

# DeLone and McLean Model Analysis of Success Factors of SIDEMANG Application in Palembang City

Haninda Ammar Faris<sup>[1]</sup>, Ari Wedhasmara<sup>[2]\*</sup>, Apriansyah Putra<sup>[3]</sup>, Rizka Dhini Kurnia<sup>[4]</sup>, Ali Bardadi<sup>[5]</sup>, Shofiyah Fitri<sup>[6]</sup>

Faculty of Computer Science<sup>[1]. [2]. [3]. [4]. [5]</sup>

Universitas Sriwijaya

Palembang, Sumatera Selatan, Indonesia

ammar06faris@gmail.com<sup>[1]</sup>, a\_wedhasmara@unsri.ac.id<sup>[2]</sup>, apriansyah@unsri.ac.id<sup>[3]</sup>, rizkadhini@gmail.com<sup>[4]</sup>, alibardadi@unsri.ac.id<sup>[5]</sup>, shofiyahfitri24@gmail.com<sup>[6]</sup>

**Abstract**— Indonesia is ranked 77th in the world in electronic-based government systems, especially the City of Palembang is ranked 89th regarding the evaluation of smart city improvement in Indonesia. One of the latest applications used in the past year is the SIDEMANG application, which is an information system that has the use and purpose of facilitating access to administrative services related to personal and agency licensing files online at the village and sub-district levels in Palembang city, but this is also not free from obstacles, especially internet signals. Therefore, an analysis is needed related to the implementation of Information Systems, to assess the success of applications that have been implemented, especially government digital services. DeLone and McLean Information System Success Model is used, to see the significant factors that cause the success of Information System implementation. The data analysis method used in this research is quantitative because the data collected is in the form of numbers and will be analyzed using the SmartPLS application statistical technique, using a sample size of 97 respondents. The results showed that the information quality factor was not significant to the intention or use of the application, the system quality factor was not significant to the intention or use of the application, the system quality factor was not significant to user satisfaction, the service quality factor was not significant to user satisfaction. Recommendations for the Palembang City Communication and Information Office are related to the evaluation and improvement of the SIDEMANG application using the DeLone and McLean Model analysis. In particular, improvements to the quality of information that can influence citizens to use the application, improvements to the quality of the system that can invite and satisfy users in using the application, and improvements to service quality factors on citizen satisfaction.

**Keywords**— *E-Government, Delone and McLean Model, The Success of Information Systems*

## I. INTRODUCTION

The current era of technological advancements is becoming increasingly complex, resulting in the critical importance of information technology across multiple sectors. The use of this technology has become an essential component, greatly facilitating task completion and thus increasing convenience

and efficiency. Indonesia is ranked 77th in the world in terms of Sistem Pemerintahan Berbasis Elektronik (SPBE) [1].

Palembang City holds the 89th position in the evaluation of smart city improvements in Indonesia [2]. A smart city is an urban area that intelligently and effectively leverages Information Communication and Technology (ICT) to accomplish energy and cost savings, enhance services and quality of life, and minimize environmental impact. This is done by leveraging diverse resources to foster innovation and promote an eco-friendly economy, as described by Cohen [3].

Palembang City's Department of Communication and Informatics, as a component of local government administration based on the principle of autonomy, provides information services to the public via an application known as Sistem Informasi Administrasi Online Masyarakat Kota Palembang (SIDEMANG). The SIDEMANG application is an application that serves administrative affairs online at the district and sub-district levels in Palembang City. Palembang City residents who intend to propose a reference letter do not have to come directly to the District or sub-district office. By accessing SIDEMANG through the website or mobile app, individuals can submit documents online in a quick, concise, and transparent manner. The documents will undergo digital signing by either the sub-district head (Lurah) or district chief (Camat) utilizing an officially certified digital signature [4]. However, this application is not without obstacles, based on one of the news sites, it is found that the obstacles of the SIDEMANG application are related to internet signals, so that the processing time of the SIDEMANG application when getting an internet signal, only takes half an hour [5], this is what makes the SIDEMANG application require measurements related to the successful implementation of Information Systems.

If measurements are not conducted, it can lead to sub-optimality of manual and online public services. If e-government is not measured, it can lead to a digital divide. In the Information Communication, Statistics, and Encryption Service in the Kutai Kartanegara Regency Government, the

lack of human resources is one of the obstacles; Especially, in the e-government section, which leads to non-optimal system development [6]. If the application's success is not measured, it will undermine the concept of good governance between Smart City development and urbanization. There are several problems in North Sumatra Province's regency/cities with infrastructure (cable problems on roads and uneven distribution of internet services), coordination (comparison of development in urban and district areas), and human resources (urbanization) [7]. If measurements are not conducted, it can lead to the sub-optimality of manual and online public services. Meanwhile, at the West Java Province Community and Village Empowerment Service, there are many new policies between online and manual services which lead to non-transparency of service information [8].

