

Original Artikel

# Evaluation of User Satisfaction on QRIS E-Payment Application At Bank XYZ

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**Abstract:** The goal of this study is to determine user satisfaction with Bank XYZ's e-XYZcash, a mobile application that uses QRIS. The Technology Acceptance Model (TAM) was adjusted and analyzed using the Structural Equation Model (SEM), which was supported by the Smart Partial Least Squares (SmartPLS) application to connect the variables in each model. The results of this study were based on customer satisfaction with the e-XYZcash mobile application, and they can be used as a reference or learning tool. For the e-XYZcash application, there are two minor factors and six major factors.

**Keywords:** Evaluation, QRIS, Quick Respons Code System, Technology Acceptance Model, SEM – PLS.

## I. INTRODUCTION

In the last few years, technological sophistication has changed most of us in doing financial and banking transactions. Almost all banking activities as a customer can be done in your hand and very easily by using e-money (electronic money) and e-wallet (electronic wallet), which are usually better known as e-payments. The existence of e-payments or electronic money actually started a long time ago, namely by using public facilities such as buses, trains, and toll roads that use e-money. So that people are familiar with the use of e-payments in everyday life. In fact, currently, an alternative payment method is being developed by scanning a QR code (Quick Response Code) or QR payment. Quick Response Code Indonesian Standard commonly abbreviated as QRIS (pronounced KRIS) is the unification of various kinds of QR from various Payment System Service Providers (PJSP) using QR Codes. QRIS was developed by the payment system industry together with Bank Indonesia so that the QR Code transaction process can be easier, faster, and more secure. All Payment System Service Providers who will use QR Code Payments are required to implement QRIS. Financial technology (fintech) products are increasingly loved by the public, because of the ease and practicality of using them, including digital wallets (e-wallets). According to survey results from daily social research involving all Indonesian people with as many as 6 million respondents (Setiawan D., 2020). Go-Pay is the most popular electronic money and the most popular with the public. 83.3% of respondents surveyed had Go-Pay electronic money and continued OVO with 81.4% of respondents. Meanwhile, Go-Pay is in second place after OVO with 98.5% acquisition for Gopay and OVO 99.5% is well known by the public.

**Table 1: Level of Reliability Cronbarch's Alpha**

Most Users	Percentage
GoPay	83,3%
OVO	81,4%
Dana	68,2%
LinkAja	53,0%
Doku	19,7%
Jenius	16,7%
Most Known	Percentage
OVO	99,5%
GoPay	98,5%
Dana	98,3%
LinkAja	84,6%
Doku	58,6%
Jenius	56,1%

So, while the distribution of digital money in Indonesia is currently under consideration with QRIS (Bank Indonesia, 2019), every one of the payment applications by any organizer, both banks and non-banks utilized by the public, can be utilized in all shops, merchants, stalls, parking, tourist tickets, and contributions (merchants) with the QRIS logo, even if QRIS suppliers at merchants differ from the app suppliers used by the general public. The technology provided is QRIS to create increased use and be recognized by the public.



**Table 1: Bank Owned Application Data that has been integrated with QRIS (Bank Indonesia, 2019)**

Bank Name	Product Name
PT Bank Central Asia, Tbk	SakuKu, BCA Mobile
PT Bank CIMB Niaga, Tbk	Octo Mobile
PT Bank DKI	JakOne
PT Bank Maybank Indonesia, Tbk	Maybank QR Pay
PT Bank Mega, Tbk	M-SMILE
PT Bank BTPN, Tbk	Jenius QR
PT Bank Negara Indonesia (Persero), Tbk	-
PT Bank Mandiri (Persero), Tbk	-
PT Bank Nationalnobu, Tbk	Nobu ePay
PT Bank Rakyat Indonesia (Persero), Tbk	-

Departing from Table 2, the author wants to describe and at the same time elaborate on the existence of electronic money in electronic money transactions in a more comprehensive manner, so that the public is more aware and understands about non-cash payment instruments, in this case, electronic money using QRIS. The author also wants to provide answers that can be done by the government, business actors (banks), especially PT Bank XYZ, and people who have become electronic money consumers so that they can invite people who are not interested to be interested in using and can even feel satisfied when using electronic money using electronic money QRIS.

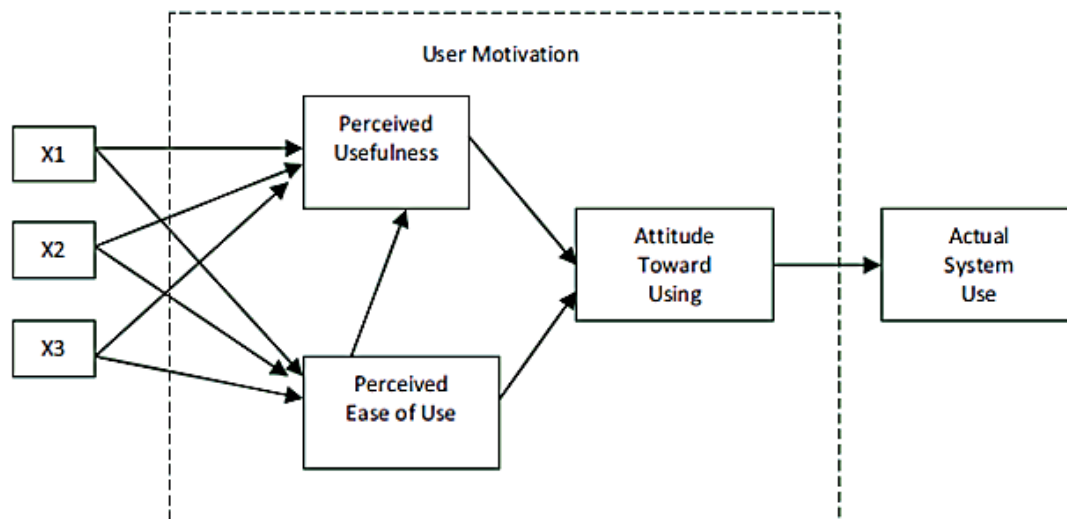
The scope of this research is as follows:

1. Scope This research is aimed at users of the XYZ Application, namely users who have downloaded the application and have registered their mobile number to be registered as an account on the XYZ application. Respondents are scattered in the Jabodetabek area.
2. Respondents are scattered in Jabodetabek because it is recorded that the number of customers or users of the XYZ application who are scattered, the majority are located in Jabodetabek, based on the information obtained by the author from PT Bank XYZ.

## II. LITERATURE REVIEW

### A. Technology Acceptance Model (TAM) Theory

The Technology Acceptance Model (TAM) was originally developed by Davis F.D. in 1986. This research uses TAM to measure user acceptance perceptions of information technology by utilizing two main TAM constructs: users' perceptions of usefulness (Perceived Usefulness) and users' perceptions of ease of use (Perceived Ease of Use) (Kharismaya, Dewi, Arisawati, & Handayanna, 2017).



