HOW THE PERCEIVED ENJOYMENT EFFECT M-PAYMENT ADOPTION IN WEST PAPUA PROVINCE: DELONE AND MCLEAN INFORMATION SYSTEMS SUCCESS MODEL

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ABSTRACT

M-payment is a form of adaptation in payment systems through digital technology. This study aims to determine the influence of perceived enjoyment as a complementary factor to the DeLone and McLean (D&M) Information System Success Model of m-payment adoption level in West Papua Province. A total of 244 valid respondents were obtained via a questionnaire using purposive sampling technique and analyzed using PLS-SEM. The results showed that out of eleven hypotheses, eight were accepted, and three were rejected. The result show that the Perceived Enjoyment (PE) significantly influences the m-payment adoption level in West Papua Province. However, service quality is not a determinant of m-payment adoption levels in West Papua Province. Additionally, system quality not a determinant on user satisfaction of the technology. A post-hoc evaluation was also conducted using gender and age as control variables, indicating that the adoption levels varied among the control variable groups. This provides significant insights both theoretical and practical which are discussed in discussion and conclusion section.

I. INTRODUCTION

PAYMENT system is an essential part of ensuring the execution of payment transactions. In its evaluation, payment system that were previously conducted in cash have now shifted to non-cash, resulting in the emergence of interesting innovations in conducting transactions, namely digital transactions. Mobile payment or m-payment is a form of adoption of m-payment systems with the presence of digital technology. M-payment in one of the types of digital payment Financial Technology (fintech) that dominates fintech service [1]. In addition to fintech companies, m-payment can also come from banks or telecommunications services. There are several types of m-payment circulating today, namely e-wallets and m-banking [2].

Several factors need to be considered to provide a sense of security and comfort to user and ensure the reliability of this service in the future. Given the relatively low cost of transitioning users to m-payment service providers, users can easily switch to other services [3]. In West Papua Province, the government continues to strive to encourage the community to conduct transactions using digital payment methods to enhance financial transparency. Implementation is carried out through the Elektronifikasi Transaksi Pemerintah Daerah (ETPD) program and the formation of Tim Percepatan dan Perluasan Digitalisasi Daerah (TP2DD) with aim of serving as a coordination forum among agencies and stakeholders to promote innovation, acceleration, and expansion of ETPD [4].

Referring to the government's initiative to harness digital-based transactions, particularly m-payment, it is imperative both the government and businesses to understand user behavior regarding payment needs to ascertain the actual usage of m-payment and boost its adoption, with the key acceptance lying in the hands of users. Adoption rate testing is conducted to identify factors influencing users in acceptance and usage of m-payment, which is subsequently used as an alternative payment method. This adoption rate is tested through actual usage correlates with the acceptance and rejection of mobile payment technology itself [5].

In this study, the researchers used the D&M IS success model conducted by [6] and further expanded it by adding the variables of perceived enjoyment and control variables of gender and age. The focus was then on the actual usage of m-payment services through the intention to use and satisfaction with m-payment usage. D&M IS success

model is suitable for this research because it can predict an individual's interest in adopting m-payment services, measured through the success of a technology. The D&M IS success model was first introduced in 1992 by William H. DeLone and Ephraim systems. In 2003, the D&M IS success model underwent development and improvements. The dimensions of service quality and intention to use were included as alternatives to system use if needed, and the combination of the dimensions of individual impact and organizational impact into net benefits [7].

Previous research integrating the D&M IS Model has been conducted before. The study using the D&M IS success model was conducted by [6]. The result of the study indicates that service quality and information quality influence satisfaction and intention to use m-banking, whereas system quality does not affect satisfaction and intention to use m-banking. These findings imply that system quality is not a priority for satisfaction and intention to use m-banking. Furthermore, satisfaction and intention to use influence the actual usage of m-banking and satisfaction also successfully mediates the relationship between service quality, information quality, and trust with the intention to use m-banking. However, research by Alzahrani A. entitled "Modelling digital library success using the DeLone and McLean information system success model" aimed to identify the determinants of actual usage of digital library services. The results show that system quality, information quality, and service quality significantly influence satisfaction and intention to use [8].