The DeLone and McLean Information System success model was chosen from several other Information System success models, such as the Technology Acceptance Model (TAM) [9], [10], Theory of Planned Behavior (TPB) [11], and Theory of Reasoned Action (TRA) [12], but when viewed, the three theories or models refer more to technology acceptance. this is deemed insufficient, because it is only considered as one of the requirements [13]. Although the Delone and McLean Information System Success Model was initially criticized, after ten years the DeLone and McLean information system success model has been modified and expanded, with the addition of service quality factors, additional intention factors in assessing usage, and the unification of individual impact factors and organizational impacts in the net benefits factor [14].

Of the 10 journal authors regarding e-government [15]–[24], it can be concluded that there are similarities in the concepts used by them, namely the 10 studies in the journal are adaptations and development of the concept of information system success which emphasizes more on the community perspective. Based on the results of the analysis of the journals described above, the concept of application success used in this study is the DeLone and McLean (2003) model with the consideration that this concept already covers the entire concept of information system success developed by other researchers. In addition, the indicators of each variable have been statistically tested, both validity and reliability. But of course there are some modifications to the research indicators that have been adapted to the author's research object.

## II. RESEARCH METHODOLOGY

The study utilizes quantitative analysis as the chosen data analytics technique because the data obtained is numeric and will be analyzed using statistical techniques using the SmartPLS application. The research stages will be explained in the figure below

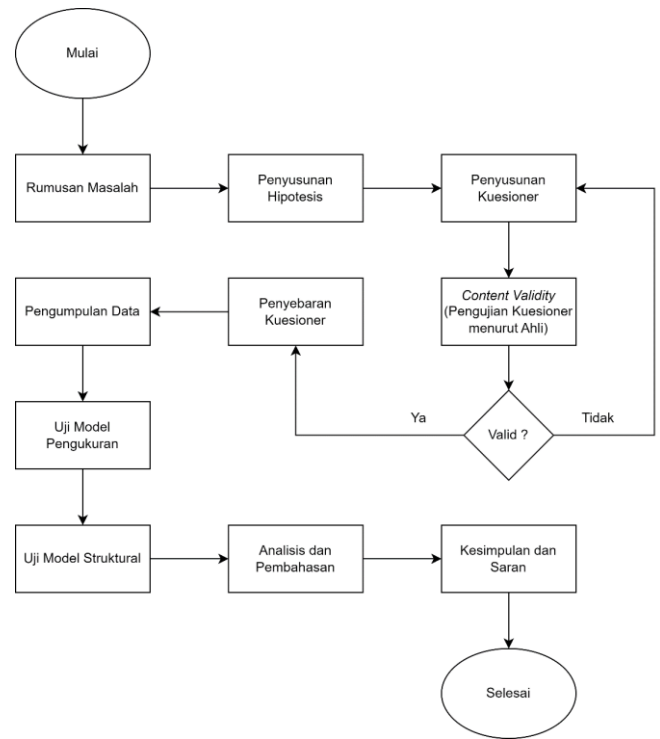


Figure 1. The Research Stage

### A. Population and Sample

The total number of users of the SIDEMANG app is 2942. To obtain the sample, apply the Slovin formula as described below :

$$\begin{aligned}
 &= \frac{N}{1 + Ne^2} \\
 &= \frac{2942}{1 + 2942 \times 0,1^2} \\
 &n = 97
 \end{aligned}$$

The aforementioned calculations indicate that 97 respondents are needed as samples for this study.

### B. Questionnaire Formulation

The Formulation of the questionnaire is created using a Google form that is filled out online. Table 1 below describes the following formulation.

TABLE i. Questions Instrument

Code	Indicator	Question	Reference
IQ1	Completeness	I obtained detailed instructions on how to submit a reference/cover letter online, On the SIDEMANG application.	[14]
IQ2	Relevance	The SIDEMANG application provides relevant information to the requirement of submitting an online reference/cover letter.	[14]
IQ3	Personalization	The information I received from the	[14]