**Figure 1: The Original Model Proposed by Fred Davis in 1986**

According to Venkatesh, TAM is regarded as the best idea for explaining user behavior to the most recent information technology solutions (Cholil & Supriyanti, 2016). According to Jogiyanto, TAM is a model for accepting information technology systems that will be used by users (Kharismaya, Dewi, Arisawati, & Handayanna, 2017). According to Wibowo,

TAM is a model built to analyze and understand the factors influencing the use of technology (Bangkara & Mimba, 2016).

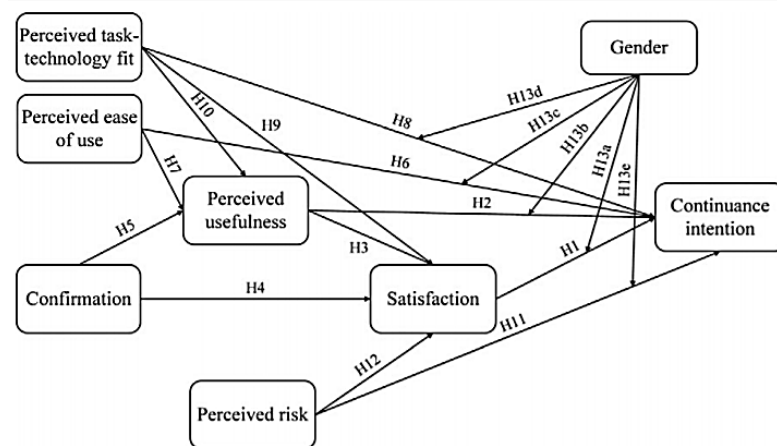


Figure 2: Conceptual Model (Yuan, Liu, Yao, & Liu, 2014)

According to Yuan, Liu, Yao, & Liu (2014) proposed a new model as shown in Figure 2.2, identifying eight dimensions of the success of e-payment testing. It is suggested that success can be indicated by Perceived Task Technology Fit, Perceived Ease of Use, Perceived Usefulness, Gender, Continuation Intention, Confirmation, Perceived Risk, and User Satisfaction towards the performance of mobile banking in China. This model provides a scheme for user satisfaction to predict the continuation intention of e-payment. These two factors are used because they have confirmed that user satisfaction with a system, derived from its use, will lead them to continue using the system.

### B. E – Payment:

Putra, 2017 explains that the E-Payment business process is a payment process that uses the internet as a means of intermediation. Currently, many startup companies are establishing partnerships with a number of banking institutions to facilitate the E-Payment business process in a safe, fast, and practical manner. Several parties involved in this business process include the buyer who makes payments using the E-Payment method, the seller who will receive E-Payment, the issuer which could be a bank or non-bank institution, and the regulatory controller (regulator) which is the government, the responsible for supervising and regulating the E-Payment process.

According to Morgan, e-payment is making payments electronically or non-cash (Yaokumah, Kumah, & Okai, 2017). According to Raja, e-payment is the foundation of e-commerce and one of the most important features. (Bezhovski, 2016). E-payment is a technique for making transactions or paying for goods and services through digital platforms, rather than using cheques or cash. (Konior, 2019).

Based on the theories mentioned above, it can be concluded that the E-Payment business process is a process that involves the exchange of value between the seller and the buyer in business transactions through the transmission of information over technology, information, and communication networks.

### C. User Satisfaction

According to Amstrong, Philip, & Kotler (2010), satisfaction is a sensation that occurs when a person compares the perceived performance (or outcome) of a product with their expectations.

According to Kotler (2006), in his book "Marketing Management," he defines "Customer satisfaction as a person's feeling of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) in relation to his or her expectations." This means that satisfaction is a person's feeling of happiness or disappointment towards a product after the customer compares the product's performance with their expectations.

According to Byun & Finnie (2011), the measurement of user satisfaction is based on research by Spool et al, which includes:

- Physical Fatigue concerns the physical exhaustion experienced by users in using the application.
- Confusion during the task, regarding the level of confusion in performing tasks within the application.
- Degree of stress after finding the correct answer, concerning the degree of stress felt by users after finding what they were looking for.
- Actual speed of tasks, regarding the application's speed in performing tasks requested by the user.

- Satisfaction about the quality of information provided, concerning the user's satisfaction with the quality of information provided.
- Attitude about proceeding to another task after completing a task, concerning the user's attitude towards undertaking another task within the application.

Additionally, Yuliarmi and Riyasa, as mentioned in (Panjaitan & Yuliati, 2016), also explain that there are several indicators for measuring customer satisfaction, which include:

- The alignment of service quality with expectation levels focuses on how well the quality of service matches with what the customers expect.
- The level of satisfaction compared to similar services, which involves assessing how satisfied customers are in comparison to their experiences with similar services.
- The absence of complaints or grievances indicates customer satisfaction through the lack of complaints or negative feedback.

#### D. Research Method

##### a) Research Design

The author uses the TAM (Technology Acceptance Model) analysis method because according to (Rachman & Napitupulu, 2018) they are analyzing the TAM method to predict the success of information systems based on user satisfaction as the dependent variable. Basically, the application of UTAUT (Unified Theory Acceptance and Use of Technology) previous academics have frequently utilized it to measure the effectiveness of establishing information systems based on the user's preferences for how to use the program. So, to get the attitude and behavior factors, a study using the TAM model has been carried out. So that it can explain user behavior towards applications or technology (Putratama & Miwandhari, 2015).

Thus, to determine the level of user satisfaction (user satisfaction) on the e - XYZcash application, researchers use TAM as the method used in this study.