Subsequent research conducted by Kaur J. entitled "Understanding the Factors Influencing Actual Usage of Payment Banks: An Empirical Investigation Using the Extended Information Systems Success Model" aimed to understand the adoption and actual usage of payment bank services. The study results showed that service quality significantly influences intention to use payment banks, while information quality and system quality does not significantly influence intention to use payment banks [9]. Different research results were shown by Pitafi A. entitled "An Empirical Investigation on Actual Usage of Educational app: Based on Quality Dimensions and Mobile Self Efficacy" aimed to examine the actual usage of educational applications for learning purposes. The result indicated that service quality, information quality, and system quality significantly influence the intention to use, which in turn affected actual usage [10].

The research gap regarding the influence of quality dimensions on satisfaction and intention to use a technology is one of reasons for conducting this study. Additionally, research on the adoption level of m-payment particularly in West Papua Province has not been conducted before. This also serves as motivation for researchers to undertake this study.

Perceived enjoyment is a crucial factor influencing user behavior in adoption of a service. The process of adopting or utilizing new technology, the goal is not only to enhance performance but also for enjoyment [11]. The study by Ramadhani N. entitled "Faktor Trust Sebagai Penentu Niat Adopsi Mobile Qris Dengan Value-Based Adoption Model: Studi Kasus Di Provinsi Papua Barat" found that perceived enjoyment is one of the factors affecting the adoption of mobile QRIS in West Papua Province [12]. Perceived enjoyment is understood as the extent to which people consider using technology to be enjoyable, regardless of the potential negative impact on its performance [13]. Perceived enjoyment is a source of intrinsic motivation that has a greater influence on the intention to use compared to external motivation [14]. Given these considerations, the researchers are interested in adding the variable of perceived enjoyment to the research model as an independent variable. Based on the background explained, the purpose of this study is to determine the influence of perceived enjoyment as a factor affecting the adoption level of m-payment in West Papua Province.

II. RESEARCH METHODOLOGY

This study employs a quantitative approach. The research model utilized is the D&M IS success model, with the incorporation of the external variable perceived enjoyment and the control variables of gender and age.
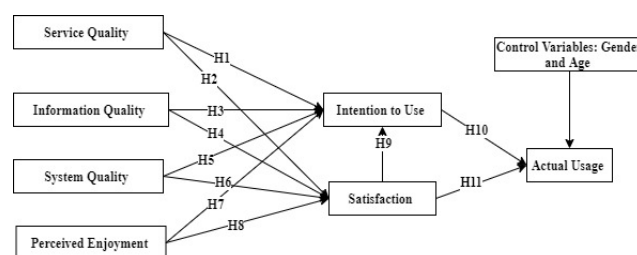

Fig. 1. Research Model

Service quality involves technical support from both customer needs and technical perspectives [15]. When users are provided with high quality services, they tend to exhibit higher levels of satisfaction and greater

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confidence that the service provider can meet their expectations [16], [17]. Therefore, the hypotheses proposed is as follows:

H1. Service quality significantly influences intention to use.

H2. Service quality significantly influences satisfaction.

Information quality is the user's assessment of how well the system performs in providing information [18]. When m-payments users encounter relevant, accurate, and up-to-date information, it can influence them to start using the service. Conversely, if service providers do not provide adequate, accurate, and timely information, it can require users to exert more effort in using m-payment, thereby resulting in decreased user satisfaction levels [19]. Therefore, the proposed hypotheses are:

H3. Information quality significantly influences intention to use.

H4. Information quality significantly influences satisfaction.

System quality is one of the determinants that influences users' perceptions of the technology they utilize. The lack of system quality aspects can lead to user doubts regarding the consistency and capabilities of the service provider [9]. Conversely, system quality that meets user expectations can enhance the desire to use and also user satisfaction [20], [21]. Thus, the researcher posits the hypotheses that:

H5. System quality significantly influences intention to use.

H6. System quality significantly influences satisfaction.

Perceived enjoyment is an intrinsic motivation to use a technology [22]. Users who are intrinsically motivated to adopt specific technologies largely indicate satisfaction with the technology and believe that it can assist in their task [23]. Previous research indicated the influence of perceived enjoyment on intention to use and satisfaction [24], [25].

H7. Perceived enjoyment significantly influences intention to use.

H8. Perceived enjoyment significantly influences satisfaction.