		SIDEMANG application regarding the online submission of a reference/cover letter is personal.	
IQ4	<i>Ease of understanding</i>	The SIDEMANG application offers easy-to-understand information for submitting a letter of reference/cover.	[14]
IQ5	<i>Security</i>	The SIDEMANG app encrypts information related to the submission of a reference/cover letter online.	[14]
SQ1	<i>Availability</i>	SIDEMANG applications are available on a variety of platforms.	[14]
SQ2	<i>Adaptability</i>	The SIDEMANG application is easily accessible.	[14]
SQ3	<i>Response time</i>	SIDEMANG application requires a short application response time for submitting a letter of reference/cover letter.	[14]
SQ4	<i>Reliability</i>	SIDEMANG app is available for 24 hours/7 days.	[14]
SQ5	<i>Usability</i>	The SIDEMANG application is useful in the submission of the reference/cover letter online.	[14]
SVQ1	<i>Empathy</i>	The SIDEMANG app includes a help feature for submitting an online letter of reference/cover letter, which can be accessed during working hours. (08:00 - 16:00)	[14]
SVQ2	<i>Assurance</i>	The SIDEMANG app provides a feedback feature for the submission of a letter of reference/cover online.	[14]
SVQ3	<i>Responsiveness</i>	The SIDEMANG application responds quickly to the entire process of submitting a letter of reference/cover online.	[14]
U1	<i>Nature of use</i>	I intend to re-use the SIDEMANG application for other online reference/cover letter submissions.	[14]
U2	<i>Navigations patterns</i>	The navigation menu is very simple and easy to understand when submitting a letter of reference/cover via the SIDEMANG online application.	[14]
U3	<i>Number of site visits</i>	I often access the SIDEMANG application for submitting a letter of reference/cover online.	[14]

U4	<i>Number of transactions executed</i>	I often submit a letter of reference/cover through the SIDEMANG application online.	[14]
US1	<i>Repeat purchases</i>	I'm satisfied with the data I received after submitting a letter of reference/cover on the SIDEMANG application.	[14]
US2	<i>Repeat visits</i>	I'm satisfied with the entire process of submitting the reference/cover letter online through the SIDEMANG app.	[14]
US3	<i>User surveys</i>	I'm satisfied with SIDEMANG's online cover/reference letter service application.	[14]
NB1	<i>Cost savings</i>	Using the SIDEMANG application can reduce the cost of making a letter of reference/cover at the district or sub-district level.	[14]
NB2	<i>Expanded markets</i>	Using the SIDEMANG app allows me to submit a letter of reference/cover to a district/subdistrict where the area is hard to reach.	[14]
NB3	<i>Incremental additional sales</i>	Using the SIDEMANG application I'm more interested in submitting a letter of reference/cover in sub-district/district online	[14]
NB4	<i>Reduced search cost</i>	It does not interfere with my activities when I use the SIDEMANG application to create reference/cover letters in sub-districts/districts.	[14]
NB5	<i>Time savings</i>	Using the SIDEMANG application can help you reduce time when producing a letter of reference/cover at the district/sub-district level.	[14]

C. Questionnaires distribution

At this stage, the questionnaire is distributed directly to SIDEMANG application users, who answer it via the Google form link. Fig. 2 depicts an example of questionnaire distribution using Google Forms.

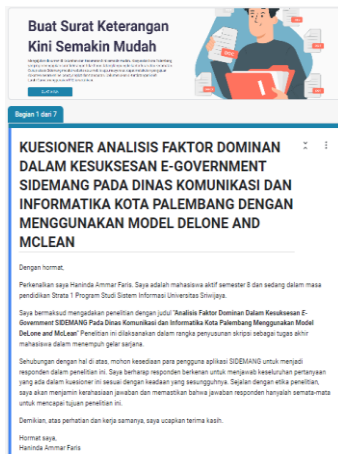


Figure 2. Questionnaire Distribution

D. Questionnaire Collection

After the filling of the questionnaire is closed, the results are collected by downloading them using the Google Forms features in the form of Excel and.csv for further data processing and analysis. On Figure 3, depicts the results of the questionnaire collection, which yielded 97 respondents.

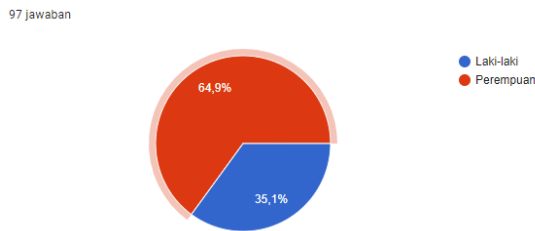


Figure 3. Questionnaire Result

E. Data Analytic

The method of analysis employed in this study is quantitative analysis since the data collected is numerical and will be analyzed using statistical techniques using the SmartPLS application. The two main components of SmartPLS are the structural model and the measurement model [25]. The validity values of the generated results, as well as the legitimacy and dependability of the model's output values, are determined using convergent and discriminant validity. The data are then analyzed by calculating and testing the hypothesis variables using path coefficients.