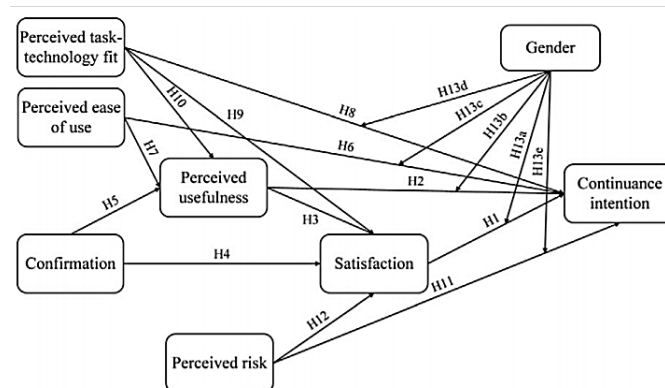
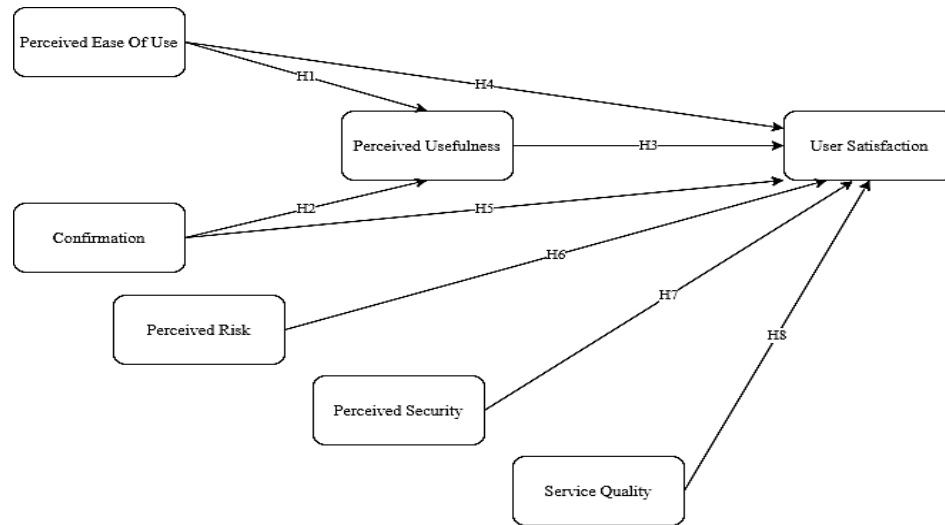


Figure 3: E-Payment Success Model e-Payment (Yuan, Liu, Yao, & Liu, 2014)

The type of research that will be used in this research is Quantitative Method Research because it will emphasize the numerical measurement of the research variables, and then use analysis and statistical procedures. This research is categorized as survey research, where the researcher will take a sample from the population. Then use a questionnaire that aims to get accurate information. The author uses the TAM (Technology Acceptance Model) analysis method, where according to (Yuan, Liu, Yao, & Liu, 2014) they unite the technology acceptance model (TAM) to explain and predict the success of the e-payment system by using Continuance intention as the dependent variable (dependent). Independent variables are Perceived Task Technology Fit, Perceived Ease of Use, Perceived usefulness, Gender, User Satisfaction, Confirmation, and Perceived Risk.

##### b) Hypotheses of the Study

From the TAM model according to (Yuan, Liu, Yao, & Liu, 2014), researchers develop again to achieve satisfactory results with User Satisfaction as the dependent variable and independent variables, namely Perceived Risk, Perceived Ease of Use, Perceived Usefulness, and Confirmation. According to (Liébana-Cabanillas, Molinillo, & Ruiz-Montañez, 2018) and (Adeyinka & Isah, 2015) explained that there are two main factors in the satisfaction of using technology, namely Service Quality and Perceived Security where the predictive variables are good for e-payment research. with user satisfaction.



**Figure 4: The Research Model**

The following describes the hypotheses in the research conducted:

- Hypothesis 1: Perceived Ease of Use has a positive impact on Perceived of Usefulness.  
H0: There is no positive impact of Perceived Ease of Use on Perceived of Usefulness.  
H1: There is a positive impact of Perceived Ease of Use on Perceived of Usefulness.
- Hypothesis 2: Confirmation has a positive impact on Perceived of Usefulness.  
H0: There is no positive impact of Confirmation on Perceived of Usefulness.  
H1: There is a positive impact of Confirmation on Perceived of Usefulness.
- Hypothesis 3: Perceived of Usefulness has a positive impact on User Satisfaction.  
H0: There is no positive impact of Perceived of Usefulness on User Satisfaction.  
H1: There is a positive impact of Perceived of Usefulness on User Satisfaction.
- Hypothesis 4: Perceived Ease of Use has a positive impact on User Satisfaction  
H0: There is no positive impact of Perceived Ease of Use on User Satisfaction.  
H1: There is a positive impact of Perceived Ease of Use on User Satisfaction.
- Hypothesis 5: Confirmation has a positive impact on User Satisfaction.  
H0: There is no positive impact of Confirmation on User Satisfaction.  
H1: There is a positive impact of Confirmation on User Satisfaction.
- Hypothesis 6: There is a positive impact of Confirmation on User Satisfaction.  
H0: There is no positive impact of Perceived Risk on User Satisfaction.  
H1: There is a positive impact of Perceived Risk on User Satisfaction.
- Hypothesis 7: Perceived Security has a positive impact on User Satisfaction.  
H0: There is no positive impact of Perceived Security on User Satisfaction.  
H1: There is a positive impact of Perceived Security on User Satisfaction.
- Hypothesis 8: Service Quality has a positive impact on User Satisfaction.  
H0: There is no positive impact of Service Quality on User Satisfaction.  
H1: There is a positive impact of Service Quality on User Satisfaction.

#### b) Population and Sample

According to Arikunto (2006), the sample is a part or representative of the population under study. If we only examine part of the population, it will be called a sample (Siyoto & Sodik, 2015). Sevilla claims that the Slovin formula (Yuniastuti, Vitratin, & Sari, 2016) can be used to determine the number of samples required because it allows us to determine that, out of the total population of e-xyzcash users, only a small number of respondents are required to serve as a sample to determine the validity of the hypothesis that the writer puts forth:

$$n = \frac{N}{N \cdot d^2 + 1}$$

n = Sample size  
N = Population size  
d = Precision Value (0.1)

If the population of users of the e - XYZcash application is 6,993 users, the sample needed is:

$$n = 6.993 / (6.993 \times 0,12 + 1)$$

$$n = 98$$

After determining the calculation, the target respondents that I need are 98 respondents. In this research, the author uses a Likert scale with levels 1 – 4. The Likert scale with a score of 1 is the lowest level and a score of 4 is the highest level.

**Table 2: The Likert Scale**

Answer	Score
Strongly Disagree	1
Disagree	2
Agree	3
Strongly Agree	4

The descriptions and indicators of the variables utilized in the research are described in the operational definition, which is shown in the table beneath.