Several studies also demonstrate that satisfaction is one of the determining factors of user's intention to use information systems [26], [27]. Earlier studies found that user satisfaction is the primary predictor of their intention to use m-payment in the future [20]. Therefore, this study proposes the following hypotheses:

H9. Satisfaction significantly influences intention to use.

One of crucial directions in the use of information systems is the need to assess the impact of system usage on information system success, where IS success relies on system usage itself [28]. Prior research found a correlation between intention to use and actual usage [29]. This research indicates that user intention may encompass several driving factors that influence actual usage. Additionally, satisfaction variables also become one of the considerations influencing actual usage [9], [6]. This factor implies that user satisfaction plays a crucial role in adopting a technology as measured through actual usage. Thus, hypotheses can be formulated as follows:

H10. Intention to use significantly influences actual usage.

H11. Satisfaction significantly influences actual usage.

In this study, the researcher added control variables gender and age. Previous research has revealed that differences in gender and age can impact user behavior towards a particular technology[30]. Several studies also found that differences in gender and age can influence an individual's technology adoption level [31], [32]. Therefore, the use of these variables aims to investigate whether gender and age affect the usage of m-payment services in West Papua Province.

A. Research Population and Sample

The research population consists of the people of West Papua Province who utilize m-payment services. The determination of the research sample used purposive sampling. Purposive sampling is a technique for determining samples based on criteria previously determined by the researcher, considering specific objectives and considerations [33]. The sampling criteria used are people who have used m-payment at least once and reside in West Papua Province. The minimum sample size guideline for PLS-SEM analysis is ten times the minimum number of arrows (paths) related to latent variables in the PLS-SEM model with minimum sample size ranging from 30 to 100 samples [34], [35]. The minimum sample size in this study is 120 because the research model used has 12 arrows related to latent variables.

B. Data Collection Method

The data collection method utilizes a survey method (questionnaire) employing Likert scales with purposive sampling techniques and created using Google Form. Next is the determination of research instruments for data

collection through the research questionnaire. The questionnaire consists of 23 statements created according to the indicators of research variables as shown in Table I.

TABLE I
RESEARCH INSTRUMENT

Variable	Statement Item	code	Reference
Service quality	When I have a problem while using m-payment, I can receive assistance immediately due to the presence of a help center (contact center) feature.	SERQ1	[36]
	While using m-payment, users feel comfortable and secure when making transactions.	SERQ2	[37]
	The service officer responsible understands my questions regarding m-payment well.	SERQ3	[38]
Information quality	The information provided from m-payment is accurate and free from errors.	IQ1	[39]
	The information that is presented from m-payment is up to date.	IQ2	[18]
	M-payment provides transaction information promptly. For example, after a transaction, users can immediately see their balance decrease or increase	IQ3	
	M-payment provides comprehensive transaction payment information tailored to my needs.	IQ4	[36]
	M-payment provides transaction information complete and detailed.	IQ5	
	I feel that m-payment provides relevant information for my needs.	IQ6	
System quality	I feel the features in m-payment are easy to use.	SYSQ1	[16]
	M-payment is easily accessible anytime and anywhere.	SYSQ2	[36]
	The m-payment system responds to user commands quickly.	SYSQ3	
Perceived enjoyment	Making payment transactions using m-payment service feels more interesting.	PE1	[40]
	I feel happy when making payment transactions using m-payment service.	PE2	
Intention to Use	I intend to use the m-payment to support the financial transactions I conduct.	ITU1	[41]
	I plan to use m-payment for personal transactions in the future.	ITU2	[42]
	I want to continue increasing the use of m-payment in the future.	ITU3	[43]
Satisfaction	I am satisfied with the time efficiency in the transaction process using m-payments.	SAT1	[37]
	I am satisfied with the m-payment application that effectively meets my need for making payment transactions.	SAT2	[14]
	Overall, I am satisfied with the quality and service of m-payment.	SAT3	[36]
Actual Usage	I use the m-payment every time I make a cashless transaction.	AU1	[44]
	I often use m-payment.	AU2	
	I use the m-payment application several times a week.	AU3	[6]

C. Data Analysis Technique

In this study, PLS-SEM is used as a factor analysis method for measurement models with path analysis from the structural model. PLS-SEM is a causal method aimed at maximizing the explained variance of the dependent latent constructs [45]. Additionally, PLS-SEM is a powerful analytical method because it does not assume that the data must be in a specific measurement scale and it also accounts for small sample sizes [46]. The testing stages include testing the measurement model (outer model) which consists of validity and reliability tests, and testing structural model (inner model) which involves VIF and R-Square tests. Lastly, hypothesis testing is conducted using bootstrapping, which will produce significance values between latent variables by comparing the T-statistic and p-value [45]. SmartPLS 4.0 application is used as a software tool to process data, including calculating, creating, and evaluating the research model. SmartPLS has been widely used in exploratory research and theory development

[47].

