

Assessing the Success of Village Asset Management Systems: An Employee Perspective

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Abstract: This study aims to examine the success of Village Asset Management Systems (VAMS). The measurement uses the Delone McLean success model (D&M model), which provides six interrelated dimensions of information system success: system quality, information quality, service quality, intention to use, user satisfaction, and net benefits. 112 respondents who had used the VAMS application were surveyed, and data was analyzed using the structural equation modeling (SEM) technique. We find that information quality, system quality, and service quality are significant determinants to increase the VAMS application's user satisfaction. The intention to use positively impacts user satisfaction of the VAMS application. Furthermore, both intention to use and user satisfaction effectively increase the net benefits of the VAMS application. On the other hand, although system quality has no impact on the intention to use VAMS applications, interestingly, when we did a split sample test based on the knowledge transfer method in the VAMS implementation process, all dimensions on the D&M model were well-proven and validated. Finally, this study also demonstrates that information quality and service quality positively affect intentions to use the VAMS application in the context of a mandatory government information system.

Keywords: Delone McLean model, Information systems success, VAMS, Knowledge transfer

1. Introduction

Information technology is currently experiencing rapid development. The adoption of information systems is becoming increasingly massive, especially in the government sector. Private and government organizations have now accelerated with the times by using information technology to carry out their activities and services to the public. Wang and Liao (2008) stated that the Delon McLean model can measure the success of an information system in the public sector in implementing an Electronic Government aimed at providing electronic information and services to the public.

The direction and development of e-government in Indonesia have been regulated in the Presidential Instruction of the Republic of Indonesia No. 3 of 2003 concerning National Policies and Strategies for e-government Development. The purpose of e-government is to improve effective and efficient public services. The target of e-government development is from the central government to the local government level. The central government started by using a technology-based system or application using features or displays that are easy to use by local government officials up to village governments in Indonesia. Based on Law No. 6 of 2014 concerning villages, the village government is expected to be more independent in village governance and be able to manage village finances and assets owned by the village in a transparent and accountable manner.

In order to improve public services and make them more effective and efficient, village governments are introducing e-government. As a form of implementation of this strategy, in 2016, an application was developed to manage village financial management called the Village Financial System (VFS). One of the consequences of financial management is capital expenditure, which impacts increasing Village Assets. Assets are economic resources that must be appropriately managed to optimize utilization and use for community service. Ministerial Home Affairs Regulation No. 1 of 2016 concerning village asset management, regulates starting from planning to reporting related to the utilization of village assets. The regulation is translated as a platform application developed by the Ministry of Home Affairs of the Republic of Indonesia in 2017 named Village Asset Management System (VAMS). The application began to be implemented in 2018. In March 2021, the application changed its platform which was originally from a desktop base to a Web-based application with the hope of having convenience and flexibility in its implementation.

At least two years after VAMS was introduced, a series of Technical Guidance was carried out by the Ministry of Home Affairs and accounting professional organizations. The application is also gradually implemented by all villages within local governments throughout Indonesia. The five-year process of implementing the VAMS application was broken down into two phases: a desktop basis in the first four years and a web basis in the last

year. The implementation stage, of course, impacts and benefits the village government in providing services to the community. The success of information systems can be assessed by a test using various models. Information systems success testing is essential because evaluating a system or applications can determine whether the application or system can impact or benefit users (DeLone and McLean 2016; Petter, DeLone, and McLean 2013; Winarno and Putra 2020).

A measurement for the success of information systems that is often and popularly used is the Delon McLean model of information system success. The model was first put forward in 1992 and updated with some modifications in 2003 (Ojo 2017; Delone and McLean 2003, 2004; Petter, DeLone, and McLean 2013). D&M model provides six dimensions of success of interrelated information systems: system quality, information quality, service quality, use intentions, user satisfaction, and net benefit. Testing the effectiveness of information system implementation is essential because village government investment in the form of assets averages 60% of the total village government budget. The largest source of funding for this expenditure is from transfer income from the central government in the form of Village Funds and Village Fund Allocations, which are transfers from local governments.

Measuring the success of village asset management is essential in order to show the effectiveness, efficiency, and economy of managing village finances and assets. As part of the information system success testing model, the D&M Model has also been used by (Veeramootoo, Nunkoo, and Dwivedi 2018) in the context of e-government, which in this case is the application of tax services in the form of an e-filing system. E-Filing is an essential system for the community in carrying out their tax obligations. The study's findings showed that system quality, user satisfaction, and habit are the three elements that most strongly affect intention in utilizing the e-filing system. Another study conducted by (Rana et al. 2014) in India tested the efficacy of the online public grievance redressal system (OPGRS), stating that system quality and information quality will increase user satisfaction with OPGRS applications.

Numerous studies have examined the effectiveness of e-government; however, our study is noteworthy for being the first to investigate the viability of VAMS applications in Indonesia, particularly concerning web-based VAMS implementation, which has not been mandatory in the most recent year of implementation. Second, the implementation of VAMS, which has been carried out for two years, has gone through a long process, such as a knowledge-sharing mechanism between internal and external government parties. Effective knowledge transfer and sharing mechanisms will be essential to successfully implement VAMS and eventually enhance organizational performance (Alattas and Kang 2016). From the point of view of the knowledge transfer process, several perspectives, such as socialization (tacit-to-tacit), externalization (tacit-to-explicit), combination (explicit-to-explicit), and internalization (explicit-to-tacit) (Marwick 2001; McGinnis and Huang 2007; Rothberg and Erickson 2017) have also been undertaken in an effort to improve the success of VAMS implementation.

The central government carries out socialization and externalization programs from the ministries of the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration of the Republic of Indonesia as the central government that develops VAMS. Furthermore, the government involves accounting professional organizations that act as consultants to carry out continuous internalization by providing professional experiences (Rowley 2007) in village financial and asset management, which can be adopted by VAMS users/operators. To speed up the transformation of tacit knowledge into explicit knowledge inside an organization (Kuciapski 2017; Usman and Ahmad 2012; Sedera and Gable 2010), experts and professionals might impart information to end users of VAMS in the early phases of deployment through structured workshops or training (Lech 2011). This section is expected to contribute to the knowledge transfer process in implementing VAMS applications. Evidence of this contribution is shown from the results we have done in additional testing and sensitivity, which proves that knowledge-sharing mechanisms carried out through several schemes and methods contribute better when the intensity of socialization and knowledge-sharing through experienced consultants (Lech 2011; Finnegan and Willcocks 2006; Asrar-ul-Haq, Anwar, and Nisar 2016).