**Table 3: The Operational Definitions**

Variable	Indicators	Code
<b>Perceived Security</b>	1) Data security transactions	SC1
	2) Two-Factor Authentication	SC2
	3) User Identity	SC3
<b>Service Quality</b>	1) Access Support.	SQ1
	2) Availability of online services.	SQ2
	3) Ability to track errors.	SQ3
<b>Perceived Risk</b>	1) Risk understanding	PR1
	2) Safe	PR2
	3) Level Risk	PR3
<b>Perceived Ease of Use</b>	1) Ease of use	PEOU1
	2) Ease of understanding	PEOU2
	3) Effort done	PEOU3
<b>Perceived of Usefulness</b>	1) Benefit	POU1
	2) Effectiveness	POU2
	3) Benefit for the User	POU3
	4) Productivity	POU4
<b>Confirmation</b>	1) User Experience	ECT1
	2) Advantages of application features.	ECT2
	3) User expectations	ECT3
<b>User Satisfaction</b>	1) User satisfaction	SAT1
	2) Satisfaction with features	SAT2
	3) Suitability to user needs	SAT3

Finding a correlation between the indicators a construct uses is the goal of convergent validity. According to Hair et al. (2013), a variable is considered legitimate if its AVE value is equal to or better than 0.5 and its loading factor value is greater than or equal to 0.7. According to Hair et al. (2013), the precise composite reliability values that may be acceptable in exploratory research fall between 0.6 and 0.7. The table below shows the Cronbach's Alpha reliability level (Hair et al., 2013).

**Table 4: Level of Reliability Cronbarch's Alpha**

Cronbach's Alpha Score	Level of Reliability
0,00 – 0,20	Less Reliable
> 0,20 – 0,40	Rather Reliable
> 0,40 – 0,60	Quite Reliable
> 0,60 – 0,80	Reliable
> 0,80 – 1,00	Very Reliable

According to (Hair, M. Hult, Ringle, & Sarstedt, 2017) Effect Size has a value that is used to ascertain the degree of influence the exogenous variables have on endogenous variables can be seen in Table 6 the interpretation value of Effect Size. the value of effect size ( $f^2$ ) is used to determine how much influence the exogenous variable has on the endogenous variable. The value of effect size ( $f^2$ ) is weak, low, medium, and high from exogenous variables.

**Table 5: Level of Effect Size**

Size	Level of Effect Size
< 0 – 0.02	Weak
0.02 – 0.50	Medium
0.51 – > 1.00	Strong

According to (Hartono, 2011) Latent Variable Correlations have a value that is used to determine how much influence the Latent Variable can be seen in table 3.6.2 the interpretation value of Latent Variable Correlations. To determine the direction of the correlation coefficient relationship, it will use the coefficient path. When two constructs have a positive correlation coefficient, it means that they are positively related, and when they have a negative correlation, it means that the relationships between them are negatively related. This will be done by looking at the value of the original sample. The original sample value will indicate the direction of the independent variable's prediction towards the dependent (positive/negative).

The strength of the correlation relationship, according to Jonathan Sarwono as follows:

**Table 6: Level of Latent Variable Correlations**

Size	Level of Correlations
0	No Correlation
0.00 - 0.25	Weak Correlation
0.51 – > 1.00	Correlation
0.25 - 0.50	Medium Correlation
0.50 - 0.75	Strongly Correlation
0.75 - 0.99	Very Strong Correlation

### III. RESULTS AND DISCUSSION

According to the Slovin formula, this research needs 98 respondents for the sample, and 117 respondents were collected, so the needed number of samples has been satisfied. One non-probability sampling technique—purposive sampling—is used to distribute the questionnaires. Purposive sampling involves selecting the research sample with specific goals in mind, such as obtaining more representative data. There are 22 statements in the questionnaire, which was created in Indonesian. The age, occupation, phone number, number of transactions made through the application, length of time used, and frequency of use per month were used to identify the respondents in this study.

In collecting the 117 existing respondents, the author has distributed questionnaires in the form of 23 statements to various types of circles, ranging from students and students to entrepreneurs and employees and also various types of ages from under 18 years to over 33 years.

According to the aforementioned data, 59% of respondents, or 69 respondents, are between the ages of 18 and 25 and are the primary users of the e-XYZcash program. The responders who fall between the ages of 26 and 33, or up to 22, make up 19% of the total and rank second. Then, up to 13% or up to 15 responders who are older than 33 years old came in third place. Moreover, just 11 responders, or 9% of the total, are under the age of 18, placing them in fourth position. Although user ages vary when broken down by age level, the majority of respondents who use the e-XYZcash program are between the ages of 18 and 25. So it can be concluded that the users of the e-XYZcash application are users who are in their productive age.

According to the aforementioned data, 52% of respondents, or 61 respondents, are known to be female and to be the majority of respondents who use the program. Those who identify as male, accounting for up to 39 responses or 48% of the total, come in second. Different groups can use the e-XYZcash program depending on their gender level. Nonetheless, it can be inferred that women make up the majority of responders who utilize the e-XYZcash program.

It is known from the aforementioned data that the majority of respondents who utilize the application—up to 28 respondents, or 50% of all respondents—are employed. With a rate of 36% and as many as 20 responders, those who work while they are students come in second. The respondents who work as entrepreneurs accounted for 3rd position, with a ratio of 11% or up to 6 respondents. Additionally, the respondent having a job while a student ranks fourth, accounting for up to two

respondents and a percentage of 3%. The e-XYZcash program can be used by a variety of occupations when viewed by job level. However, it can be concluded that most of the respondents who use the e-XYZcash application are employees.

The information above indicates that, with a percentage of 33% or 39 respondents, the respondents with the greatest number of transactions made through applications fall into the Rp 500,000–Rp 1,000,000 transaction category. Next, with a percentage of 27% or up to 32 respondents, are the respondents who have the most transactions through the program, with a range of transaction values of Rp. 1,000,000 – Rp. 2,000,000. Additionally, the third position goes to respondents with a range of transactions < Rp 2,000,000 made through the program, accounting for as many as 24 respondents or 21% of the total. Following in fourth position are respondents with a proportion of 12%, or up to 14 respondents, and a range of transactions through the application of Rp. 300,000 – Rp. 500,000. The last group of responses, or up to eight, have a proportion of 7% and have completed a variety of transactions through the program that total less than Rp 300,000. Respondents can utilize the e-XYZcash application for a variety of transaction kinds, depending on how many transactions they complete using the program. So, it can be concluded that the number of transactions through the application does not require a certain number of transactions to be able to use it.

The majority of respondents (71% or 74 respondents) utilized the application for more than six months, according to the data above. Moreover, 29% of respondents, or 32 respondents, reported having used the application for 4-6 months during that time. There were as many as six responders after that, and as many as five during the final two to three months. When viewed based on the level of duration of application use, it can be concluded that most of the respondents using the e-XYZcash application have been application users for more than 6 months.

According to the aforementioned data, it is evident that the majority of respondents (i.e., forty percent or forty-two respondents) utilize the program as often as three to five times per week. Next, with a ratio of 22% or up to 25 responders, those who use 6–9 times each week come in second. Moreover, with a percentage of 22% or up to 26 respondents, those who use more than ten times a week come in third place. The latter group, comprising up to 17 respondents or 16% of all respondents, uses less than twice a week.