III. RESULT AND DISCUSSION

The demographics of the respondent will be presented to provide an overview of the respondents in this study by collecting a total of 244 valid respondents. Further details will be outlined in the table below.

TABLE II
DESCRIPTION OF RESPONDENTS DEMOGRAPHICS

Category	Item	Frequency	Percentage (%)
Gender	Male	76	34%
	Female	148	66%
Age	17-25 years	163	73%
	26-35 years	40	18%
	36-45 years	17	8%
	>45 years	4	2%
Education Level	SD	1	0%
	SMP	12	5%
	SMA	140	63%
	DIII	16	7%
	S1	55	25%
Job	PNS	9	4%
	TNI/POLRI	8	4%
	Private employee	53	24%
	entrepreneur	9	4%
	Health workers	12	5%
	Student	109	48%
	Housewife	8	4%
	Others	18	7%
Income	<1 million rupiah	120	54%
	1-3 million rupiah	75	33%
	4-5 million rupiah	12	5%
	>5 million rupiah	17	8%
Monthly Usage	1-3 times a month	88	39%
	4-6 times a month	59	26%
	7-10 times a month	25	11%
	More than 10 times a month	52	23%

A. Outer Model

In the outer model analysis, validity and reliability tests are conducted. Evaluation of validity includes convergent validity and discriminant validity. Then, for reliability evaluation it includes composite reliability and Cronbach's alpha.

1) Convergent Validity

Convergent validity testing can be assessed through loading factor and value of AVE (Average Variance Extracted). The loading factor is used to express the amount of correlation between indicator and construct. With valid values if each indicator values > 0.7 [45].

TABLE III
LOADING FACTOR TEST RESULT

	AU	IQ	ITU	PE	SAT	SERQ	SYSQ
AU1	0.819						
AU2	0.874						
AU3	0.800						
IQ1		0.748					
IQ2		0.825					
IQ3		0.714					
IQ4		0.833					
IQ5		0.786					
IQ6		0.767					
ITU1			0.885				
ITU2			0.894				
ITU3			0.918				
PE1				0.913			
PE2				0.919			
SAT1					0.895		
SAT2					0.903		
SAT3					0.904		
SERQ1						0.733	

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SERQ2	0.798
SERQ3	0.839
SYSQ1	0.845
SYSQ2	0.738
SYSQ3	0.875

The next step is testing the AVE values, which is considered valid if it has a value greater than 0.5. This means the latent variables explain more than half of the variance of their indicator [46].

TABLE IV
AVE TEST RESULT

	Average Variance Extracted
AU	0.692
IQ	0.608
ITU	0.808
PE	0.839
SAT	0.812
SERQ	0.626
SYSQ	0.675

2) Discriminant Validity

Discriminant validity serves to demonstrate the extent to which different constructs differ empirically from each other or the extent to which a construct can measure what should be measured [46]. Discriminant validity testing can be assessed through cross loading and HTMT testing. Cross loading test is conducted by comparing the correlation of the indicators of the variable with other variables. The loading value on each measured item should ideally be higher than the loading value of other items, with a value > 0.7 [45].