2. Literature Review and Hypothesis Development

2.1 Literature Review

2.1.1 Village asset management systems and e-Government information systems success

Village assets are property derived from the original wealth owned by the village, purchased, or obtained at the expenditure of the Village Budget or the acquisition of other legitimate rights. The central government launched an application to make managing village assets easier. The VAMS application is a tool that records the

administration of village assets designed with the mandate of Ministerial Regulation No. 1 of 2016 regarding village asset management. VAMS was created to make it easier to manage village assets transparently and accountably (Aprilia, Winarno, and Prasetyo 2022; Winarno and Putra 2020). VAMS application contains planning, pawning, administration, and presenting reports complete with the codification and labeling of village assets per the general guidelines for the codification of village assets. There are two important features in the VAMS application, namely the sub-system to carry out management related to using village assets. First, a sub-system that administrates assets in order to support the implementation of village governance in accordance with its main duties and functions (Aprilia, Winarno, and Prasetyo 2022). Second, a sub-system is used to monitor the utilization of village assets whose purpose is to increase income for village welfare.

The successful implementation of the VAMS application is a form of support for improving good governance and achieving successful e-government implementation in Indonesia (Sari and Winarno 2012). However, implementing the VAMS application will not be successful without a knowledge-sharing mechanism and knowledge transfer from the Ministry of Home Affairs as the developer of the VAMS application and external parties such as consultants and accounting professional associations. The acceptance of migration of an information system will be high if there is a suitable knowledge transfer mechanism (Kuciapski 2017). Therefore, knowledge management is an essential foundation for the successful implementation of information systems, which will ultimately ensure the sustainability of an organization (Asrar-ul-Haq, Anwar, and Nisar 2016).

Many researchers have widely used and developed Delone McLean's model of the successful implementation of information system measurement. The role of information systems has changed and evolved over the past decade. Similarly, academic investigations on the effectiveness of information systems have progressed over the same period (Delone and McLean 2003). The D&M model, a ten-year update, has six interconnected variables that affect each other. In the context of electronic-based systems, the revised model was successfully applied in predicting e-commerce-based systems in 2004 (Delone & Mclean, 2004), so the model is also worthy of being adopted in the context of e-government (Delone and Mclean 2004) in predicting the success of the implementation of information systems, especially from systems that provide public (Scott, DeLone, and Golden 2015; Stefanovic et al. 2016; Veeramootoo, Nunkoo, and Dwivedi 2018). Therefore, based on the arguments in the previous section, we adopted the D&M model into this research model as shown in Figure 1.

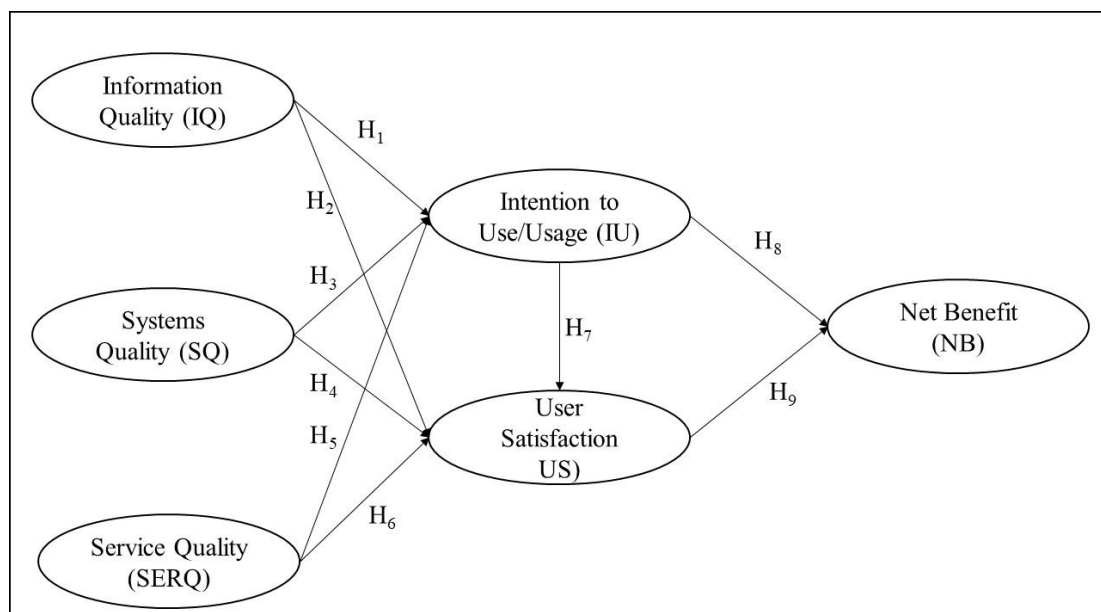


Figure 1: Research Model

2.2 Hypothesis Development

2.2.1 Information quality and intention to use of VAMS

O'Brien and Marakas (2006, 703) state that information quality provides value to the end user with characteristics such as content, form, and time. The information received by the user will be valued according to its quality, which will also affect the user's desire to utilize the information to make decisions. The end user of a system will receive outputs or results that are useful for improving its performance. Delone and McLean

(2003) explain that the intention of using a system is to use outputs or outcomes from the systems. Intention to use is an attitude that arises from a user who uses the system and gives the final attitude to determine whether the system can be reused or not. Septianita, Winarno, and Arif (2014) state that information technology from a system must provide information to help a company or organization make decisions.

Making the right decisions is influenced by how qualified the information obtained by the system's users is. Information quality is information that users can receive, such as the information obtained being relevant to the user's needs. In addition to being relevant, information must be up to date and able to describe the happening circumstances. While the poor or bad quality of information will affect the system's reliability, it will reduce the intention to use it for system users. Therefore, the quality of information is essential in this case in the process of working on the obligation for village governments to use the VAMS application. The use of the VAMS application by the village government of Situbondo Regency is expected to provide good quality information to increase the intention to use the VAMS application and help the village government make its decision, especially on village asset management. Several studies have shown that the quality of information positively affects the intention to use the system (Delone and McLean 2003; Wang and Liao 2008; Scott, DeLone, and Golden 2015; Stefanovic et al. 2016). Based on this description, a hypothesis can be formulated as follows.