Based on the amount of usage frequency each month, it can be inferred that the majority of respondents who use the e-XYZ cash application use applications more frequently than three to five times a week.

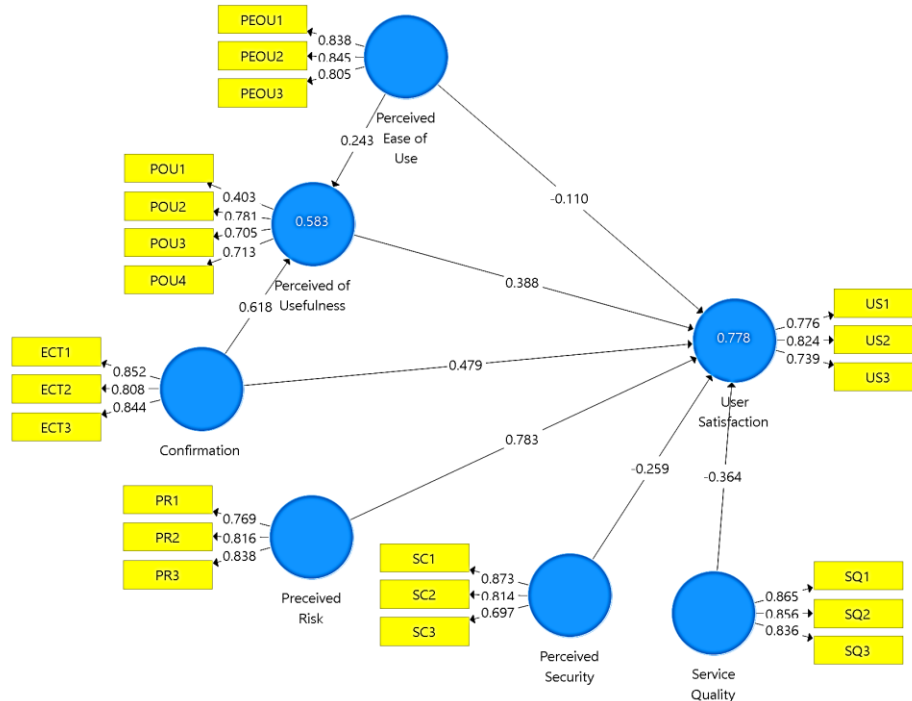


Figure 5: The Structural Model

#### A. The Convergent Validity Result

Based on calculations using SmartPLS 3, the result of the loading factor and AVE value for each indicator can be seen in the table below.



**Table 7: The Convergent Validity Result**

Indikator	Outer Loading	Indikator	Outer Loading
ECT1	0.852	PR2	0.816
ECT2	0.808	PR3	0.838
ECT3	0.844	SC1	0.873
PEOU1	0.838	SC2	0.814
PEOU2	0.845	SC3	0.697
PEOU3	0.805	SQ1	0.865
POU1	0.403	SQ2	0.856
POU2	0.781	SQ3	0.836
POU3	0.705	US1	0.776
POU4	0.713	US2	0.824
PR1	0.769	US3	0.739

Table 8 shows that there is 1 indicator whose value is less than 0.5 such as POU1 (0.403). According to (Hair, M. Hult, Ringle, & Sarstedt, 2017). It is stated that generally speaking, indications with an outer loading value between 0.40 and 0.70 may only be eliminated from the measurement if doing so will improve composite reliability or AVE.

The author has 21 indicators, each of which has different results, and from these results, the author gets a value of more than 0.5 and some indicators have a value of more than 0.7 such as ECT1 (0.852) a value of 0.7 is greater, ECT2 (0.808) the value is 0.7 greater, ECT3 (0.844) is 0.7 greater, PEOU1 (0.838) is 0.7 greater, PEOU2 (0.845) is 0.7 greater, PEOU3 (0.805) is 0.7 greater, POU2 (0.781) 0.7 greater value, POU3 (0.705) 0.7 greater value, POU4 (0.713) 0.7 greater value, PR1 (0.769) 0.7 greater value, PR2 (0.816) is 0.7 greater, PR3 (0.838) is 0.7, SC1 (0.873) is 0.7, SC2 (0.814) is 0.7, SQ1 (0.865) is 0.7 greater, SQ2 (0.856) 0.7 greater value, SQ3 (0.836) 0.7 greater value, US1 (0.776) 0.7 greater value, US2 (0.824) 0.7 greater value, US3 (0.739) 0.7 more and the last indicator is SC3 (0.697) the value is 0.5 greater.

**Table 8: The Convergent Validity Final Result**

Indicator	Nilai Outer Loading	Indicator	Nilai Outer Loading
ECT1	0,852	PR3	0,839
ECT2	0,809	SC1	0,873
ECT3	0,843	SC2	0,814
PEOU1	0,844	SC3	0,696
PEOU2	0,845	SQ1	0,865
PEOU3	0,797	SQ2	0,856
POU2	0,821	SQ3	0,836
POU3	0,746	US1	0,773
POU4	0,722	US2	0,826
PR1	0,768	US3	0,740
PR2	0,817		

Examining each variable's average variance extracted (AVE) value is the next convergent validity test. As stated by Ghizali (2014). An effective model may account for the variance of the indicators if the average variance of each component is more than 0.50 or 50%. Table 10 shows the AVE value before the elimination of 1 indicator and Table 11 shows the AVE value after the elimination of 1 indicator. By comparing the two tables, it can be concluded that by removing 1 indicator, the AVE value can increase. Average Variance Extracted Results Before Deleting 1 indicator.