TABLE V
CROSS LOADING TEST RESULT

	AU	IQ	ITU	PE	SAT	SERQ	SYSQ
AU1	**0,819**	0,536	0,573	0,493	0,475	0,488	0,453
AU2	**0,874**	0,427	0,495	0,479	0,484	0,409	0,411
AU3	**0,800**	0,334	0,419	0,487	0,411	0,391	0,316
IQ1	0,370	**0,748**	0,554	0,463	0,494	0,510	0,533
IQ2	0,410	**0,825**	0,621	0,521	0,518	0,542	0,587
IQ3	0,372	**0,714**	0,565	0,435	0,530	0,539	0,548
IQ4	0,414	**0,833**	0,623	0,477	0,544	0,601	0,581
IQ5	0,399	**0,786**	0,581	0,495	0,511	0,575	0,627
IQ6	0,508	**0,767**	0,588	0,507	0,546	0,539	0,605
ITU1	0,562	0,722	**0,885**	0,663	0,654	0,581	0,648
ITU2	0,531	0,634	**0,894**	0,617	0,691	0,565	0,642
ITU3	0,533	0,680	**0,918**	0,656	0,668	0,511	0,658
PE1	0,527	0,617	0,667	**0,913**	0,633	0,467	0,592
PE2	0,544	0,520	0,649	**0,919**	0,690	0,471	0,561
SAT1	0,552	0,622	0,695	0,686	**0,895**	0,549	0,593
SAT2	0,427	0,610	0,624	0,635	**0,903**	0,494	0,535
SAT3	0,506	0,585	0,693	0,629	**0,904**	0,508	0,570
SERQ1	0,356	0,467	0,391	0,325	0,346	**0,733**	0,370
SERQ2	0,439	0,606	0,522	0,467	0,493	**0,798**	0,539
SERQ3	0,431	0,589	0,526	0,408	0,502	**0,839**	0,566
SYSQ1	0,445	0,724	0,673	0,544	0,557	0,603	**0,845**
SYSQ2	0,314	0,420	0,457	0,429	0,434	0,407	**0,738**
SYSQ3	0,409	0,650	0,624	0,565	0,549	0,529	**0,875**

The cross-loading values of each indicator item are > 0.7, with the correlation value of the indicator to be higher than other variables. This implies that each reflective indicator can explain its exogenous construct. Additionally, the heterotrait-monotrait (HTMT) ratio test was conducted to assess discriminant validity. HTMT values are considered to meet the criteria if values < 0.85 or < 0.9 [48], [49].

TABLE VI
HTMT TEST result

	AU	IQ	ITU	PE	SAT	SERQ	SYSQ
AU							

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IQ	0,631					
ITU	0,718	0,862				
PE	0,737	0,741	0,851			
SAT	0,658	0,766	0,843	0,853		
SERQ	0,691	0,894	0,768	0,670	0,714	
SYSQ	0,607	0,896	0,870	0,797	0,761	0,836

As seen in table VI all values < 0.9. Therefore, the discriminant validity test has been fulfilled through the HTMT test.

3) Reliability Test

This test aims to determine whether the research instrument, when used as a measuring tool, yields consistent results even when repeated. A construct is considered reliable if it has composite reliability and Cronbach's alpha values > 0.7 [45].

TABLE VII
COMPOSITE RELIABILITY CRONBACH'S ALPHA TEST RESULT

	Cronbach's alpha	*Composite reliability (rho_c)*
AU	0.778	0.870
IQ	0.870	0.903
ITU	0.881	0.927
PE	0.808	0.912
SAT	0.884	0.928
SERQ	0.704	0.833
SYSQ	0.759	0.861

Table VII shows all of Cronbach's alpha and composite reliability values have fulfilled the criteria. Thus, the testing can be continued to the next step.

B. Inner Model

Inner model can be observed with various indicators, including Variance Inflation Factor (VIF) and coefficient of determination (R-square).

1) Variance Inflation Factor (VIF)

VIF is used to perform the multicollinearity test. The multicollinearity test aims to determine the correlation between independent variables. If the value is less than or equal to 2 and greater than or equal to 5, it means the construct has multicollinearity issues [23].

TABLE VIII
VARIANCE INFLATION FACTOR (VIF) TEST RESULT

	AU	**IQ**	**ITU**	**PE**	**SAT**	**SERQ**	**SYSQ**
AU							
IQ			3.154		3.003		
ITU	2.256						
PE			2.362		1.817		
SAT	2.256		2.597				
SERQ			2.152		2.119		
SYSQ			2.622		2.600		

Table VIII shows all of the values that have fulfilled the criteria. Thus, the construct has good collinearity with AU, ITU, and SAT.

2) Coefficient of Determination (R-Square)

This test aims to measure the extent of the influence of exogenous variables on endogenous variables. R-Square value divided into three categories 0.075 (strong), 0.50 (moderate), and 0.25 (weak) [45].