H1: Information Quality positively impacts the Intention to Use of the VAMS application.

2.2.2 Information quality and user satisfaction of VAMS

Information Quality is a level of information that provides value to end users with characteristics such as content, form, and time (O'Brien and Marakas 2006; DeLone and McLean 2016). The quality of information that has value is information that can be received by the user, such as relevant information. Information relevant to user needs proves that the information generated from a system is of good quality. The quality of information can be said to be the output or the result of an information system application. The output or final result of such information is like information that is easy to understand and has good accuracy, sufficient completeness, and accuracy (Delone and McLean 2003). Good information will influence one's preferences or level of satisfaction as a system user—in this example, the VAMS application user.

The VAMS application is an information system used to support activities in finance, accounting, and managerial village asset management (Aprilia, Winarno, and Prasetyo 2022). User satisfaction can be defined as the way the user perceives something from a system application. In this case, a sense arises from using a system that has fulfilled its information (Mithas, Krishnan, and Fornell 2016; Danila and Abdullah 2014). The information users obtain is useful for enhancing decision-making in the organization. So, the higher the quality of information obtained from the VAMS application to manage village assets, the more it will increase user satisfaction of the VAMS application. The results of research consistently prove that the quality of information has a positive effect on user satisfaction (Delone and McLean 2003; Septianita, Winarno, and Arif 2014; Petter, DeLone, and McLean 2008; Petter, DeLone, and McLean 2013) Based on this explanation, the research hypothesis can be formulated as follows.

H2: Information Quality positively impacts on the User Satisfaction of the VAMS Application

2.2.3 System quality and intention to use of VAMS

According to Delone & McLean (2003) system quality is a concept that reflects the utilization of information systems by its users. The system's quality is formed through interaction with the system, when the user completes a certain task (Rana et al., 2014), which characterizes the system's quality as a desirable characteristic of the information system itself. Delone and McLean (2003) incorporated five items into system quality: adaptability, availability, reliability, response time, and usability to measure the system's success. A reliable system will affect the user because there is a belief that the information system can help the system user complete his task according to its function (Veeramootoo, Nunkoo, and Dwivedi 2018). The user's intention to use the system is an attitude after using and receiving the output or final result (Delone and McLean 2003). The final result of the VAMS application is in the form of a reliable report so that the resulting report can be accounted for and prove that the system's quality will affect the intention to use VAMS applications. Research evidence shows that higher System Quality will positively impact the intention of the user to use the systems (Urbach and Müller 2012; Ojo 2017; Veeramootoo, Nunkoo, and Dwivedi 2018; DeLone and McLean 2016). Based on these arguments, a hypothesis can be formulated as follows.

H3: System Quality positively impacts on the Intention to Use of the VAMS Application.

2.2.4 System quality and user satisfaction of VAMS

System quality is used to measure the quality of the system infrastructure, both software and hardware. System quality is the performance of a system that refers to how well an information system's hardware, software, policies, and procedures capabilities can provide information on user needs (DeLone & McLean, 1992) (DeLone and McLean 1992). System quality is often judged to fall under the dimensions of flexibility, reliability, functionality, ease of use, data importance, and integrity (Delone and McLean 2003, 2016). The VAMS application is compiled and given in a user-friendly manner, making it easier for users to operate the application.

User satisfaction is a feeling that arises because the system that has been used or given meets the information. Flexibility and user-friendliness of the VAMS application web-based information systems will increase the satisfaction of the VAMS user. Seddon (1997) surveyed users who had just implemented an information system and a university accounting system and found a positive relationship between system quality and user satisfaction (Rana et al. 2014; Ojo 2017; Wang and Liao 2008). Based on these arguments, a hypothesis can be formulated as follows.

H4: System Quality positively impact on the User Satisfaction of the VAMS Application

2.2.5 Service quality and intention to use of VAMS

Service quality is a comparison between user expectations and their perception of the quality of user services provided (DeLone and McLean 2016). The intention of using the system is to use outputs or end results that are expected to help in decision-making that is beneficial to the organization (Delone and McLean 2003). The intention to use VAMS will be measured by timeliness because the final result of using this system is a report, so timeliness is essential. Timely reports are the user's expectations of the application so that the perception arising from the results of using the application is good (Fitzgerald 2006; Ojo 2017). The higher the level of conformity between expectations and the realization of the VAMS application regarding village asset management reports, the more it will increase user interest in utilizing the VAMS application. In other words, the quality of service can affect the intention to use the VAMS application. Based on this explanation, a hypothesis can be formulated as follows.

H5: Service Quality positively impacts on the Intention to Use of the VAMS Application

2.2.6 Service quality and user satisfaction of VAMS

Service quality is a comparison between user expectations and their perception of the quality of service usage of a system (Petter, DeLone, and McLean 2013). VAMS application users will feel satisfied when the quality of services they have provided to villagers in Situbondo related to asset utilization is in accordance with their expectations. Thus, VAMS application users will also feel satisfied using the application because their performance benefits the community. The review of this explanation resulted in a prediction that the higher quality of services provided by the government for rural communities in Situbondo Regency will affect the level of satisfaction of VAMS application users. Testing of these two variables has been carried out (Wang and Liao 2008; Septianita, Winarno, and Arif 2014), and the results show that providing quality of-service results can positively affect user satisfaction with VAMS applications. Based on this explanation, a hypothesis can be formulated as follows.

H6: Service Quality positively impacts on the User Satisfaction of the VAMS application.

2.2.7 Intention to use and user satisfaction of VAMS

Petter, DeLone, and McLean (2013) explain that the user's intention to utilize the system is demonstrated by their behavior after using it and seeing the output or result as a measure of information systems success. DeLone and McLean (2003) state that the intention to use a system will be measured by timeliness because the final result of using this system is a report, so punctuality is very concerned. Timeliness in preparing reports, in this case, a village asset report, is essential, considering that the village asset report will be used for consideration in making decisions. Making the right decisions can affect user satisfaction in using the application. User satisfaction is a feeling that arises due to the system that has been used or given to fulfill the information. Using the real-time report of the VAMS application is expected to positively influence the satisfaction of its users.

Previous research proof that the intention to use as a significant predictor of user satisfaction (Rana et al. 2014). In the study, it was suggested that it was a determinant of the influence of user satisfaction in several studies (Veeramootoo, Nunkoo, and Dwivedi 2018; Rana et al. 2014) related to the adoption of e-government. Rana et

al. (2014) state that the ease of using the system can cause users to be more satisfied with its complexity. Based on this explanation, a hypothesis can be formulated as follows.