**Table 9: AVE Values Before Elimination**

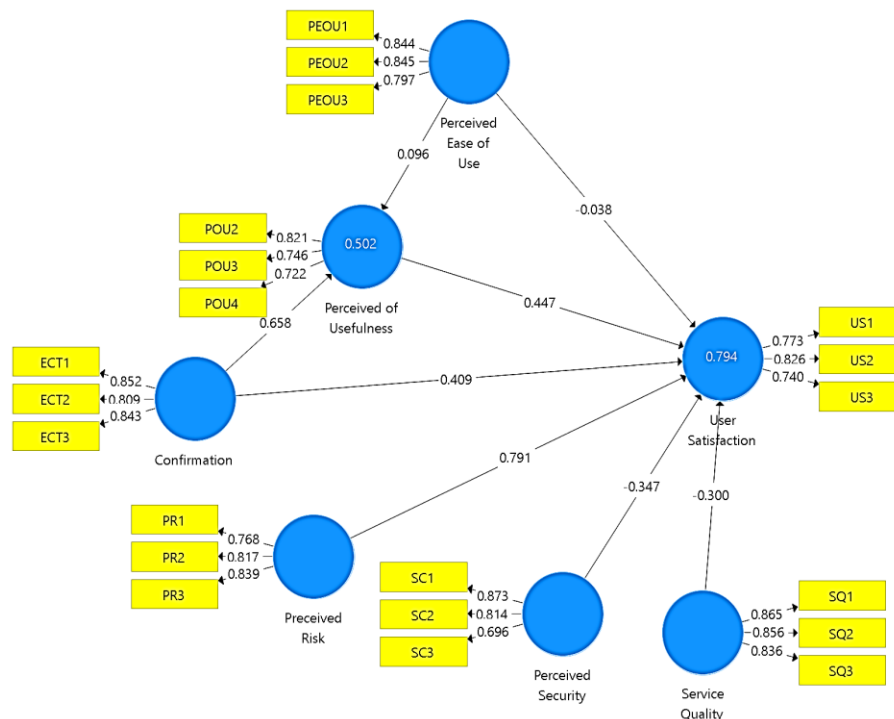
Variables	Average Variance Extracted (AVE)
Confirmation	0,697
Perceived Ease of Use	0,688
Perceived of Usefulness	0,445
Perceived Risk	0,654
Perceived Security	0,636
Service Quality	0,726
User Satisfaction	0,609

The variance that can be captured by the construct in comparison to the variance brought on by measurement mistakes is measured by the AVE value. (Mindra Jaya & Sumertajaya, 2008). Menurut (Hair, M. Hult, Ringle, & Sarstedt, 2017), broadly

speaking, indicators with an outside loading value of 0.40 to 0.70 may be eliminated from the measurement—but only in cases where doing so will improve composite reliability or AVE. The author decided to delete 1 of these indicators because the composite reliability or AVE value increased on the convergent test. According to (Ghozali, 2014) a decent model can explain the variance of the indicators if the average variance of each construct is more than 0.50, or 50%. The AVE value satisfies the standards, it may be concluded. Here are the test results with SmartPLS 3:

**Table 10: AVE Result After Elimination**

Variables	Average Variance Extracted (AVE)
Confirmation	0,697
Perceived Ease of Use	0,687
Perceived of Usefulness	0,584
Perceived Risk	0,654
Perceived Security	0,636
Service Quality	0,726
User Satisfaction	0,609



**Figure 6: The Final Structural Model**

### B. The Discriminant Validity Result

The measurement of discriminant validity uses the criteria presented by 'crossloadings'. According to (Hair, M. Hult, Ringle, & Sarstedt, 2017) states that discriminant validity shows real differences between constructs and other constructs. Discriminant validity was measured based on reflexive indicators which were assessed based on crossloading measurements with constructs.

When a construct's square root of Average Variance Extract (AVE) is higher than the correlation with any other construct in the framework, it is considered to have good discriminant validity. This can be determined by comparing the value of AVE with the correlations between every other construct in the model. A measurement value of at least 0.50 is advised.

**Table 11: Measurement Crossloading Results with Constructs Before Elimination**

Indicators	Confirmation	Perceived Ease of Use	Perceived of Usefulness	Perceived Risk	Perceived Security	Service Quality	User Satisfaction
ECT1	0,852	0,399	0,617	0,419	0,474	0,688	0,555
ECT2	0,808	0,339	0,607	0,358	0,427	0,584	0,503
ECT3	0,844	0,439	0,611	0,435	0,424	0,638	0,632
PEOU1	0,396	0,838	0,442	0,685	0,538	0,478	0,496

Indicators	Confirmation	Perceived Ease of Use	Perceived of Usefulness	Perceived Risk	Perceived Security	Service Quality	User Satisfaction
PEOU2	0,447	0,845	0,488	0,616	0,592	0,580	0,439
PEOU3	0,317	0,805	0,393	0,540	0,479	0,405	0,350
POU1	0,298	0,573	0,403	0,475	0,317	0,409	0,279
POU2	0,576	0,309	0,781	0,333	0,565	0,452	0,576
POU3	0,508	0,319	0,705	0,272	0,515	0,303	0,407
POU4	0,524	0,306	0,713	0,364	0,511	0,466	0,498
PR1	0,489	0,553	0,527	0,769	0,578	0,620	0,598
PR2	0,366	0,623	0,359	0,816	0,554	0,622	0,527
PR3	0,318	0,631	0,378	0,838	0,469	0,439	0,603
SC1	0,460	0,571	0,612	0,522	0,873	0,583	0,421
SC2	0,402	0,497	0,564	0,478	0,814	0,516	0,339
SC3	0,398	0,480	0,569	0,584	0,697	0,600	0,343
SQ1	0,682	0,532	0,512	0,571	0,600	0,865	0,436
SQ2	0,669	0,415	0,554	0,564	0,600	0,856	0,465
SQ3	0,602	0,574	0,493	0,630	0,615	0,836	0,453
US1	0,599	0,465	0,591	0,603	0,469	0,526	0,776
US2	0,606	0,366	0,571	0,499	0,338	0,421	0,824
US3	0,369	0,391	0,422	0,575	0,274	0,285	0,739

**Table 12: Measurement Crossloading Results With Constructs After Elimination**

Indicators	Confirmation	Perceived Ease of Use	Perceived of Usefulness	Perceived Risk	Perceived Security	Service Quality	User Satisfaction
ECT1	0,852	0,400	0,593	0,418	0,474	0,688	0,554
ECT2	0,809	0,340	0,593	0,358	0,427	0,584	0,503
ECT3	0,843	0,439	0,577	0,435	0,424	0,638	0,632
PEOU1	0,396	0,844	0,347	0,685	0,538	0,478	0,495
PEOU2	0,447	0,845	0,381	0,616	0,592	0,580	0,438
PEOU3	0,317	0,797	0,271	0,540	0,479	0,405	0,350
POU2	0,576	0,308	0,821	0,333	0,565	0,452	0,576
POU3	0,508	0,320	0,746	0,272	0,515	0,303	0,407
POU4	0,524	0,309	0,722	0,364	0,511	0,466	0,497
PR1	0,489	0,556	0,461	0,768	0,578	0,620	0,595
PR2	0,366	0,625	0,288	0,817	0,554	0,622	0,528
PR3	0,318	0,630	0,275	0,839	0,469	0,439	0,603
SC1	0,460	0,570	0,602	0,522	0,873	0,583	0,421
SC2	0,402	0,497	0,564	0,478	0,814	0,516	0,339
SC3	0,397	0,482	0,491	0,583	0,696	0,600	0,342
SQ1	0,682	0,532	0,438	0,570	0,600	0,865	0,435
SQ2	0,670	0,416	0,519	0,563	0,600	0,856	0,465
SQ3	0,601	0,575	0,416	0,630	0,615	0,836	0,453
US1	0,599	0,467	0,553	0,602	0,469	0,526	0,773
US2	0,606	0,368	0,572	0,500	0,338	0,421	0,826
US3	0,368	0,392	0,394	0,575	0,274	0,285	0,740

Table 13 shows that several variables have a lower loading value than other variables, namely POU1 (0.401) which has a lower loading value than the PEOU variable (0.573). The author then eliminates these indicators because they have a lower loading value. Table 4.10 shows the loading value after removing the indicator.

