EVALUATION OF USER ACCEPTANCE OF THE SAHAJA ONLINE APPLICATION USING THE TAM

Beny Prasetyo [1], Siti Nurdiana[1], Fahrobby Adnan [1*]
[1] Information System, University of Jember
email: *fahrobby@unej.ac.id

Abstract: One example of the application of the use of information technology in public services is the use of SAHAJA ONLINE. SAHAJA ONLINE is a mobile-based application whose function is for the needs of Kediri Regency population document services with the aim of making it easier for the public to manage population documents and break down queues at the Kediri Regency Dispendukcapil office. There were several complaints that were felt by users, namely that there was information on the option selection feature in the moving certificate service which was difficult to understand and when resetting an account they were required to come directly to the Kediri Regency Dispendukcapil office. Despite these problems, people still use SAHAJA ONLINE in submitting population documents. With the conditions in the field, it certainly affects the acceptance of SAHAJA ONLINE. The purpose of this study was to find out what factors affect the acceptance of the SAHAJA ONLINE application at the Kediri Regency Civil and Civil Registration Office using the Technology Acceptance Model (TAM). The sample in this study were 365 SAHAJA ONLINE users. Data collected through questionnaires were analyzed using SmartPLS version 3.3.9. Based on the research results of the 10 hypotheses proposed, there are 9 accepted hypotheses. So that Information Quality, Complexity, Perceived Usefulness, Attitude Toward Using, Behavioral Intention to Use, and Actual Usage are acceptance factors of SAHAJA ONLINE.

Keywords: SAHAJA ONLINE; SmartPLS; TAM

Abstrak: Salah satu contoh penerapan pemanfaatan teknologi informasi dalam pelayanan publik yaitu penggunaan SAHAJA ONLINE. SAHAJA ONLINE adalah aplikasi berbasis mobile yang fungsinya untuk kebutuhan layanan dokumen kependudukan Kabupaten Kediri dengan tujuan untuk mempermudah masyarakat dalam mengurus dokumen kependudukan dan mengurai antrian di kantor Dispendukcapil Kabupaten Kediri. Ditemukan beberapa keluhan yang dirasakan oleh para pengguna yaitu terdapat informasi pada fitur pemilihan opsi dalam layanan surat keterangan pindah yang sulit dimengerti dan saat melakukan reset akun yang diharuskan datang langsung ke kantor Dispendukcapil Kabupaten Kediri. Meskipun terdapat permasalahan tersebut, masyarakat masih tetap menggunakan SAHAJA ONLINE dalam melakukan pengajuan dokumen kependudukan. Dengan adanya kondisi dilapangan tersebut tentunya berpengaruh terhadap penerimaan SAHAJA ONLINE. Tujuan dari penelitian ini adalah untuk mengetahui faktor-faktor apa saja yang mempengaruhi penerimaan aplikasi SAHAJA ONLINE Dispendukcapil Kabupaten Kediri menggunakan *Technology Acceptance Model* (TAM). Sampel dalam penelitian ini adalah 365 pengguna SAHAJA ONLINE. Data yang dikumpulkan melalui penyebaran kuesioner dianalisis menggunakan SmartPLS versi 3.3.9. Berdasarkan hasil penelitian dari 10 hipotesis yang diajukan, terdapat 9 hipotesis diterima. Sehingga Information Quality, Complexity, Perceived Usefulness, Attitude Toward Using, Behavioral Intention to Use, dan Actual Usage merupakan faktor penerimaan dari SAHAJA ONLINE.

Kata kunci: SAHAJA ONLINE; SmartPLS; TAM

INTRODUCTION

Public service is an activity aimed at meeting the service needs determined by law for every citizen for goods, services and/or administrative services provided by public service providers [1]. One of the goals of local government is to provide excellent public services[2]. An example of application in the use of information technology in public services is the use of SAHAJA ONLINE. SAHAJA ONLINE is a mobile-based application that functions for the needs of Kediri Regency population document services with the aim of making it easier for the public to manage population documents and break down queues at the Kediri Regency Dispendukcapil office [3].

Based on the results of interviews and observations involving 15 users as well as feedback on the google play store, it is recognized that the existence of SAHAJA ONLINE has helped them in submitting population documents, because they think that with the publication of the application, people do not need to come and queue long at the office. The Dispendukcapil of Kediri Regency, they also consider the process of submitting population documents to be very fast, because it only takes one day for the documents submitted to be obtained to be obtained. On the other hand, some of the complaints felt by users, namely there is information on the optional features in the transfer certificate service which is difficult and when resetting an account they are required to come directly to the Dispen-dukcapil office of Kediri Regency. Despite these problems, people still use SAHAJA ONLINE in submitting residence documents. With the conditions in the field, it certainly affects the acceptance of SAHAJA ONLINE.