F. Research Hypothesis

A research hypothesis is an assumption or temporary solution to a problem equation. The DeLone and McLean model adaptation that follows uses figure 3 to illustrate the hypothesis notion employed in this study:

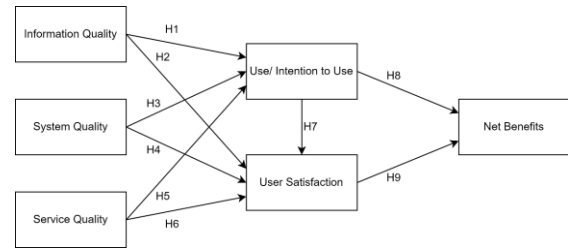


Figure 4. Hypothesis with the DeLone and McLean Model

Based on Fig. 4, the hypothesis in this study is as follows:

- H1: Information quality allegedly imposed a substantial impact on use/ intention to use.
- H2: Information quality allegedly imposed a substantial impact on user satisfaction.
- H3: System quality allegedly imposed a substantial impact on use/ intention to use.
- H4: System quality supposedly allegedly imposed a substantial impact on user satisfaction.
- H5: Service quality allegedly imposed a substantial impact on use/ intention to use.
- H6: Service quality allegedly imposed a substantial impact on user satisfaction.
- H7: Use/ intention to use allegedly imposed a substantial impact on user satisfaction.
- H8: Use/ intention to use allegedly imposed a substantial impact on net benefits.
- H9: User satisfaction allegedly imposed a substantial impact on net benefits.

III. RESULT AND DISCUSSION

The Result and Discussion in this research are the results of a data analysis process that includes conducting validity tests on the questionnaire using convergent validity with outer loading and discriminant validity with cross-loading to determine the validity or non-validity of the questionnaire. Next, the values of rho\_A and Cronbach's alpha are ascertained by a composite reliability test. The next stage is to assess the structural model that was used to ascertain the significance of the link between the constructs whether validity and reliability are present and proceed to determine the hypotheses using path analysis, and specific path coefficients.

A. Content Validity

Content validity was tested by the researchers using expert opinion (judgment experts) before the questionnaires were distributed to respondents. The experts were asked for their opinions on the compiled questionnaires and decided which questionnaires should be used without improvement, which should be improved, and which should be deleted altogether. The results of the expert evaluations are represented in Table II.

TABLE ii. Content Validity Result

	Expert 1	Expert 2	Expert 3	Number of Relevance	I-CVI	Agreement
InQual1	4	4	4	3	1,00	Approved
InQual2	4	4	4	3	1,00	Approved
InQual3	4	4	4	3	1,00	Approved
InQual4	4	4	4	3	1,00	Approved
InQua5	4	4	4	3	1,00	Approved
S-CVI (1) Information Quality					1,00	Average I-CVI above the threshold
SyQual1	4	4	4	3	1,00	Approved
SyQual2	4	2	4	2	0,67	Denied
SyQual3	4	2	4	2	0,67	Denied
SyQual4	4	3	4	3	1,00	Approved
SyQual5	4	3	4	3	1,00	Approved
S-CVI (2) System Quality					0,87	Average I-CVI above the threshold
SerQual1	4	4	4	3	1,00	Approved
SerQual2	4	4	4	3	1,00	Approved
SerQual3	4	4	4	3	1,00	Approved
S-CVI (3) Service Quality					1,00	Average I-CVI above the threshold
Use1	4	3	4	3	1,00	Approved
Use2	4	3	4	3	1,00	Approved
Use3	4	3	4	3	1,00	Approved
Use4	4	3	4	3	1,00	Approved
S-CVI (4) Use/Intention to Use					1,00	Average I-CVI above the threshold
UsSat1	4	3	4	3	1,00	Approved
UsSat2	4	3	4	3	1,00	Approved
UsSat3	4	3	4	3	1,00	Approved
S-CVI (5) User Satisfaction					1,00	Average I-CVI above the threshold
NetBen1	4	4	4	3	1,00	Approved
NetBen2	4	1	4	2	0,67	Denied
NetBen3	4	3	4	3	1,00	Approved
NetBen4	4	3	4	3	1,00	Approved
NetBen5	4	3	4	3	1,00	Approved
S-CVI (6) Net Benefits					0,93	Average I-CVI above the threshold
AS-CVI					0,97	Average S-CVI above the threshold

The admission condition of CVI that meets the standard criteria of 3-5 experts is to have a value of 1,00 according to [26], [27]. As we can see from the above results since the calculated value of the I-CVI is smaller than the standard of the criteria established in this study, there are three unfulfilled questions; Therefore, questions SQ2, SQ3, and NB2 will be removed from the variables of the study, since they do not meet the minimum standard of 1.

**B. Measurement Outer Model**

The evaluation of a measurement model or measurement Outer model aims to find the relationship between a latent variable and its indicators, the outer model is also defined as

knowing how each indicator relates to its latent variable [28]. The study has 6 variables and 25 questions or descriptions. However, after content validity testing, some questions were eliminated, leaving 22 questions. The measurement model includes two tests, which are the validity test and the reliability test.

1) The validity test in this study was calculated using convergent validity and discriminant validity.

The results of the convergent validity test are described in TABLE III below.