TABLE IX
R-SQUARE TEST RESULT

	R-square	**R-square adjusted**	**Category**
AU	0.387	0.382	weak
ITU	0.721	0.713	Strong
SAT	0.615	0.608	Moderate

Based on Table IX, the R-Square value for the actual usage variable is 0.387, indicating that the satisfaction and intention to use variables collectively influence actual usage by 38.2% with a weak predictive strength. The intention to use variable has a value 0.721, indicating that the service quality, information quality, system quality, perceived enjoyment, and satisfaction variables collectively influence intention to use by 72.1% with a strong predictive strength. The satisfaction variable has a value 0.615, indicating that the service quality, information quality, system quality, and perceived enjoyment variables collectively influence satisfaction by 61.5% with a

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moderate predictive strength.

C. Hypothesis Testing

Hypotheses testing is used to examine the influence between variables by performing bootstrapping, which will produce significance value between latent variables. The hypotheses are accepted if T-statistic have values > 1.96 and p-value < 0.05 [45].

TABLE X
HYPOTHESIS TEST RESULT

Hypothesis	Path	Original sample (O)	T statistics (|O/STDEV|)	P values	Result
H1	SERQ -> ITU	0.034	0.586	0.558	Rejected
H2	SERQ -> SAT	0.112	1.728	0.084	Rejected
H3	IQ -> ITU	0.277	3.708	0.000	Accepted
H4	IQ -> SAT	0.242	2.799	0.005	Accepted
H5	SYSQ -> ITU	0.192	2.896	0.004	Accepted
H6	SYSQ -> SAT	0.091	1.084	0.278	Rejected
H7	PE -> ITU	0.220	3.234	0.001	Accepted
H8	PE -> SAT	0.458	7.131	0.000	Accepted
H9	SAT -> ITU	0.260	3.508	0.000	Accepted
H10	ITU -> AU	0.431	4.958	0.000	Accepted
H11	SAT -> AU	0.230	2.492	0.013	Accepted

Next is hypothesis testing by adding the control variables gender and age.

TABLE XI
HYPOTHESIS WITH CONTROL VARIABLES GENDER AND AGE TEST RESULT

	Path	Original sample (O)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Male	Female	17-25 years	26-35 years	36-45 years
H1	SERQ -> ITU	0.034	0.059	0.586	0.558	Rejected	Rejected	Rejected	Rejected	Rejected
H2	SERQ -> SAT	0.112	0.065	1.728	0.084	Rejected	Rejected	Rejected	Rejected	Rejected
H3	IQ -> ITU	0.277	0.075	3.708	0.000	Accepted	Accepted	Accepted	Accepted	Rejected
H4	IQ -> SAT	0.242	0.086	2.799	0.005	Accepted	Rejected	Rejected	Accepted	Rejected
H5	SYSQ -> ITU	0.192	0.066	2.896	0.004	Rejected	Accepted	Accepted	Rejected	Rejected
H6	SYSQ -> SAT	0.091	0.084	1.084	0.278	Rejected	Rejected	Rejected	Rejected	Rejected
H7	PE -> ITU	0.220	0.068	3.234	0.001	Rejected	Accepted	Accepted	Rejected	Rejected
H8	PE -> SAT	0.458	0.064	7.131	0.000	Accepted	Accepted	Accepted	Accepted	Rejected
H9	SAT -> ITU	0.260	0.074	3.508	0.000	Rejected	Accepted	Accepted	Rejected	Rejected
H10	ITU -> AU	0.431	0.087	4.958	0.000	Accepted	Accepted	Accepted	Rejected	Rejected
H11	SAT -> AU	0.230	0.092	2.492	0.013	Rejected	Accepted	Rejected	Accepted	Rejected

Based on the result of Table X, H1 is rejected. This is indicated by the T-statistic value < 1.96 which is 0.586 and a p-value > 0.05, which is 0.558. This means service quality does not have a significant influence on intention to use. This result is consistent with a previous study indicating that service quality does not significantly influence intention to use [50]. Subsequently, H2 is rejected with the result of the T-statistic test < 1.96 which is 1.728 and a p-value > 0.05 which is 0.084. Thus, indicating that service quality does not have a significant influence on satisfaction. This finding is consistent with a number of studies conducted in previous studies [16], [51]. This means that in this study, the service provided by the service provider have not been optimal and thus have not succeeded in influencing satisfaction and intention to adopt m-payment services in West Papua Province. Furthermore, since m-payment operates online, there is a need to enhance response speed to complaints and implement an appropriate complaint handling system to increase user intention to use and satisfaction with m-payment application.