H7: The Intention to use positively impacts on the User Satisfaction of VAMS application.

2.2.8 Intention to use and net benefit of VAMS

The intention in using information system applications is the attitude shown by users after knowing or having used output from an information system DeLone and McLean (1992). The flexibility of VAMS in providing asset management reports will positively impact village governments. The impact obtained by an organization can be used to assess a system that has been used and whether it is successful or not. The assessment of the final results can be seen by whether the system or application that an organization has used can be helpful. It can be called a net benefit. Net benefits are also considered one of the most critical steps in the success of information systems, and it will show the extent to which information systems contribute to the success of various stakeholders, both positive and negative (Ojo 2017). The success of a system in providing benefits to the organization is also determined by the high and low intention of users in utilizing the system that has been implemented (DeLone and McLean 2016). Several studies have proven that there is a positive influence between the intention to use and the net benefit felt by the user (Ojo 2017; Wang and Liao 2008). Based on this description, a hypothesis can be formulated as follows.

H8: The Intention to Use positively impacts the Net Benefit of the VAMS application.

2.2.9 User satisfaction and net benefit of VAMS

User Satisfaction is a response or feedback from a user after using the system. User satisfaction can be seen from the features provided by an application system. The existence of an application system will affect the attitude of acceptance from users, and this also helps users to make reports more easily. The VAMS application can be appropriately implemented and follows Law No. 1 of 2016 concerning village asset management, which will improve the performance and quality of work from the village government in a better direction, as well as speed up the work to be more effective and efficient. Empirical research has proved that user satisfaction positively affects perceived net benefit (Wang and Liao 2008; Stefanovic et al. 2016; Scott, DeLone, and Golden 2015). Based on this explanation, a hypothesis can be formulated as follows.

H9: User Satisfaction positively impacts on the Net Benefit of the VAMS application.

3. Methods

3.1 Sampling and Data Collection

To test the hypotheses developed in this study, we distributed a questionnaire to a sample of VAMS operators from the village apparatus in Situbondo Regency. Sampling is carried out by the purposive sampling method, which is a sampling method with specific criteria. The criteria for sampling the study were determined as follows: a village apparatus that acts as a VAMS operator and has carried out internal computer training organized by the Regional Government of Situbondo Regency and external training organized by the accounting professional organization. (See Table 2).

3.2 Measurement

The variable measurement technique used in this study (see Table. 1) was using a 5-point Likert scale. The respective indicators of the VAMS application implementation success variables were adopted from the modified D&M success model (DeLone and McLean 2004, 2003; Petter, DeLone, and McLean 2013; Petter, DeLone, and McLean 2008) and have also been used and retested by several previous studies (Urbach and Müller 2012; Stefanovic et al. 2016; Veeramootoo, Nunkoo, and Dwivedi 2018; Wang and Liao 2008) in the context of implementing applications that support e-government.

Table 1: VAMS Success Variables

Variables	Definition	Indicators
System Quality (SQ)	Define the desired characteristics of VAMS applications, such as ease of use, system flexibility, system reliability, usability, and ease of learning.	SQ1: The VAMS application is easy to use. SQ2: The VAMS application is Easy to learn. SQ3: The VAMS applications have system flexibility. SQ4: The VAMS application provides system services for users. SQ5: The VAMS application has a reliable system.
Information Quality (IQ)	Defines the output quality characteristics of VAMS applications, such as measuring precision, accuracy, adequacy of information, reliability, and useful information.	IQ1: The VAMS application provides precise information. IQ2: The VAMS application provides accurate information. IQ3: The VAMS application provides sufficient information. IQ4: The VAMS application provides reliable information. IQ5: The contents of the VAMS Application follow the village government's user requirements.
Service Quality (SERVQ)	Measure the general quality of VAMS applications from the perspective of personnel readiness to provide appropriate services, transaction security when using a system or application, system availability to users, individual attention to information system personnel, and providing specific user needs.	SERVQ1: The VAMS application is always ready to help. SERVQ2: The VAMS application is guaranteed to be safe and can maintain user privacy. SERVQ3: The VAMS application can be used at any time. SERVQ4: VAMS applications can provide individual attention. SERVQ5: VAMS applications understand specific needs.
Intention to Use (IU)	Measure user behavior and attitudes related to dependence on the VAMS application, frequency of use of the system, and future usage trends and duration.	IU1: I depend on the VAMS application. IU2: My frequency of using VAMS applications is high. IU3: I will be using the VAMS application in the future. IU4: I will be using VAMS applications frequently at times coming.
User Satisfaction (US)	Measure general satisfaction of government employees with VAMS applications, perceived utilities, meet expectations, and whether it is worth using because they are end users of central government applications and use the system as a tool for daily work activities.	US1: I am satisfied with the VAMS application. US2: The services of the VAMS application are of high quality. US3: The VAMS application has met my expectations.
Net Benefit (NB)	Measure how much a VAMS system or application contributes to users, such as making work easier, saving time, and increasing usability.	NB1: The VAMS application makes my job easy. NB2: The VAMS application saved me time. NB3: The VAMS application is useful for my work.

Table 2: Characteristics of Respondents

Classification	Item	Frequency	Percent (%)
Gender	Male	88	78.57%
	Female	24	21.43%
Position	Village secretary	18	16.07%

Classification	Item	Frequency	Percent (%)
	Staff	9	8.04%
	VAMS Operator Staff	47	41.96%
	General Affairs and Administration	11	9.82%
	Finance Officer	4	3.57%
	Planning Department	10	8.93%
	Head of Government	8	7.14%
	Head of People's Welfare	4	3.57%
	Head of Service	1	0.89%
Job	VAMS Users	45	40.18%
	VAMS Users concurrently VFS Users	58	51.79%
	VAMS Users concurrently RSD-PPA Users	3	2.68%
	VAMS Users concurrently Circa Users	3	2.68%
	Treasurer concurrently VAMS Users	2	1.79%
	Other Coordinator concurrently VAMS Users	1	0.89%
Training	1	19	16.96%
	2	65	58.04%
	3	14	12.50%
	4	11	9.82%
	5	3	2.68%
Total		112	100%