TABLE I Validity Test Result

	Indikator	Outer Loading	Keterangan
Information Quality	InQual1	0.774	Valid
	InQual2	0.843	Valid
	InQual3	0.741	Valid
	InQual4	0.800	Valid
	InQual5	0.727	Valid
System Quality	SyQual1	0.758	Valid
	SyQual4	0.799	Valid
	SyQual5	0.818	Valid
Service Quality	SerQual1	0.856	Valid
	SerQual2	0.805	Valid
	SerQual3	0.742	Valid
Use/ Intention to Use	Use1	0.841	Valid
	Use2	0.807	Valid
	Use3	0.804	Valid
	Use4	0.796	Valid
User Satisfaction	UsSat1	0.843	Valid
	UsSat2	0.774	Valid
	UsSat3	0.836	Valid
Net Benefits	NetBen1	0.817	Valid
	NetBen3	0.757	Valid
	NetBen4	0.782	Valid
	NetBen5	0.759	Valid

Out of all outer loading indicators above, these 22 indicators have values greater than 0.7 which means that the calculations in TABLE IV shown that the outer loading values of all indicators exceed the minimum requirement of 0.7. Since the square of the figure implies that the construction score comprises at least 50% of the variable variance, outer loading must be more than 0.708 [29]. All query indicators are valid and already meet convergent validity.

TABLE II. AVE RESULT

	Average Variance Extracted (AVE)
Information Quality	0.605
System Quality	0.627
Service Quality	0.643
Use/ Intention to Use	0.660
User Satisfaction	0.669
Net Benefits	0.607

From the calculations in TABLE IV above, an AVE of at least 0.50 is acceptable, according to [30]. From the statements

in TABLE IV, the AVE value threshold of 0.50. Therefore, this data can be accepted into this study.

TABLE V below displays the results of the discriminant validity test.

TABLE III. CROSS LOADING

	IQ	SQ	SVQ	U	US	NB
IQ1	0.774	0.501	0.559	0.443	0.480	0.439
IQ2	0.843	0.509	0.533	0.401	0.513	0.432
IQ3	0.741	0.560	0.474	0.376	0.432	0.424
IQ4	0.800	0.551	0.485	0.368	0.491	0.460
IQ5	0.727	0.511	0.344	0.227	0.447	0.320
SQ1	0.694	0.758	0.571	0.461	0.479	0.528
SQ4	0.463	0.799	0.425	0.460	0.511	0.366
SQ5	0.435	0.818	0.364	0.431	0.412	0.497
SVQ1	0.567	0.470	0.856	0.608	0.400	0.443
SVQ2	0.522	0.472	0.805	0.561	0.439	0.338
SVQ3	0.393	0.449	0.742	0.488	0.304	0.445
U1	0.396	0.437	0.624	0.841	0.566	0.476
U2	0.485	0.505	0.557	0.807	0.508	0.499
U3	0.309	0.462	0.500	0.804	0.561	0.401
U4	0.343	0.453	0.564	0.796	0.459	0.377
US1	0.519	0.491	0.402	0.524	0.843	0.502
US2	0.407	0.356	0.402	0.495	0.774	0.478
US3	0.553	0.586	0.380	0.561	0.836	0.574
NB1	0.548	0.500	0.423	0.498	0.574	0.817
NB3	0.413	0.399	0.405	0.336	0.406	0.757
NB4	0.421	0.501	0.387	0.404	0.484	0.782
NB5	0.275	0.404	0.359	0.428	0.494	0.759

TABLE V shown that the relationship between Construct with each indicator is higher than the relationship of the indicator with other Construct or greater than 0.70 [31]. This means that each indicator and variable can better predict the size of one's block than the others. As a result, we can conclude that the test questionnaire used in this study meets the criteria for discriminant validity.

TABLE IV. FORNELL-LARCKER CRITERION

	IQ	SQ	SVQ	U	US	NB
IQ	0.778					
SQ	0.674	0.792				
SVQ	0.623	0.577	0.802			
U	0.474	0.571	0.692	0.812		
US	0.608	0.594	0.480	0.646	0.818	
NB	0.537	0.583	0.505	0.542	0.636	0.779

TABLE VI explains that this study has met discriminant validity. If an indicator's cross-loading value for a given variable is the highest when compared to other variables, it is considered to meet discriminant validity [30].

TABLE V. HETEROTRAIT-MONOTRAIT RATIO

	IQ	SQ	SVQ	U	US	NB
IQ						
SQ	0.877					
SVQ	0.784	0.804				

U	0.559	0.747	0.889			
US	0.757	0.796	0.647	0.813		
NB	0.650	0.782	0.677	0.659	0.812	

The total value of the Heterotrait-Monotrait Ratio (HTMT) in TABLE VII above is less than 0.9, indicating that the entire construct can be declared valid based on the discriminant validity calculation of the Heterotrait-Monotrait Ratio (HTMT). The statement is made based on [25], [29]. The discriminating validity value is valid if the Heterotrait-Monotrait Ratio (HTMT) value is less than 0.9.