Research on acceptance refers to the use of the Technology Acceptance Model (TAM) as a theoretical framework [4]. A suitable and powerful model in predicting technology acceptance is the TAM model [5]. According to Davis, there are 5 internal variables in TAM that can influence a person's behavior towards information technology, namely Perceived Ease of Use, Perceived Usefulness, Attitude Toward Using, Behavior Intention to Use and Actual Usage. In fact, other external variables should be included in the TAM to measure a particular technology, as it can influence the perceived ease of use and perceived usefulness of that technology [6]. However, the addition of external variables to the conceptual diagram must be in accordance with the needs, because the external variables can emphasize the factors that influence the acceptance of a technology [7]. This study will use an external variable which in its application can still be developed by the Dispendukcapil of Kediri Regency, namely the Information Quality variable which refers to problems related to information on the option selection feature in difficult transfer certificate services. Information quality variables can affect user satisfaction, because information system users believe that if the quality of the resulting information system is good, then they are satisfied in using the system. Based on this research, the Information quality variable is stated to have a correlation with PU and PEOU variables [8]. And the Complexity variable which is taken based on the problem when resetting the account. The variable Complexity is defined as the degree to which the user expects the technology to be effortless. Complexity is stated to have a correlation with perceived usefulness (PU) and perceived usage variables [9].

From the analysis and observa-

tions that have been made, an evaluation of user acceptance will be carried out as a means of controlling the objectives of the Kediri Regency Dispendukcapil in developing SAHAJA ONLINE, namely by analyzing the factors that influence user acceptance of the SAHAJA ONLINE application using the TAM model. Data collection in this study was carried out in a hybrid manner by distributing questionnaires to SAHAJA ONLINE users who had made transactions in managing population documents. The data analysis process uses the PLS-SEM statistical technique. The function of using this technique is as an approach to predicting SEM, PLS-SEM is usually used for exploratory research, but this method is also suitable for confirmatory research [10]. So that this research can provide recommendations to the Dispendukcapil of Kediri Regency based on the evaluation results of SAHAJA ONLINE user acceptance.

METHOD

The stages of the research are structured and systematic. An overview of the research stages can be seen in Image 1.
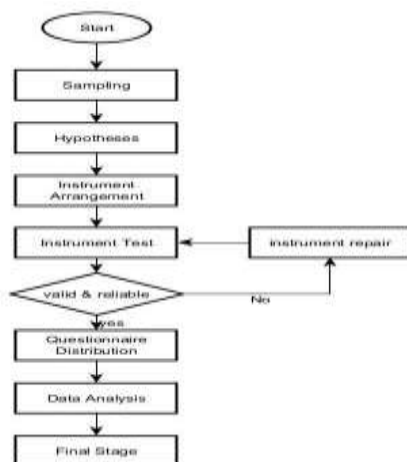

Image 1. Research Flow

Sampling

The sampling technique in this study used probability sampling with a simple random sampling model. The population in this study is the people of Kediri Regency who have used SAHAJA ONLINE at least once to submit a population document. The number of samples in this study used the Slovin formula with an error rate of 5%.

Hypotheses

Referring to Davis' research in 1989, this study uses the same variables in the model, namely Perceived Ease of Use, Perceived Usefulness, Attitude Toward Using, Behavioral Intention to Use, and Actual Usage. There are external variables that have a correlation with the variables Perceived Usefulness and Perceived Ease of Use. In this study add external variables Information Quality and Complexity. Image 2 is a conceptual model and hypothesis in this study.

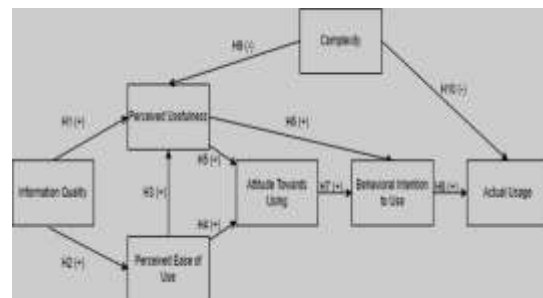Image 2. Hypothesis

There are 10 hypotheses in this study, namely:

H1: Information quality is suspected to have a positive and significant effect on Perceived Usefulness.

H2: Information quality is suspected to have a positive and significant effect on Perceived Ease of Use.