3.3 Data Analysis

We use descriptive statistical methods to find the data pattern or an overview of the research data. Meanwhile, to test the hypothesis in this study using structural equation model (SEM) calculation analysis. SEM is a multivariate technique that combines aspects of factor analysis and multiple regression analysis that allows researchers to simultaneously analyze a series of interrelated dependency relationships between constructs (Hair et al. 2019; Hair Jr et al. 2017; F. Hair Jr et al. 2014). This study used a variance-based PLS-SEM technique because (a) the structural model was complex, (b) the sample was relatively small, and (c) a variance-based PLS-SEM requires modest assumptions or implies that no assumptions regarding the distribution (Migliore et al. 2022)

4. Results and Discussion

4.1 Descriptive Characteristics of Respondents

We used the characteristics of respondents to provide information about respondents' characteristics based on gender, position (job title), occupation, and training intensity. Based on Table 2, we found that the respondents were mostly male, totaling 88 people. The positioning structure in the Village Government that serves as VAMS operator staff without concurrently serving is 45 people. While most of the respondents' jobs are VAMS operators concurrently VFS with a total of 58 people (51.79%), and 65 respondents (58.04%) have conducted VAMS training two times.

4.2 Measurement Model

We evaluate the measurement model (outer model) before testing the structural model of this research hypothesis. Outer model testing is carried out by looking at the reliability indicator value, which shows the variance of the indicator that latent variables can explain. A variable is valid if the loading factor value is greater than 0.5.

Based on Table 3, it is known that all indicators that make up latent variables have a loading factor value of more than 0.5, so it might be concluded that all indicators that make up all variables are valid, or the indicators used can measure each latent variable with optimal. Based on the analysis results, all latent variables have an AVE

value above the minimum criterion of 0.5. All latent variables in this study can be said to meet the convergent validity criteria because they have an AVE value above 0.5. In addition, based on the CR values presented in Table 3, it can be obtained that all latent variables have a CR value above 0.6, which means that the indicators used have been said to be able to measure latent variables well or it can also be said that the entire measurement model is reliable.

Table 3: Indicators for the evaluation of the measurement model

Variables	Indicators	Factor Loadings	Construct Validity (AVE)	Composite Reliability (CR)
System Quality	SQ1	0.827	0.693	0.919
	SQ2	0.791		
	SQ3	0.832		
	SQ4	0.838		
	SQ5	0.874		
Information Quality	IQ1	0.824	0.717	0.927
	IQ2	0.878		
	IQ3	0.912		
	IQ4	0.847		
	IQ5	0.765		
Service Quality	SERQ1	0.845	0.688	0.917
	SERQ2	0.846		
	SERQ3	0.781		
	SERQ4	0.857		
	SERQ5	0.815		
Intention to Use	IU1	0.812	0.749	0.922
	IU2	0.892		
	IU3	0.934		
	IU4	0.818		
User Satisfaction	US1	0.878	0.844	0.942
	US2	0.942		
	US3	0.935		
Net Benefit	NB1	0.921	0.828	0.935
	NB2	0.923		
	NB3	0.885		

4.3 Structural Model

After measuring the outer model (all constructs and indicators), the next step is to measure the complete structural model measurement (inner model). Measurements are carried out by measuring the value of R² on the endogenous construct. Based on the results of the R-square value for each endogenous variable in Figure 2, it can be seen that the Intention to Use variable has a coefficient of determination of 0.711, meaning that for the model, intention in using VAMS applications can be predicted 71.1% varies determined by system quality, information quality, and service quality. Moreover, the coefficient of determination for User Satisfaction was 81.1% when predicted by the quality triad and the intention to use. The overall model accounted for 76.2% of the variance in the perceived Net Benefits, with User Satisfaction exerting a stronger direct effect than intention to use on the perceived net benefits of the VAMS application.

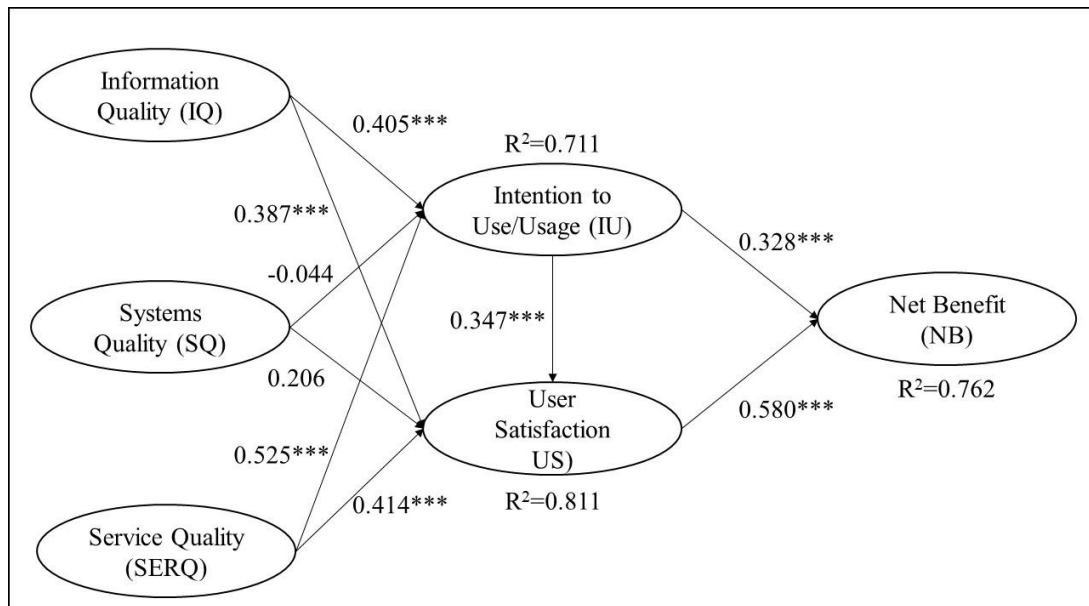


Figure 2: Path Model with Standardized Coefficients

In addition to using R-squared and F-squared, the model's goodness can also be calculated with a value of Q^2 . The value of Q^2 is more than zero, indicating that the model has a relevant prediction. In contrast, if the value of Q^2 is less than 0, it is proven that the model does not have predictive relevance (Hair Jr et al. 2017; Migliore et al. 2022). The Q^2 value obtained in this study is 0.987, so it can be concluded that the model compiled already has relevant predictions and is quite good.