2) At this step, a composite reliability test is carried out to demonstrate the instrument's precision, accuracy, and consistency in measuring the build. There are two ways to test if a construct is deemed reliable by looking at Cronbach's alpha and a composite reliability value of 0.70 or higher [25]. A further explanation is shown in TABLE VIII below.

TABLE VI. RELIABILITY TEST

	Cronbach's Alpha	rho_A	Composite Reliability
IQ	0.837	0.843	0.884
SQ	0.703	0.703	0.835
SVQ	0.723	0.735	0.844
U	0.828	0.831	0.886
US	0.754	0.764	0.858
NB	0.785	0.795	0.860

According to the TABLE, Cronbach's alpha meets the minimum of 0.7 and the composite reliability scores are good. Cronbach's alpha is the upper limit and rho\_alpha is the lower limit. The minimum and maximum values are 0.77 and 0.95, respectively. As a result, this study is trustworthy and has passed the reliability test.

C. Inner Model Evaluation

The inner model is a method for determining the path coefficients ( $\beta$ ). The path coefficient value, T statistics, and P values show the relationship of the path coefficient. If the path coefficient has a value  $> 0$ , the result is positive. Likewise, if the path coefficient  $< 0$  the result is negative. The explanation is on the TABLE IX:

TABLE VII. PATH COEFFICIENTS

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
IQ→Use	-0.082	-0.059	0.139	0.587	<b>0.557</b>
IQ→US	0.387	0.396	0.099	3.928	<b>0.000</b>
SVQ→U	0.296	0.286	0.160	1.848	<b>0.065</b>
SQ→US	0.160	0.139	0.104	1.541	<b>0.124</b>
SVQ→U	0.572	0.569	0.119	4.794	<b>0.000</b>
SVQ→U	-0.211	-0.189	0.132	1.597	<b>0.111</b>

S					
U→US	0.517	0.513	0.123	4.217	<b>0.000</b>
U→NB	0.225	0.236	0.104	2.157	<b>0.031</b>

The following is indicated by the path coefficient test findings for the relationship between the aforementioned variables:

According to TABLE IX, the statistical T-value for the variable "quality of information" is 0.587 and the P-value of 0.557, both greater than 0.05, shows that the variable "quality information" does not have a major impact on the usage and intention to use, this is rejecting H1.

The statistical T-value for the information quality variable is 3.928, and the P-value is 0.000. As seen in TABLE IX., which means it is less than 0.05. Since H2 is accepted, we may conclude that user satisfaction is positively and significantly impacted by the information quality variable.

According to TABLE IX, the statistical T-value for the system quality variable is 1.848 and the P-value is 0.065, which means it is greater than 0.05. H3 is rejected, and we may say that the system quality variable has no substantial impact on use/intention to use.

According to TABLE IX, the variable system quality has a T statistic of 1,542 and a P value of 0.124, indicating that it is greater than 0.05. H4 was eliminated, indicating that system quality variables have no discernible impact on user satisfaction.

According to TABLE IX, the service quality variable with a statistical T-value of 4,794 and a P-value of 0.000, or less than 0.05. Since H5 is accepted, we can state that the service quality variable has a positive and substantial impact on use/intention to use.

According to TABLE IX, the statistical value for the service quality variable is 1,597 and the P-value is 0,111, which means it is higher than 0.05. H6 is rejected, it may conclude that user satisfaction is positively and significantly impacted by the service quality variable.

According to TABLE IX, the use/intention to use variable has a statistical T value of 4,217 and a P value of 0,000, indicating that it is less than 0.05. Therefore, H7 is accepted, suggesting that the use/intention to use variable exerts a positive and substantial impact on user satisfaction.

According to TABLE IX, the use/intention to use variable has a statistical T value of 2,107 and P values of 0.031, which means less than 0.05. H8 is accepted, so it may be concluded that user satisfaction is positively and significantly impacted by the usage/intention to use variant.

According to TABLE IX, the variable user satisfaction has a T statistic of 4,888 and a P value of 0,000, which is less than 0.05. H9 is accepted, indicating that user satisfaction is positively and significantly impacted by the user satisfaction variable

#### IV. CONCLUSION

According to the results, it is clear that the following elements have an impact on a SIDEMANG application's success, the information quality variable had a substantial impact on the user satisfaction variable, the service quality variable had a substantial impact on use/ intention to usage variable, the use/ intention to use variable had a substantial impact on the user satisfaction variable, the use/ intention to use variable had a substantial impact on net benefits variable, the user satisfaction variable had a substantial impact on the net benefits variable, the information quality variable had no impact on use/ intention to usage variable, the system quality variable had no impact on use/ intention to usage variable, the system quality variable had no impact on the user satisfaction variable, the service quality variable had no impact on the user satisfaction variable.