The hypothesis testing result for H3 yielded the T-statistic value > 1.96 specifically 3.708 and a p-value < 0.05 specifically 0.000. Thus, the hypothesis is accepted. The result indicates that information quality significantly influences intention to use. This result is consistent with a number of previous studies [6], [27] which stated that information quality significantly influences intention to use. H4 which states that information quality significantly influences satisfaction is accepted. It can be seen in the result of the T-statistic value > 1.96 which is 2.799 and a p-value < 0.05 which is 0.005. This finding is consistent with a number of conducted in previous studies [20], [52]. These results imply that the more comprehensive and higher quality the information provided by m-payment, the more it can influence users interest in using m-payment. Similarly, satisfaction with m-payment can occur if users feel that the timeliness and accuracy of the information provided meet their expectations.

Based on the result hypothesis for H5 on Table X it can be seen the T-statistic value > 1.96 specifically 2.896

and a p-value < 0.05 which is 0.004. Thus, the hypothesis is accepted. This indicates system quality significantly influences on intention to use. This finding is consistent with the research previously conducted by [10], which stated that system quality significantly influences intention to use. Meanwhile, for H6 is rejected because it has a T-statistic value < 1.96 which is 1.084 and a p-value > 0.05 namely 0.278. As a result, system quality does not have a significant influence on satisfaction. This finding is partly consistent with [6], which stated that system quality does not significantly influence user satisfaction. This indicates that the better quality of the system provided, the more it can influence users interest in using m-payment. Conversely, in the context in this study, the system quality is not the primary consideration influencing user satisfaction with m-payment applications in West Papua Province. It means, the system quality provided by the provider has not been maximally delivered. Therefore, there is a need to improve system quality, such as enhancing system reliability and response speed, as efforts to enhance user satisfaction with m-payment.

Further hypothesis testing reveals that H7 is accepted with a T-statistic value > 1.96 namely 3.234 and a p-value < 0.05 namely 0.001. This indicates perceived enjoyment significantly influences on intention to use. This finding is partly consistent with [24] which stated that perceived enjoyment significantly influences on intention to use. Subsequently, the hypothesis testing result show that H8 is accepted with T-statistic value > 1.96 specifically 7.131 and a p-value < 0.05 which is 0.000. This result indicates perceived enjoyment significantly influences user satisfaction and is consistent with the findings of the study conducted by [25]. It means that if someone finds using m-payment enjoyable and engaging, it can serve as intrinsic motivation for them to use m-payment and can result in satisfaction with its use. It can be concluded that perceived enjoyment influences the level of m-payment adoption in West Papua Province.

The result of hypothesis testing shows H9 is accepted with a T-statistic value > 1.96 specifically 3.508 and a p-value < 0.05 namely 0.000. This result indicated satisfaction significantly influences intention to use and is consistent with the findings of previous study [26]. It means that the more satisfied users are with the performance of m-payment in facilitating cashless transactions can influence the enthusiasm for adopting m-payment among the community in West Papua Province.

Based on Table X, the hypothesis testing result show H10 has a T-statistic value > 1.96 specifically 4.958 and a p-value < 0.05 which is 0.000. Therefore, the hypothesis is accepted. This indicates intention to use significantly influences actual usage. For H11 is accepted with a T-statistic value > 1.96 namely 2.492 and a p-value < 0.05 which is 0.013. It means satisfaction significantly influences actual usage. These results are consistent with previous findings that state intention to use and satisfaction significantly influences actual usage [6], [8], [9]. This explains that the stronger someone's inclination to use m-payment, the greater the desire for actual usage of m-payment. Similarly, the stronger someone's feeling of satisfaction, the greater the likelihood of adopting and using the service in practice.