After measuring the feasibility of a measurement model using R square, F square, and Q square, then also measuring the feasibility of a measurement model by looking at the results of the t-statistical value of the result of the path coefficient. The condition is that the t-statistical value must be greater than the critical value of t by 1.96 at a significant level of 5%. The loading factor value and the t-statistical value for this study model were derived from the bootstrapping method using a total sample of 112 samples with 6000 repetitions.

4.4 Discussion

4.4.1 Information quality and intention to use of VAMS application

The results of our hypothesis test can be seen in Table 4. Findings provided support for H1, suggesting that information quality positively affects intention to use of the VAMS application ($\beta=0.405$ $t=3.619$). DeLone and McLean (2003) explain the effect of information quality on the intention of using VAMS applications if the quality of information measured must be complete, easy to understand, and relevant. These characteristics can be a benchmark for operators in using VAMS applications. The results of the questionnaires show that the VAMS application can provide the correct information and has simple features to offer convenience for operators in using the application. In addition, the VAMS application operator felt that they needed the application in the future to administer village assets. This condition illustrates that the quality of information can affect the operator's intention to use the VAMS application because the intention to use is a form of attitude from the operator who is already using the VAMS application. The operator feels that the VAMS application can provide a good response and has long-term value in completing the operator's tasks and obligations regarding the administration of village assets, affecting the operator's attitude toward using the application.

Previous studies have shown that information quality results positively affect the intention to use an information system application (Wang and Liao 2008; Stefanovic et al. 2016; Ojo 2017). These previous studies have an object about the use of the system among local governments. This positive result concludes that the higher the quality of information obtained from the VAMS application, the more the intention to use the VAMS application will be for the operator.

4.4.2 Information quality and VAMS user satisfaction

The analysis results in Table 4 show that the information quality positively affects user satisfaction of the VAMS application ($\beta=0.387$, $t=3.351$). Thus, H2 was supported. This study shows that the results of information quality variables affect user satisfaction. DeLone and McLean (2016) explain that user satisfaction is a form of user

feedback on using a system. A good response form will be satisfactory for users of VAMS applications. The VAMS application can provide users with precise, accurate, sufficient, and reliable information. The content of the VAMS application can also adjust the needs of each village government in Situbondo Regency. A final report on village asset management might be considered the outcome of utilizing the VAMS application. The output or final report of a quality VAMS application by looking at the information received by the user is relevant information, meaning that it provides information according to the integrity of the user. In this case, the operator compiles the final report, namely a village asset report, which will help improve decision-making. Finally, the main result will be to provide a sense of satisfaction to the operator for implementing the VAMS application.

Table 4: Structural Model Path Analysis

	Relationships	Path Coefficient	Sample Mean (M)	t-stat	Decision
H ₁	Information Quality → Intention to Use	0.405	0.404	3.619***	Supported
H ₂	Information Quality → User Satisfaction	0.387	0.389	3.351***	Supported
H ₃	System Quality → Intention to Use	-0.044	0.035	0.419	Not Supported
H ₄	System Quality → User Satisfaction	0.206	0.194	2.129**	Supported
H ₅	Service Quality → Intention to Use	0.525	0.516	4.235***	Supported
H ₆	Service Quality → User Satisfaction	0.414	0.397	3.085***	Supported
H ₇	Intention to Use → User Satisfaction	0.347	0.351	2.819***	Supported
H ₈	Intention to Use → Net Benefit	0.328	0.317	2.459**	Supported
H ₉	User Satisfaction → Net Benefit	0.580	0.590	4.917***	Supported

Note: *p < 0.10; **p < 0.05; ***p < 0.01.

Based on the research of Wang and Liao (2008), the quality of information also positively influences user satisfaction and provides convenience in using the VAMS application, as well as ultimately providing benefits for users of the application. As a result, our study finally validated previous studies (Wang and Liao 2008; Ojo 2017; Veeramootoo, Nunkoo, and Dwivedi 2018; Stefanovic et al. 2016), which further strengthens the explanation that the quality of information generated from an information system will have an impact on user satisfaction of the application.

4.4.3 System quality and the intention to use of VAMS application

Based on the analysis in Table 4, hypothesis 3 which suggested a positive correlation between system quality and intention to use the VAMS application, was rejected ($\beta = -0.044$, $t = 0.419$). According to the results of research by Kurnianto, Kurniawansyah, and Ekasari (2019), the system's quality influences user satisfaction but does not affect the use of the systems. The difference between the results of the previous study and the regression results of researchers showed that the VAMS application did not have a system quality equivalent to the quality of the VFS system used in the study. This result differs from the implementation of the VFS application because village governments in Indonesia first used VFS as a village financial recording system and began with an appeal for rule changes that made operators compete to use the VFS application. Meanwhile, VAMS applications in that period were still voluntary. On the other hand, VAMS is a new application that is being used, and the call for using the application is still not comprehensive, so there is no integration of regulations in the use of the VAMS application in all village governments in Indonesia. This hypothesis is not in line with Delone McLean's theory, and it has explained that the existence of system quality will significantly affect the performance of a person who uses or receives the final result. Delone McLean explained that the higher the quality of the system in an application, the higher the intention to use from the operator or user of the application.

An empirical study that proves the existence of negative results for hypotheses that align with our results is (Ikhyannuddin 2017), which reveals that Government Financial Information Systems (GFIS) in Indonesia are still not good. In the study, the researcher explained that every local government has something that affects the success of the information system. Efforts to improve the system's quality require the readiness of mature resources such as internet networks that can help an integrated system. Integrating with the internet network will make it easier for the information system to reach every point where it operates. This negative result concludes that the third hypothesis (H3) is rejected, and there needs to be improvement or reassessment in preparing for the needs of the information system to be used or operated, especially by paying attention to the areas that will be targeted for the reach of the information system.

The results of testing hypotheses that do not yet fit the D&M model led us to test this phenomenon further. Through additional testing, we split the sample as done in Table 5. The argument underlying this treatment is that in implementing VAMS, there is an essential contribution to knowledge transfer that involves socialization, and personal exploration in the process of sharing knowledge on the new platform of VAMS applications. Table 5 shows the results after we split the sample between users who are also application users in the village government. The results prove that for the context of not concurrently, the system's quality affects the increase in intention to use the VAMS application. This result is also a significant contribution and evidence that knowledge-sharing mechanisms are the primary key for users in interpreting the quality of the VAMS system. Table 4 also shows that the knowledge-sharing process that uses socialization and workshop approaches from internal and external parties has a higher coefficient than knowledge-sharing about VAMS, which is only carried out internally by the government. This result proves that an explorative-oriented approach is also very effective in knowledge transfer (Lech 2011).

