantly predict net benefit, indicating that perceived benefits are satisfaction-driven rather than usage-driven. Perceived security did not significantly affect system use, consistent with low security awareness patterns among Indonesian mobile application users. Theoretically, this study contributes empirical evidence on extending the D&M model with contextual variables in a developing country e-government housing context. Practically, SIRUKIM developers and the DKI Jakarta Government are recommended to prioritize service quality enhancements and trust-building mechanisms—such as transparent waiting-list information and responsive complaint channels—to improve adoption and net benefits. This study is limited to Jakarta-based SIRUKIM users surveyed cross-sectionally; future research should employ longitudinal designs and comparative analysis across other Indonesian cities or housing information systems.

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AUTHOR CONTRIBUTION STATEMENT

All authors contributed significantly to this study following the CRediT taxonomy. Conceptualization and research design were developed collaboratively, while data collection, analysis, and interpretation were primarily conducted by the first author with support from the co-author. Both authors participated in drafting the manuscript, revising it critically for intellectual content, and approved the final version for submission.

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