H3: Perceived Ease of Use is suspected to have a positive and significant effect on Perceived Usefulness.

H4: Perceived Ease of Use is suspected to have a positive and significant effect on Attitude Toward Using.

H5: Perceived Usefulness is suspected to have a positive and significant effect on Attitude Toward Using.

H6: Perceived Usefulness is suspected to have a positive and significant effect on Behavioral Intention to Use.

H7: Attitude Towards Using is suspected to have a positive and significant effect on Behavioral Intention to Use.

H8: Behavioral Intention to Use is suspected to have a positive and significant effect on Actual Usage.

H9: Complexity is suspected to have a negative and significant effect on Perceived Usefulness.

H10: Complexity is suspected to have a significant and negative effect on Actual Use.

Instrument Arrangement

The preparation of the measurement instrument in this study is based on variables that have been adjusted to the proposed hypothesis. The instrument in this study used a questionnaire addressed to the respondents. The weighting of the statements in this questionnaire uses a 4-level Likert scale.

Instrument Test

The instrument test by testing the validity and reliability was carried out by distributing instrument measurements to 30 respondents. In testing the instrument using the SmartPLS software version 3.3.9. The test instrument includes evaluating the relationship between variables and measurement indicators.

Quessionare Distribution

The use of the questionnaire in this study was adjusted to the conceptual model created. The respondents in the stage of distributing this questionnaire are the people of Kediri Regency who have used SAHAJA ONLINE. The distribution of the questionnaires was carried out in a hybrid manner (online and offline).

Data Analysis

The data analysis stage is carried out when the number of samples has met the target. At this stage, data processing is carried out using the PLS-SEM model with the help of Smart PLS software version 3.3.9. The next step is to determine the inner model (structural model) which aims to determine the hypothesized relationships in the model. The stage in analyzing the inner model includes R-square evaluation and hypothesis testing by looking at the original sample value and T-statistics.

Final Stage

The final stage of this research contains the outputs and conclusions. Where the output in this study will bring up any factors that affect the acceptance of SAHAJA ONLINE Dispendukcapil Kediri Regency, from the test results obtained will support the making of recommendations.

RESULT AND DISCUSSION

Results of Distributing Quessionnaires

The number of respondents obtained as many as 365 users. The acquisition of a sample of respondents who were distributed online was 107 people, while the acquisition of respondents who were distributed directly at the Dispendukcapil office of Kediri Regency was 258 people.

Validity Test Results

There are two stages of evaluation in the external model, the first is the va-

lidity test which is used to determine the extent to which the indicator is able to be a measuring tool, the validity test includes convergent validity and discriminant validity.

1. The first test is a convergent validity test with the outer loading results listed in table 1, the outer loading test can be said to be valid if it has a value > 0.7. The results of the convergent validity test show that the 25 indicators are declared ideal and have a good correlation with the latent variables.

2. The next stage is the discriminant validity test, this stage is used to see whether the indicators made are suitable for measuring latent variables and not other variables. In the discriminant validity test, taking into account the assessment of indicators based on the AVE value > 0.5 and cross loading. All indicators evaluated have met the Discriminant Validity test, this means that all indicators have correctly defined their latent variables

Table 1. Output Outer Loading

	ATU	AU	BIU	IQ	PC	PEOU	PU
ATU1	0.715						
ATU2	0.872						
ATU3	0.745						
ATU4	0.738						
AU1		0.816					
AU2		0.898					
AU3		0.791					
BIU1			0.866				
BIU3			0.897				
IQ1				0.911			
IQ2				0.858			
IQ3				0.908			
IQ4				0.908			
IQ5				0.799			
PC1					0.998		
PC2					0.934		
PEOU1						0.780	
PEOU2						0.776	
PEOU3						0.798	
PEOU4						0.718	
PEOU5						0.741	
PEOU6						0.821	
PU1							0.770
PU5							0.765
PU5							0.901

Table 2. AVE Value

	Average Variance Extracted (AVE)
ATU	0.593
AU	0.699
BIU	0.777
IQ	0.771
PC	0.935
PEOU	0.598
PU	0.663