4.4.4 System quality and VAMS user satisfaction

The analysis results in Table 4 show that the system quality positively affects user satisfaction of the VAMS application ($\beta=0.206$, $t=2.129$). Thus, H4 was supported. Delone and McLean (2003) state that the system's quality will affect the user satisfaction of a system or application because user satisfaction is a form of response from a system or application itself. The VAMS application has features that are easily accessible to users, and the contents of the VAMS application can provide needs for users, namely the VAMS application operator. The results of this fifth hypothesis conclude that the system's quality has a statistically positive effect on user satisfaction with a moderate/sufficient coefficient value. System quality affects user satisfaction because the VAMS application operator in Situbondo Regency village is based on the results of a questionnaire that shows the operator as a VAMS application user feels satisfied with the VAMS application. The implementation of the VAMS application already meets the quality criteria of a system, and this can be seen from the ease of use, functionality, reliability, flexibility, data quality, portability, integrity, and importance of the VAMS application. Wang and Liao (2008) state that the higher the system quality, the greater the satisfaction of information system users. Other studies show the same results as this hypothesis and confirm the results of this study (Kurnianto, Kurniawansyah, and Ekasari 2019; Ojo 2017; Veeramootoo, Nunkoo, and Dwivedi 2018; Wang and Liao 2008). Thus, the fourth hypothesis is supported by a theoretical perspective and previous research.

4.4.5 Service quality and intention to use of VAMS application

Hypothesis 5 investigated and revealed a statistically significant association between service quality and intention to use of the VAMS application ($\beta=0.525$, $t=4.235$). As a result, it can be concluded that improving service quality will increase users' intentions to utilize the VAMS application.

The intention to use is a form of attitude from the operator who will use the VAMS application. Our result shows that the service quality variables affect the intention to use the VAMS application. Therefore, if there is an improvement in the quality of service in VAMS, it will be followed by an increase in the intention of using it. The quality of services provided to the VAMS end-users of Situbondo Regency through village empowerment services to operators in the village government, such as communicating intensity to the VAMS application operator if an error or interruption occurs, will increase the intention to use the VAMS application. In addition, the Situbondo Regency community and village empowerment service provided assistance in the form of training, which representatives of the operators of each village in Situbondo Regency attended. Quality of service should focus on providing the best service to VAMS application operators to increase the intention to use VAMS applications. Based on the research of Wang and Wang and Liao (2008), an influence on the intention to use VAMS is because high service quality can increase user intention and intensity in using VAMS applications. Based on the research of Wang and Wang and Liao (2008), an influence on the intention to use VAMS is because high service quality

can increase user intention and intensity in using VAMS applications (Ikhyanuddin 2017; Scott, DeLone, and Golden 2015; Rana et al. 2014).

4.4.6 Service quality and user satisfaction of the VAMS application

The analysis results in Table 4 show that the service quality positively affects user satisfaction of the VAMS application ($\beta=0.414$, $t=3.085$). Thus, H6 was supported. This result reveals that users of VAMS applications will be more satisfied when the quality of VAMS services increases.

Service quality is about the overall support provided by the service provider, regardless of whether this support is provided by the information systems department, a new organizational unit, or outsourced to an Internet service provider (DeLone and McLean 2016, 2004). The positive influence of service quality on user satisfaction with the VAMS application can be seen from the results of the questionnaire that the readiness of the VAMS application to help services, application security, and privacy preservation, the flexibility of using the VAMS application time, the presence of attention and being able to provide needs for VAMS application users who show the results of the answer agree. Other research stated that service quality positively affects customer satisfaction, meaning that quality service can provide a sense of comfort to users, affecting their psychology to continue using the VAMS application (Sari and Winarno 2012). Several previous studies have also consistently stated that service quality positively affects customer satisfaction (Wang and Liao 2008; Ikhyanuddin 2017; Stefanovic et al. 2016; Ojo 2017).

4.4.7 Intention to use and user satisfaction of VAMS

Based on the results in Table 4, it can be seen that the impact of the intention to use has a positive effect on user satisfaction of the VAMS application ($\beta=0.347$, $t=2.819$), thus H7 was supported. Intention to use is to direct to a result and how often the user uses a system or application. The intensity of use of an application will affect the response from the user VAMS application. VAMS application operators will tend to use the application frequently because, in the village government of Situbondo Regency, it is mandatory for all villages to use the VAMS application. This obligation is a form of measuring the intensity of the intention to use the VAMS application for operators, and as well as the increasing frequency of use of the VAMS application, it proves that the application is increasingly useful for village governments.

Based on previous research related to government or having a district or village government object that gives the same results from this study. Wang and Liao (2008) stated that a web-based government system used by district governments in carrying out their duties and responsibilities to the community with quality systems and information would increase net benefits for users. Likewise, the impact on the intention to use a high information system will increase user satisfaction (Wang and Liao 2008; Ikhyanuddin 2017).

4.4.8 Intention to use and net benefit of VAMS application

The result of the path coefficient shows that the intention of using VAMS applications positively affects the net benefits of VAMS applications ($\beta=0.328$, $t=2.459$). Thus, H8 was supported. If there is an increase in user intention to use VAMS, it will be followed by an increase in net benefits obtained. Increased user intent is characterized by how often or intensely users use the system. High user intensity is caused by several factors, one of which is the mandatory use of the system in organizations/institutions, which can affect the attitude of system users to learn and practice the system as well as possible to obtain net benefits such as effectiveness, efficiency, and high quality of work for related organizations/institutions. The existence of an intention to use an application from a high VAMS operator illustrates that the intensity of using the VAMS application is also high. It is marked by the results of a questionnaire that has been filled out showing that the VAMS application can meet the needs of operators and time efficiency in working in the village government. These two things are a form of benefits received by VAMS application users that have an impact on performance in an organization, in this case, the village government in Situbondo Regency.

Ikhyanuddin (2017) stated that the VAMS application positively affects net benefits because an information system with high benefits will motivate users to use the system so that it can increase the productivity of their work. The information system is expected to bring benefits to users in carrying out their duties. Timeliness concerns the effectiveness and efficiency of the output to meet the user's needs. Our results also confirm several previous studies stated that the intention to use the system positively influences the net benefits felt by users of the information system (Petter, DeLone, and McLean 2013; Petter, DeLone, and McLean 2008).