The recommendations to the Palembang City Department of Communications and Information are related to the evaluation and improvement of the SIDEMANG application based on the analysis of the DeLone and McLean models, namely the improvement of information quality variables that do not affect the use/intent to use variables, system quality variables that do not affect the use/intent to use variables, system quality variables that do not affect the user satisfaction variable, and service quality variables that do not affect the user satisfaction variable.

#### REFERENCES

- [1] Department of Economic and Social Affairs, "UN E-Government Survey 2022 The Future of Digital Government," New York, 2022.
- [2] Tim Dirjen Aplikasi Informatika Kementerian Komunikasi dan Informatika, *DINAMIKA DATA APLIKASI INFORMATIKA 2021*. Jakarta: Kementerian Komunikasi dan Informatika Republik Indonesia, 2021.
- [3] R. Jucevičius, I. Patašienė, and M. Patašius, "Digital Dimension of Smart City: Critical Analysis," *Procedia - Soc. Behav. Sci.*, vol. 156, no. April, pp. 146–150, 2014.
- [4] Kominfo Kota Palembang, "MANUAL GUIDE SIDEMANG," 2022. [Online]. Available: [https://palembang.go.id/uploads/Manual\\_Guide\\_Sidemang\\_Mobile\\_Warga\\_586c4a3863.pdf](https://palembang.go.id/uploads/Manual_Guide_Sidemang_Mobile_Warga_586c4a3863.pdf). [Accessed: 22-Nov-2022].
- [5] Redaksi, "Dan Iqbal S.IP Himbau Warga Sialang Gunakan Aplikasi SI DEMANG Untuk Pengurusan Surat," *sumsel.sahabatrakyat.com*, 2024. [Online]. Available: <https://sumsel.sahabatrakyat.com/palembang/dan-iqbal-s-ip-himbau-warga-sialang-gunakan-aplikasi-si-demang-untuk-pengurusan-surat/>. [Accessed: 18-May-2024].
- [6] D. Mahdanisa and Nurlim, "Analisis Penerapan E-Governmen dalam Pencapaian Sistem Informasi pada (Dinas Kominfo) Kabupaten Kutai Kartanegara," *J. "Gerbang Etam" Baliumbang Kab. Kutai Kartanegara*, vol. 12, no. 1, pp. 50–60, 2018.
- [7] A. Hasibuan and O. K. Sulaiman, "Smart City, Konsep Kota Cerdas Sebagai Alternatif Penyelesaian Masalah Perkotaan Kabupaten/Kota, di Kota-Kota Besar Provinsi Sumatera Utara," *Bul. Utama Tek.*, vol. 14, no. 2, pp. 127–135, 2019.
- [8] G. S. Pertiwi and A. M. Azis, "Optimalisasi prosedur pelayanan publik dengan perancangan e-government berbentuk website pada masa pandemi Covid-19," *J. Manaj. Maranatha*, vol. 21, no. 2, pp. 145–154, 2022.
- [9] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *MIS Q. Manag. Inf. Syst.*, vol. 13, no. 3, pp. 319–339, 1989.
- [10] F. D. Davis, R. P. Bagozzi, and P. R. Warshaw, "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," *Manage. Sci.*, vol. 35, no. 8, pp. 982–1003, 1989.
- [11] I. Ajzen, "The Theory of Planned Behavior," *Organ. Behav. Hum. Decis. Process*, vol. 50, no. 2, pp. 179–211, 1991.