Table 3. Cross Loading Value

	ATU	AU	BIU	IQ	PC	PEOU	PU
ATU1	0.715	0.426	0.502	0.566	-0.272	0.633	0.386
ATU2	0.872	0.596	0.737	0.619	-0.192	0.636	0.439
ATU3	0.745	0.378	0.449	0.393	0.219	0.338	0.138
ATU4	0.738	0.521	0.650	0.406	0.020	0.447	0.208
AU1	0.451	0.816	0.534	0.145	-0.023	0.485	-0.046
AU2	0.539	0.898	0.617	0.509	-0.263	0.678	0.202
AU3	0.582	0.791	0.768	0.751	-0.031	0.562	0.268
BIU1	0.588	0.687	0.866	0.554	-0.018	0.488	0.049
BIU3	0.774	0.696	0.897	0.642	-0.032	0.566	0.379
IQ1	0.668	0.721	0.748	0.911	-0.176	0.696	0.277
IQ2	0.478	0.521	0.522	0.858	-0.171	0.570	0.355
IQ3	0.601	0.626	0.693	0.908	-0.163	0.661	0.325
IQ4	0.676	0.498	0.643	0.908	-0.177	0.653	0.322
IQ5	0.466	0.295	0.379	0.799	-0.300	0.561	0.564
PC1	-0.119	-0.141	-0.036	-0.228	0.998	-0.296	-0.026
PC2	-0.051	-0.024	0.022	-0.202	0.934	-0.217	0.012
PEOU1	0.629	0.554	0.433	0.336	-0.245	0.780	0.304
PEOU2	0.632	0.466	0.512	0.412	-0.129	0.776	0.621
PEOU3	0.546	0.519	0.534	0.584	-0.323	0.798	0.267
PEOU4	0.364	0.410	0.387	0.704	-0.243	0.718	0.351
PEOU5	0.472	0.520	0.457	0.740	-0.106	0.741	0.469
PEOU6	0.553	0.765	0.447	0.501	-0.324	0.821	0.336
PU1	0.272	0.013	0.212	0.342	0.131	0.393	0.770
PU5	0.417	0.105	0.148	0.146	0.062	0.202	0.765
PU6	0.327	0.309	0.245	0.483	-0.188	0.598	0.901

Reliable Test Results

The reliability test is used to determine the extent of the consistency of the measuring instrument if the measurement is repeated more than two times. Parameters in the reliability test in this study using Cronbach alpha (CA) values > 0.7 and composite reliability (CR) > 0.7 are listed in Table 4.

Table 4. Reliability Test Results

	CA	CR
ATU	0.773	0.853
AU	0.788	0.874
BIU	0.715	0.875
IQ	0.925	0.944
PC	0.955	0.966
PEOU	0.865	0.899
PU	0.746	0.855

Analysis Data

In the data analysis stage by determining the inner model (structural model) which aims to evaluate the hypothesized relationship in the model, the relationship between models can be seen and evaluated through the R-square value which indicates the extent to which the exogenous variable explains the endogenous variable, the original sample which shows negative characteristics. or positive correlation between variables, and T-statistics which will show the significance value of a hypothesis.

1. The first calculation in evaluating the inner model is to look at the R-square value, from the calculation results in the SmartPLS software, the R-square value of the research model is obtained as illustrated in table 5.
2. The second calculation is by testing the hypothesis, the parameters used are the original sample value and t-

statistics, both of these values can be obtained from the bootstrapping process on the SmartPLS software, with a two-tailed model type and a significance level of 5%. The hypothesis can be said to be significant if the hypothesis has a T-statistics value > 1.96 [10]. The results of hypothesis testing can be seen in table 6.

Table 5. R-Square Value

	R-Square
ATU	0.598
AU	0.473
BIU	0.470
PEOU	0.224
PU	0.520

Table 6. Original Sample Results and T-Statistics

	Original Sample (O)	T Statistics (|O/STDEV|)
IQ -> PU	0.156	3.090
IQ -> PEOU	0.473	9.224
PEOU -> PU	0.638	12.827
PEOU -> ATU	0.474	8.220
PU -> ATU	0.361	6.403
PU -> BIU	0.235	3.545
ATU -> BIU	0.500	8.419
BIU -> AU	0.668	18.028
PC -> PU	0.038	0.936
PC -> AU	-0.127	3.085

The following is an explanation of each correlation from the results of hypothesis testing:

H1: Information Quality has a positive and significant effect on Perceived Use-

fulness.

The correlation between IQ and PU variables has an original sample value of 0.156 which is positive. The correlation between IQ and PU proved to have a significant effect with a T-statistic value > 1.96, which is 3.090.

H2: Information Quality has a positive and significant effect on Perceived Ease of Use.

The correlation between IQ and PEOU variables has an original sample value of 0.473 which is positive. The correlation between IQ and PEOU is proven to have a significant effect with a T-statistic value > 1.96, which is 9.224.

H3: Perceived Ease of Use has a positive and significant effect on Perceived Usefulness.