### C. The Reliability Test Result

The author also conducted a construct reliability test which was measured through indicators that measured the construct with two criteria: Composite Reliability and Cronbach's Alpha. (Hair, M. Hult, Ringle, & Sarstedt, 2017) stated that Composite Reliability and Cronbach's Alpha 0.6 - 0.7 can be accepted in exploratory research, while values of 0.7 - 0.9 can be considered satisfactory. The following are the test results using SmartPLS:

**Table 13: The Reliability Test Result**

Indicators	Cronbach's Alpha	Composite Reliability
Confirmation	0,783	0,873

Perceived Ease Of Use	0,774	0,868
Perceived of Usefulness	0,643	0,807
Perceived Risk	0,735	0,850
Perceived Security	0,709	0,839
Service Quality	0,812	0,888
User Satisfaction	0,678	0,823

It can be concluded that the indicators used in each variable have good reliability.

#### D. The Effect Size Result

The following is the result of the effect size from the effect of exogenous variables on endogenous ones along with their explanations:

**Table 14: The Effect Size Result**

Variable Exogen	Variable Endogen	Effect Size	Level of Effect Size
Perceived Ease of Use	Perceived of Usefulness	0.096	Weak
Confirmation	Perceived of Usefulness	0.658	Strong
Perceived Risk	User Satisfaction	0,791	Strong
Perceived Security	User Satisfaction	-0,347	Weak
Perceived Ease of Use	User Satisfaction	0,005	Weak
Confirmation	User Satisfaction	0,703	Strong
Perceived of Usefulness	User Satisfaction	0,447	Medium
Service Quality	User Satisfaction	-0,300	Weak

Based on the results of the effect size test in Table 4.2.9, it can be seen that the exogenous variables have a weak influence, namely the Perceived Ease of Use variable on Perceived Usefulness, Perceived Security on User Satisfaction, Perceived Ease of Use on User Satisfaction and the Service Quality variable on User Satisfaction. The exogenous variable is the influence of the medium, namely the Perceived Usefulness variable on User Satisfaction. While the rest have a strong influence on each other.

#### E. The Latent Variable Correlations Result

The following are the results of Latent Variable Correlations from the effect of exogenous variables on endogenous ones along with their explanations:

**Table 15: The Latent Variable Correlations Result**

Variable Exogen	Variable Endogen	Correlations	Level of Correlations
Perceived Ease of Use	Perceived of Usefulness	0.407	Moderate Correlations
Confirmation	Perceived of Usefulness	0.703	Strongly Correlations
Perceived Risk	User Satisfaction	0.715	Strongly Correlations
Perceived Security	User Satisfaction	0.464	Moderate Correlations
Perceived Ease of Use	User Satisfaction	0.524	Strong
Confirmation	User Satisfaction	0.677	Strong
Perceived of Usefulness	User Satisfaction	0.653	Strong
Service Quality	User Satisfaction	0.530	Strong

In the table above, the correlation between Perceived Security and User Satisfaction of 0.464 indicates the level of the relationship between the two variables is at a moderate level on a scale of 0-1. Correlation analysis of other variables using the same method above.

#### F. The Hypothesis Test Result

The following test results for each hypothesis in the study indicate that the level is significant or not significant in hypothesis testing:

**Table 16: The Hypothesis Test Result**

	T Statistics ( O/STDEV )	P Values	Result
Perceived Ease of Use -> Perceived of Usefulness	1,145	0,253	Not Significant
Confirmation -> Perceived of Usefulness	9,033	0,000	Significant
Perceived of Usefulness -> User Satisfaction	3,318	0,001	Significant
Perceived Ease of Use -> User Satisfaction	0,599	0,550	Not Significant
Confirmation -> User Satisfaction	2,644	0,008	Significant

Perceived Risk -> User Satisfaction	9,852	0,000	Significant
Perceived Security -> User Satisfaction	2,432	0,015	Significant
Service Quality -> User Satisfaction	2,112	0,035	Significant

The author provides conclusions from the data obtained in testing the hypothesis in the SmartPLS application. the following are the conclusions:

- Hypothesis 1: Perceived Ease of Use (PEOU) is not significant to Perceived Usefulness (POU).  
The variable Perceived Ease of Use (PEOU) has no significant effect on Perceived Usefulness (POU). The effect is because the t-statistics are below the minimum value, which is 1.145 and the p value is above the minimum value, which is 0.253. This means, hypothesis H0 is accepted and hypothesis H1 is rejected.
- Hypothesis 2: Confirmation (ECT) is significant in Perceived Usefulness (POU).  
Confirmation variable (ECT) has a significant effect on Perceived Usefulness (POU). The effect is because the t-statistics are above the minimum value, which is 9.033 and the p value is below the minimum value, which is 0.000. This means, hypothesis H0 is rejected and hypothesis H1 is accepted.
- Hypothesis 3: Perceived Usefulness (POU) is significant to User Satisfaction (US).  
The variable Perceived of Usefulness (POU) has no significant effect on User Satisfaction (US). The effect is because the t-statistics are above the minimum value at 3.318 and the path p value is below the minimum value, which is 0.001. This means that hypothesis H0 is rejected and hypothesis H1 is rejected.
- Hypothesis 4: Perceived Ease of Use (PEOU) is not significant to User Satisfaction (US).  
The Perceived Ease of Use (PEOU) variable has no significant effect on User Satisfaction (US). The effect is because the t-statistics is below the minimum value, which is 0.599 and the p value is above the minimum value, which is 0.550. This means, hypothesis H0 is accepted and hypothesis H1 is rejected.
- Hypothesis 5: Confirmation (ECT) is significant to User Satisfaction (US).  
Confirmation variable (ECT) has a significant effect on User Satisfaction (US). The effect is because the t-statistics are above the minimum value, which is 2.644 and the p value is below the minimum value, which is 0.008. This means, hypothesis H0 is rejected and hypothesis H1 is accepted.
- Hypothesis 6: Perceived Risk (PR) is significant to User Satisfaction (US).  
The Perceived Risk (PR) variable has a significant effect on User Satisfaction (US). The effect is because the t-statistics are above the minimum value at 9.852 and the path p value is below the minimum value, which is 0.000. This means, hypothesis H0 is rejected and hypothesis H1 is accepted.
- Hypothesis 7: Perceived Security (SC) is significant to User Satisfaction (US).  
The Perceived Security (SC) variable has a significant effect on User Satisfaction (US). The effect is because the t-statistics are above the minimum value of 2.432 and the path p value is below the minimum value, which is 0.015. This means, hypothesis H0 is rejected and hypothesis H1 is accepted.
- Hypothesis 8: Service Quality (SQ) is significant to User Satisfaction (US).  
Service Quality (SQ) variable has a significant effect on User Satisfaction (US). The effect is because the t-statistics is below the minimum value at 2.112 and the path p value is below the minimum value, which is 0.035. This means, hypothesis H0 is rejected and hypothesis H1 is accepted.

