Analysis of Factors Affecting Use Behavior of QRIS Payment System in DKI Jakarta

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Abstract: The digital revolution in the last decade has drastically changed the transaction Behavior of economic agents, the transaction pattern has shifted to shopping transactions on digital platforms and this demands mobile payment methods, seeing that the Indonesian government is targeting financial inclusion to be> 90% by 2024, In response to this, the Government of Indonesia is trying to increase digital transactions by issuing the QRIS Payment system in August 2019, until January 2021 there have been 42 payment system service providers that are members of the QRIS payment system but Indonesian people still prefer to use cash in shopping, payment using mobile payment is only 8% of all transactions, seeing this, an analysis of the factors that influence the Behavior of using the QRIS payment system will be carried out.The research will be conducted by quantitative Study, model used in this research is a modified UTAUT. The UTAUT basic model has been proven and has been widely used in various countries and cultures to conduct research on acceptance and Behavior of system use and is modified by adding Perceived Security, Trust and Privacy Risk factors Based on the results of the study, it shows that Behavior Intention, Perceived Security, Trust and Privacy Risk are important determinants and have an impact either directly or indirectly on the use of electronic payments besides the ease of use (Effort Expectancy) applications also have a considerable influence on the use of electronic payments. This finding is in line with field conditions in the QRIS payment system.

Keywords: QR Payment System, QRIS, UTAUT, Use Behavior, Trust, Perceived Security, Privacy Risk

1. Use This Style for Level One Headings

The digital revolution in the past decade has drastically changed the Behavior of economic agent transactions, transaction patterns have shifted to shopping transactions on a digital platform and this requires a completely mobile payment method. Payment of non-cash transactions towards Cashless society is an inevitable trend, this can happen because of the revolution that always occurs in digital payment systems. Cashless Society has great potential to grow in Indonesia, support from the Indonesian government through the National Non-Cash Movement (GNNT) program launched on August 14 2014 and Go Digital Vision 2020, is one of the factors of cashless transactions growing rapidly in the last 2 years with growth of transaction more than 200%. Although cashless transactions have increased in recent years only 49% of the population in Indonesia get financial services, most of the population of Indonesia still uses cash in making transactions, this is evidenced by the greater nominal withdrawal transaction cash at ATM machines compared to Cashless transactions (Card Based Transaction, E-Money, QR Code Payment) the later only 13% of population.

Table.1. Transaction Comparison**(Bank Indonesia, 2020)**

Period	Cash	Card Based	E-Money /QR/QRIS	QRIS
2013	1,674,210,377	147,112,907	2,907,432	-
2014	1,920,780,690	180,640,902	3,319,556	-
2015	2,100,785,443	210,386,400	5,283,018	-
2016	2,353,443,247	251,846,504	7,063,689	-
2017	2,528,879,411	286,214,063	12,375,469	-
2018	2,837,543,682	293,279,148	47,198,616	-
2019	3,204,459,017	332,905,552	145,165,468	-
2020	2,990,972,160	284,783,507	204,909,170	8,184,840

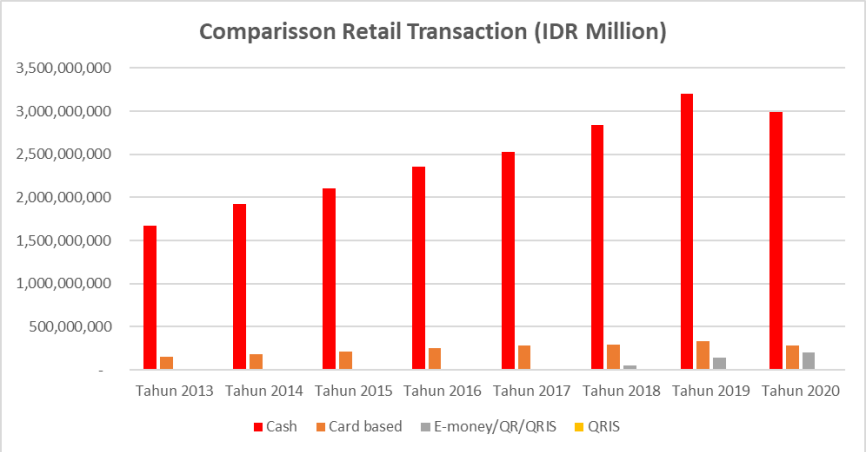

Figure1. Graph of Retail Transaction Comparison**(Bank Indonesia, 2020)**

the level of cashless transaction acceptance in Indonesian society is still quite low, to increase financial inclusion and cashless transaction receipt On 28 November 2019 Bank Indonesia officially issued the BSPI (Indonesian payment system Blueprint) 2025 One of the initiatives contained in the BSPI is "the availability of detailed retail payments real time, seamless, available 24/7, with a high level of end-to-end security and efficiency ". To meet the initiatives at BSPI Bank Indonesia as the regulator of banks in Indonesia must provide an integrated payment interface, this is manifested by the issuance of 2 national payment systems to increase transactions at offline merchants, namely the GPN system (national payment gateway) and the QRIS System (QR Indonesian Standard).