The correlation between PEOU and PU variables has an original sample value of 0.638 which is positive. The correlation between PEOU and PU proved to have a significant effect with a T-statistic value > 1.96, which is 12.827.

H4: Perceived Ease of Use has a positive and significant effect on Attitude Towards Using.

The correlation between PEOU and ATU variables has an original sample value of 0.474 which is positive. The correlation between PEOU and ATU proved to have a significant effect with a T-statistic value > 1.96, which is 8.220.

H5: Perceived Usefulness has a positive and significant effect on Attitude Towards Using.

The correlation between the PU and ATU variables has an original sample value of 0.361 which is positive. The correlation between PU and ATU proved to have a significant effect with a T-statistic value > 1.96, which is 6.403.

H6: Perceived Usefulness has a positive and significant effect on Behavioral

Intention to Use.

The correlation between the PU and BIU variables has an original sample value of 0.235 which is positive. The correlation between PU and BIU is proven to have a significant effect with a T-statistic value > 1.96, which is 3.545.

H7: Attitude Towards Using has a positive and significant effect on Behavioral Intention to Use.

The correlation between the ATU and BIU variables has an original sample value of 0.500 which is positive. The correlation between ATU and BIU is proven to have a significant effect with a T-statistic value > 1.96, which is 8.419.

H8: Behavioral Intention to Use has a positive and significant effect on Actual Usage.

The correlation between BIU and AU variables has an original sample value of 0.668 which is positive. The correlation between BIU and AU proved to have a significant effect with a T-statistic value > 1.96, which was 18.028.

H9: Complexity has a positive and insignificant effect on Perceived Usefulness.

The correlation between PC and PU variables has an original sample value of 0.038 which is positive. The correlation between PC and PU proved insignificant with a T-statistic value <1.96, which was 0.936.

H10: Complexity has a negative and significant effect on Actual Usage.

The correlation between PC and AU variables has an original sample value of -0.127 which is negative. The correlation between PC and AU proved to have a significant effect with a T-statistical value > 1.96, which is 3.085.

Recommendations

Giving recommendations based

on the results of hypothesis testing that has been done. Recommendations are given with reference to the TAM variable which interprets the indicators into a recommendation. In giving the recommendations, it is hoped that it can help the Dispendukcapil of Kediri Regency to optimize the acceptance of SAHAJA ONLINE. The following recommendations are given in this study:

Information Quality

This can be done when providing information that is tailored to the proposed service, providing a clear timeline for each submission, and providing a good writing format that fits each information. So that it can be used in the process of submitting an authorization document.

Complexity

Socialization about resetting the SAHAJA ONLINE account is aimed at the people of Kediri Regency with the aim of increasing a sense of concern for their respective accounts, and the Dispendukcapil needs to make a tutorial on how to reset the SAHAJA ONLINE account. Thus minimizing the level of difficulty in the account reset process which is carried out face-to-face (offline).

Perceived Usefulness

It can improve the feature of submitting population documents, and provide a tutorial feature on how to submit population documents in accordance with the available services. So that it can be used in the process of submitting an authorization document.

Perceived Ease of Use

It can provide tutorials on how to use each feature of the SAHAJA ONLINE application, and provide a clearer timeline for each submission. So that users know when to apply for residence documents on the application.

CONCLUSION

The factors that influence the acceptance of SAHAJA ONLINE using the TAM method in the people of Kediri Regency are the information quality, complexity, perceived usefulness, perceived ease of use, attitude towards using, behavioral intention to use and actual usage. Recommendations that can be given to the Dispendukcapil of Kediri Regency based on an evaluation of the acceptance of the people of Kediri Regency towards the application of SAHAJA ONLINE from this study are:

In the Information Quality factor, it can be done when the provision of information is adjusted to the service being proposed, provides clear time duration provisions for each submission, and provides a good and appropriate writing format for each information provided. So that it can be used in the process of submitting population documents. On the Complexity factor, you can socialize about resetting SAHAJA ONLINE accounts aimed at the people of Kediri Regency with the aim of being able to increase your sense of concern for each account, and Dispendukcapil needs to make a tutorial on how to reset SAHAJA ONLINE accounts. So as to minimize the level of difficulty in the account reset process which is done face to face (offline). On the Perceived Usefulness factor, it can improve the features for submitting population documents, and provide tutorial features on how to submit population documents in accordance with the services available. So that it can be used in the process of submitting population documents. On the Perceived Ease of Use factor, can provide tutorials on how

to use each feature of the SAHAJA ONLINE application, and provide clearer time duration provisions for each submission. So that users know when they can submit residence documents in the application.

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