4.4.9 User satisfaction and net benefit of VAMS application

The analysis results in Table 4 show that user satisfaction positively affects the net benefit of the VAMS application ($\beta=0.580, t=4.917$). Thus, H9 was supported. In other words, increasing user satisfaction will increase the net benefit of the VAMS application.

Petter, DeLone, and McLean (2013) state that net benefits are the impact or impact on the existence and use of information systems on the quality of user performance, both for individuals and organizations, including productivity, increasing knowledge, and reducing the length of time for information search. These conditions are directly related to what the VAMS application operator feels, such as the VAMS application being time efficient in the process of administering village assets; apart from that, they also feel like they want to always use the VAMS application in the future. These feelings have affected users' satisfaction, in this case, the operator of the VAMS application.

The positive effect of user satisfaction on net benefits in this study is because operators as users of the VAMS application feel satisfied because the VAMS application can make operators more comfortable in doing their daily work to administer assets in the village. Therefore, our research's findings support other studies which show that increased user satisfaction with information system applications will result in greater net benefits for both individuals and organizations (Wang and Liao 2008; Ojo 2017; Stefanovic et al. 2016).

4.5 Additional Test

This study conducted additional testing intending to see the level of sensitivity of the main hypothesis testing results. The additional test process begins with a split sample or breaking down the research sample based on its criteria. The sample criteria in this study are workers, such as breaking the sample into subgroups, namely the original VAMS operator group and the concurrent VAMS operator group (Aprilia, Winarno, and Prasetyo 2022). The test results showed that both sample separation models gave results that were more consistent with the theories and hypotheses developed. In addition, in Table 5, we conducted another test to prove that the knowledge-sharing mechanism in the VAMS implementation process, accompanied by consultants and from professional organizations, can contribute more in the form of higher net benefits. More specifically, in the context of small entities and organizations such as village governments, the knowledge transfer process through informal socialization will be more effective (Sedera and Gable 2010).

Table 5: Subgroup Sample: Knowledge Transfer Categories

Relationships	Knowledge Transfer Categories						Decision
	Personalization: Internal Socialization only			Personalization: Internal & External Socialization			
	Original Sample (O)	Sample Mean (M)	T statistics (O/STDEV)	Original Sample (O)	Sample Mean (M)	T statistics (O/STDEV)	
Information Quality Intention to Use	0.128	0.126	2.325**	0.177	0.174	3.521***	Supported
Information Quality → Intention to Use	0.230	0.242	2.508**	0.262	0.272	2.977***	Supported
Information Quality → User Satisfaction	0.133	0.135	2.569***	0.154	0.157	2.875***	Supported
System Quality → Intention to Use	0.215	0.231	2.013**	0.226	0.241	2.190**	Supported
System Quality → User Satisfaction	0.277	0.278	2.164**	0.337	0.338	2.483**	Supported
Service Quality → Intention to Use	0.459	0.454	2.181**	0.488	0.483	2.348**	Supported
Service Quality → User Satisfaction	0.431	0.430	3.604***	0.487	0.486	4.160***	Supported

Relationships	Knowledge Transfer Categories						Decision
	Personalization: Internal Socialization only			Personalization: Internal & External Socialization			
	Original Sample (O)	Sample Mean (M)	T statistics (O/STDEV)	Original Sample (O)	Sample Mean (M)	T statistics (O/STDEV)	
Intention to Use → User Satisfaction	0.582	0.553	2.494**	0.600	0.568	2.689***	Supported
Intention to Use → Net Benefit	0.175	0.177	3.006***	0.198	0.200	3.420***	Supported

Note: *p < 0.10; **p < 0.05; ***p < 0.01.

5. Conclusions, Limitations, and Suggestions

5.1 Conclusion

This research paper was conducted to measure the success of the VAMS application information system in Situbondo Regency. We found that the D&M information system success model was validated in the context of e-government implementation (Stefanovic et al. 2016), especially for the implementation of VAMS applications in local governments and village governments. Although in the early stages of testing, system quality is not proven to increase user interest in VAMS applications, at the advanced analysis stage, the three dimensions of information system success, namely Information Quality, System Quality, and Service Quality, have a positive effect on the intention to use VAMS applications. Furthermore, the higher the intention to use the VAMS application will impact the level of user satisfaction and increase the net benefits of implementing the VAMS application.

Testing the success of VAMS applications from the perspective of employees in this paper provides evidence that the condition that VAMS application operators do not hold concurrent positions has provided a higher coefficient of success dimensions compared to VAMS application users who concurrently hold job positions. At this stage of analysis, it is known that the dominance of the most job concurrent positions is between VAMS application users and VFS application users simultaneously. The concurrent condition of the position makes the knowledge transfer process during implementation distorted in concentration on the employees who carry it out. To solve the problem of work distortion in employees, our study seeks to prove the contribution of knowledge transfer methods that have been applied, namely by socialization and workshops conducted by the government and collaboration with external parties. The results proved that the knowledge transfer mechanism in the form of massive outreach would be more effective in implementing the VAMS application when it is carried out in collaboration between internal parties, in this case, the government, and external parties, such as consultants and accounting professional organizations.

5.2 Limitations

The limitations of this study are (1) This research in distributing questionnaires has experienced obstacles due to the ongoing COVID-19 pandemic conditions, and if an alternative procedure is carried out, namely fully with an online survey assisted by Google Form, it will have a low response; (2) a potential source of bias in the questionnaire's results is the presence of respondents who are employed as application users in addition to having no direct relationship with the village's assets or finances, such as users of the Participatory Population Analysis (PPA) Regional System who concurrently serve as users of the VAMS application and (3) this research model is less able to predict the actual use of VAMS applications because the applications are mandatory in nature that must be applied by all village governments.

5.3 Suggestion

Based on some of the previous limitations, the following suggestions for further research are: (1) in the following study, if the pandemic has ended, they can use direct survey techniques so that the response rate from respondents is high; (2) For subsequent researchers, it is recommended to choose a Regency or City whose VAMS operator does not have concurrent task responsibilities, so that the filling out of the questionnaire can be optimized so that the research results are also optimal, and (3) for future researchers to use the research model by combining the information system success model with the Technological Acceptance Model (TAM) is

expected to use more other variables such as computer anxiety and computer playfulness which have the potential to affect the perceived ease of use of applications.

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