#### IV. CONCLUSION

**A. There are seven indicators that you can use to gauge how well a mobile application will be received by the community when evaluating its performance and benefits. These factors, it can be said in this study are referred to as variables. The variables mentioned include:**

- Perceived Ease of Use / PEOU
- Perceived Usefulness / POU
- Confirmation / ECT
- Perceived Risk / PR
- Perceived Security / SC
- Service Quality (Quality of Service) / SQ
- User Satisfaction / US.

**B. In accordance with the findings of data processing related to the assessment of the degree of customer satisfaction with XYZ Bank's e-XYZcash application:**

- The author decided to delete the POU 1 indicator because it shows the AVE value increased after the removal of 1 indicator. By comparing the two tables, it can be concluded that by removing 1 indicator, the AVE value can increase. Before deletion the POU variable obtained AVE (0.455) and after deletion obtained AVE (0.584).

- The results of the measurements that have been carried out are in accordance with the data that the authors have obtained and if they have met the validity and reliability tests. This is based on the value of outer loading, AVE, cross-loading, composite reliability, and Cronch's alpha. The outer loading value shows that getting a value of more than 0.5 and there are also indicators that have a value of more than 0.7 such as getting a value of more than 0.5 and there are also indicators that have a value of more than 0.7 such as ECT1 (0.852) 0.7 greater, ECT2 (0.808) 0.7 greater value, ECT3 (0.844) 0.7 greater value, PEOU1 (0.838) 0.7 greater value, PEOU2 (0.845) 0.7 greater value, PEOU3 (0.805) is 0.7 greater value, POU2 (0.781) is 0.7 greater, POU3 (0.705) is 0.7 greater, POU4 (0.713) is 0.7 greater, PR1 (0.769) 0 0.7 greater, PR2 (0.816) 0.7 greater value, PR3 (0.838) 0.7 greater value, SC1 (0.873) 0.7 greater value, SC2 (0.814) 0.7 greater value, SQ1 (0.865) the value is 0.7 greater, SQ2 (0.856) is 0.7 greater, SQ3 (0.836) is 0.7 greater, US1 (0.776) is 0.7 greater, US2 (0.824) is 0, 7 is greater, the value of US3 (0.739) is 0.7 more and the last indicator is SC3 (0.697) the value of 0.5 is more sar. A good model must be able to explain the variation of the indicators if the average variance of each component is more than 0.50 or 50%. The composite reliability number demonstrates that every variable has reached the predetermined minimum value. All variables have fulfilled the table value, as indicated by Cronbach's alpha value, allowing it to be classified as valid and reliable.
- The results of this study are based on the values of Outer loadings, AVE, Cross loadings, and Cronbach's Alpha which meet the requirements of several theories according to (Hair, M. Hult, Ringle, & Sarstedt, 2017).

**C. Based on factors that do not have a significant effect, as follows:**

- The findings indicate that there is no significant relationship between the Perceived Ease of Use (PEOU) variable and the Perceived Usefulness (POU). Thus, it can be concluded that the simplicity and satisfaction of using the e-XYZcash application cannot be affected by the link between these variables. The t-statistics value of 1.145 indicates no significant effect, and the path value of p-value 0.253 shows no positive influence either.

The data indicates that there is no discernible relationship between the Perceived Ease of Use (PEOU) measure and User Satisfaction (US). Thus, it can be concluded that the simplicity and satisfaction of using the e-XYZcash application cannot be affected by the link between these variables. The t-statistics value of 0.599 indicates no significant effect, and the path value of the p value of 0.550 shows no positive effect. Based on the factors that have a significant influence, are as follows:

- From the results, it can be shown that the Confirmation (ECT) variable has a positive and significant effect on Perceived Usefulness (POU). Because the path value of p-value 0.000 has a positive and significant impact because the t-statistics value is 9.033.
- From the results, it can be shown that the Perceived of Usefulness (POU) variable has a positive and significant effect on User Satisfaction (US). So it can be interpreted that based on the relationship between these variables, it can trigger users to use the e-XYZcash application. Because the path value of p-value 0.001 has a positive and significant impact because the t-statistics value is 3.318.
- From the results, it can be shown that the Confirmation (ECT) variable has a positive and significant effect on User Satisfaction (US). So it can be interpreted that based on the relationship between these variables, it can trigger users to use the e-XYZcash application. Because the path value p-value of 0.008 has a positive and significant impact because the value of t-statistics is 2.644.
- From the results, it can be shown that the Perceived Risk (PR) variable has a positive and significant effect on User Satisfaction (US). So it can be interpreted that based on the relationship between these variables, it can trigger users to use the e-XYZcash application. Because the path value p value 0.000 has a positive and significant impact because the t-statistics value is 9.852.
- From the results, it can be shown that the Security (SC) variable has a positive and significant effect on User Satisfaction (US). So it can be interpreted that based on the relationship between these variables, it can trigger users to use the e-XYZcash application. Because the path value p value 0.015 has a positive and significant impact because the t-statistics value is 2.432.
- From the results it can be shown that the Service Quality (SQ) variable has a positive and significant effect on User Satisfaction (US). So it can be interpreted that based on the relationship between these variables, it can trigger users to use the e-XYZcash application. Because the path value of p-value 0.035 has a positive and significant impact because the t-statistics value is 2.112.

**D. Based on the results of these conclusions, the authors suggest several things, namely:**

- Consequently, if there is no discernible correlation between perceived usefulness and user satisfaction, perceived usefulness and perceived usefulness do not influence each other significantly. If a user wants to use the e-XYZcash application for different types of operations, invites friends or family to use it, expresses interest in employing the e-

XYZcash application, as well as is happy with the application, then users will think that the application is simple to use and that the quality of service is satisfactory and helpful. performance, as well as novel features or techniques on the e-XYZcash app.

- The biggest and strongest significant relationship from the results of this study is the relationship between Perceived Risk and User Satisfaction. With this, companies can improve their features in accordance with user expectations and experiences to improve user experience in productivity and effectiveness of the ease of use of the application.

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