- [12] I. Ajzen and M. Fishbein, "Theory of Reasoned Action," in *Information Seeking Behavior and Technology Adoption: Theories and Trends*, M. N. Al-Suqri and R. M. Al-Kharusi, Eds. IGI Global, 1980, p. 17.
- [13] S. Zaineldeen, L. Hongbo, A. K.-I. J. of, and undefined 2020, "Review of The DeLone and McLean Model of Information Systems Success' Background and it's An application in The Education Setting, and Association," *Researchgate.Net*, vol. 10, no. August, pp. 99–109, 2020.
- [14] W. H. DeLone and E. R. McLean, "The DeLone and McLean model of information systems success: A ten-year update," *J. Manag. Inf. Syst.*, vol. 19, no. 4, pp. 9–30, 2003.
- [15] R. Rachman, "Analisa Kesuksesan E-Government Lapor dengan Model Delone-Mclean dan Metode PLS-SEM," *Sistemasi*, vol. 10, no. 2, p. 357, 2021.
- [16] L. Amalia and A. H. Azizah, "Evaluasi Kesuksesan Penerapan Sistem Elektronik Kinerja (E-Kinerja) Menggunakan Enhanced Information System Success Model di Kecamatan Benda Tangerang," *JISKA (Jurnal Inform. Sunan Kalijaga)*, vol. 7, no. 3, pp. 192–210, 2022.
- [17] M. Muhammad and A. Arief, "EVALUASI FAKTOR-FAKTOR SUKSES SISTEM INFORMASI RUMAH SAKIT PADA RUMAH SAKIT XYZ MENGGUNAKAN MODEL DELONE & MCLEAN," *IJIS-Indonesia J. Inf. Syst.*, vol. 5, no. 2, p. 168177, 2020.
- [18] S. Hidayatullah, U. Khourouh, I. Windhyastiti, R. G. Patalo, and A. Waris, "Implementasi Model Kesuksesan Sistem Informasi DeLone And McLean Terhadap Sistem Pembelajaran Berbasis Aplikasi Zoom Di Saat Pandemi Covid-19," *J. Teknol. dan Manaj. Inform.*, vol. 6, no. 1, pp. 44–52, 2020.
- [19] A. Aisya and D. Amalina, "Evaluasi Implementasi Perangkat Lunak E-Invoice Pada Divisi Finansial Menggunakan Delone & Mclean Is Success Model (Studi Kasus : Pt Xyz)," *Bus. Financ. J.*, vol. 6, no. 2, pp. 97–108, 2021.
- [20] G. P. L. Permana and N. W. Mudiyantri, "Analisis Faktor Kesuksesan Implementasi Aplikasi Sistem Keuangan Desa (Siskeudes) Dengan Menggunakan Model Kesuksesan Sistem Teknologi Informasi Diperbarui Oleh Delone Dan Mclean Di Kabupaten Gianyar," *KRISNA Kumpul. Ris. Akunt.*, vol. 13, no. 1, pp. 75–85, 2021.
- [21] K. Nur, F. Syahnur, M. T. Dharsana, M. Retail, I. Teknologi, and U. Hasanuddin, "Analisis Kesuksesan Penerapan E-Filing Menggunakan Model Kesuksesan Sistem Informasi DeLone dan McLean," vol. 2010, no. 2, pp. 362–370, 2010.
- [22] T. Puspitasari, A. Kusumawati, and S. Sujarwoto, "Aplikasi Model DeLone and McLean untuk Mengukur Keberhasilan Sistem Informasi Penelitian dan Pengabdian Masyarakat di Universitas Brawijaya," *J. Sist. Inf. Bisnis*, vol. 10, no. 1, pp. 94–104, 2020.
- [23] N. P. D. Pratiwi, D. Ariyanto, I. N. W. A. Putra, and N. P. S. H. Mimba, "Penilaian Kesuksesan Penerapan Xero Accounting Software Dengan Model UTAUT dan Delone & McLean," *E-Jurnal Akunt.*, vol. 32, no. 2, p. 3764, 2022.
- [24] S. Asrory, "Analisis Tingkat Kesuksesan Sistem Informasi Website Resmi Pemerintah Kabupaten Pasuruan Menggunakan Model DeLone and McLean," *J. Repos.*, vol. 3, no. 3, pp. 263–272, 2021.
- [25] J. F. Hair, J. J. Risher, M. Sarstedt, and C. M. Ringle, "When to use and how to report the results of PLS-SEM," *Eur. Bus. Rev.*, vol. 31, no. 1, pp. 2–24, 2019.
- [26] D. F. Polit, C. T. Beck, and S. V. Owen, "Focus on Research Methods Handling Missing Data in Self-Report Measures," *Res. Nurs. Health*, vol. 30, no. 4, pp. 459–467, 2007.
- [27] D. F. Polit and C. T. Beck, "The Content Validity Index: Are You Sure You Know What's Being Reported? Critique and Recommendations," *ResearchinNursing&Health*, vol. 29, no. 5, pp. 489–497, 2006.
- [28] D. Fordian and A. A. Ramadiawati, "Pengaruh Brand Orientation Dan Co-Creation Value Terhadap Marketing Capability Studi Pada Make Up Artist (MUA) di Kota Bandung.pdf," *Liq. J. Ris. Akunt. dan Manaj.*, vol. 9, no. 1, pp. 1–15, 2020.
- [29] J. Henseler, C. M. Ringle, and M. Sarstedt, "A new criterion for assessing discriminant validity in variance-based structural equation modeling," *J. Acad. Mark. Sci.*, vol. 43, no. 1, pp. 115–135, 2015.
- [30] C. Fornell and D. F. Larcker, "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *J. Mark. Res.*, vol. 18, no. 1, pp. 39–50, 1981.
- [31] F. X. R. Katopo, "Analisa Pengaruh Individual Factor terhadap Entrepreneur Motivation Mahasiswa Manajemen Bisnis Universitas Kristen Petra Surabaya," *Agora*, vol. 3, no. 1, pp. 677–685, 2015.