Based on the hypothesis testing result by adding control variables gender and age on Table XI in the male category, four hypotheses are accepted, however seven hypotheses are rejected. Subsequently, in the female category seven hypotheses were accepted and the remaining four hypotheses were rejected. Afterwards the hypothesis testing result by adding control variable age in the age category 17 – 25 years show six hypotheses were accepted and five hypotheses were rejected. The age category of 26 – 35 years, four hypotheses were accepted and seven hypotheses were rejected. Meanwhile, in the age category of 35 – 45 years, the test result for all hypotheses were rejected. Thus, it can be concluded that the control variables of gender and age influence the level of m-payment adoption in West Papua Province. This result in line with prior results [31], [32], gender and age significantly influence the level of technology adoption. On the gender control variables, female users appear to be more dominant in adopting m-payment services than male users. This indicates that female users exhibit consumption and shopping behavior more frequently than males by using m-payment facilities as a payment tool. Furthermore, regarding the age control variable, users in the 17-25 age category are more influential in adopting m-payment services compared to other age categories. This indicates that most younger users have a high interest and more frequently use m-payment to assist transactions compared to other age categories.

D. Practical Implications

The result of the current study also has several practical implications. Specifically, the result of this study contributes to enhancing the understanding for m-payment service providers, which may come from the banking industry or the telecommunications industry, regarding the factors influencing the adoption level of m-payment in West Papua Province. The integration of the D&M IS success model and the addition of the external variable perceived enjoyment as well as the control variables gender and age show significant results on the intention to

adopt m-payment through actual usage. These findings are certainly very useful for designing appropriate strategies to attract users' interest in adopting m-payment services.

For services providers, efforts must be made to enhance the dimensions of quality and perceived enjoyment components to facilitate and increase the acceptance of m-payment services in West Papua Province. For example, improving system speed, reducing the risk of errors, and enhancing the security of the application. Additionally, providing up to date information for users and ensuring the information meets users' needs are crucial. Outdated or inaccurate information can affect users' behavior towards m-payment. Moreover, service providers often neglect the service they offer to users, such as slow response times to complaints and inadequate answers to issues. Therefore, it is necessary to improve service quality, such as providing quick responses and accurate solutions to user problems. The intrinsic influence on m-payment usage should not be overlooked either. Research results indicate that perceived enjoyment significantly influences the adoption level of m-payment. When users find the m-payment application interesting, it can motivate them to use the service. Thus, developing the application by adding important features, such as an attractive user interface, is essential to increase m-payment adoption.

In this study, it was proven that satisfaction significantly influences intention to use, which in turn has a significant impact on the actual usage of m-payment services. This means that service providers must focus on increasing user satisfaction with m-payment and their intention to use it. Surveys on user satisfaction should be conducted regularly to receive feedback to measure their satisfaction and future desire for m-payment.

Lasty, considering that gender and age can influence the adoption level of m-payment, it is important for service providers to understand the characteristics of their users. Therefore, appropriate strategies with influence patterns should be developed, resulting in differentiated marketing. For example, adjustments to system requirements based on gender and age. Hence, the important roles of gender and age should be considered in the product design stage [30].

IV. CONCLUSION, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

A. Conclusion

This research aimed at understanding the influence of perceived enjoyment on the adoption level of m-payment in West Papua Province using the D&M IS Success Model, with the addition of the external variable perceived enjoyment and control variables gender and age. Therefore, the result of this study can be inferred from the eleven research hypotheses that eight were accepted and three were rejected. The result indicates perceived enjoyment has a significant impact on the adoption level of m-payment in West Papua Province. Meanwhile, from the D&M IS success model the service quality variable is not a major factor in the adoption level of m-payment in West Papua Province.

Additional findings indicate that the information quality variable significantly influences both the level of satisfaction and intention to use the m-payment application. Furthermore, the system quality variable significantly influences intention to use. However, system quality does not have a significant influence on user satisfaction with m-payment applications. Subsequently, the satisfaction and intention to use variables show a significant influence on the actual usage of m-payment services in West Papua Province.

Lastly, for the addition of control variables age and gender, which have a significant influence on the adoption level of m-payment in West Papua Province, it can be concluded that females are more dominant in adoption of the m-payment services compared to male users. Furthermore, based on age, the result indicates that the 17- 25 years category shows a higher adoption level of m-payment compared to other age categories.

B. Limitations and Future Research Direction

This study was focused only on the West Papua Province community. Thus, this limitation hinders the generalization of the research findings to other geographical areas. In addition, this study uses cross-sectional data to measure individual intention over a specific period. Future research is recommended to use longitudinal data. Lastly, for future research, it is suggested to develop the research model by adding other variables that were not examined in this study.

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