The GPN system uses cards (debit cards, E-money based cards and credit cards) as a method for conducting transactions. This method has the disadvantage of making card and terminal costs expensive and in Indonesia only banking institutions are allowed to provide cards and terminals.

The QRIS system uses the QR code as a method for making transactions. Transaction method using QR has the advantage of not requiring expensive costs for procurement of tools for transactions only requires smartphones to conduct transactions both as consumers and merchants, financial institutions (registered with Bank Indonesia) in addition to banks can also provide a QRIS system for consumers and merchants. The QRIS system has a great potential to increase the acceptance of the Cashless Society because Indonesia has a high penetration for cellular and internet subscription usage.

Seeing conditions in the field, the Behavior of using cash on Retail Offline and the government's target for financial inclusion to be > 90% by 2024 in Indonesia the authors intend to conduct research Analysis of any factors that can help people's interest in using the QRIS system so that it can form a Cashless Society in Indonesia, the research will be conducted by quantitative Study of the Indonesian community side using the UTAUT model with additional Factor Security, Trust and Risk

2. Literature Review

2.1. QRIS Payment System

QRIS is a payment gateway that uses QR technology as a method of transaction, QR Code is a two-dimensional matrix symbol consisting of a string of square boxes arranged in a larger square pattern. This rectangular box is then referred to as a module. The extent of this square pattern will determine the version of the QR Code, QR Code consists of a large square box then there is a small square box and there is a pattern structure in storing data contained in the QR Code.

QR Code as Payments has a weakness where QR Code can only be scanned with application published by company issued a QR Code (close Loop), view this weakness Bank Indonesia as bank regulator in Indonesia

issued a QRIS specifications and change the concept of QR payments which before closed loop to open loop. With open loop concept, merchant only need one QR Code and can be scan by application issued from an institution member which already join and certificate by Indonesia Payment Certification body (PTEN)

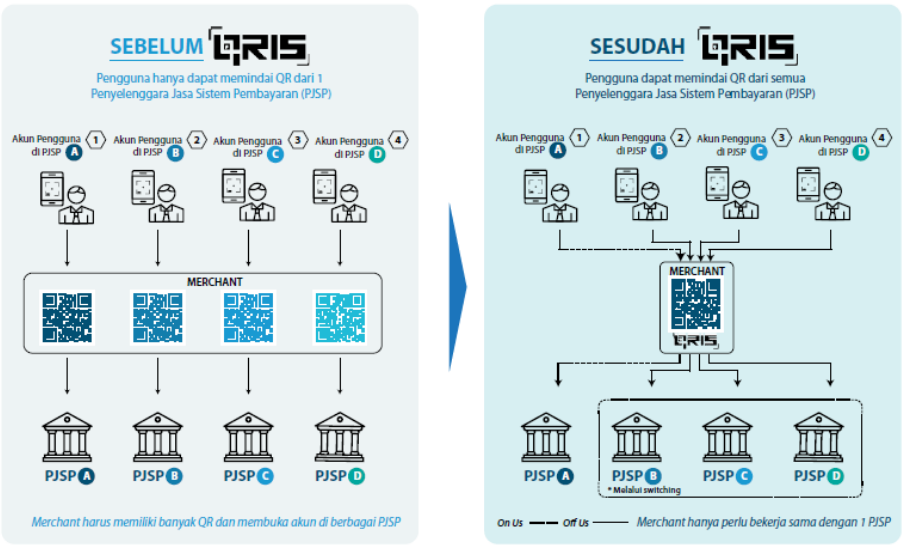

Figure 2. QRIS Concept **(Bank Indonesia) (Bank Indonesia, 2019)**

2.2.UTAUT Model

UTAUT is a model that aims to explain technology acceptance based on eight technology acceptance theories. The eight models are Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model, Theory of Planned Behavior (TPB), Combined TAM and TPB (C-TAM-TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT)**(Venkatesh, Morris, Davis, & Davis, 2003)**The UTAUT model has four main constructs namely performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy, effort expectancy or expectation, and social influence has a direct effect on the user's Behavioral intention. The three constructs also have an effect on usage Behavior through the mediation of user Behavior intentions. The last construct is facilitating conditions which have a direct effect on the user's Behavioral intentions. The relationship between the four variables with other variables is also influenced by several moderating variables, namely gender (age), age (age), experience (experience), and voluntary use (voluntariness of use).

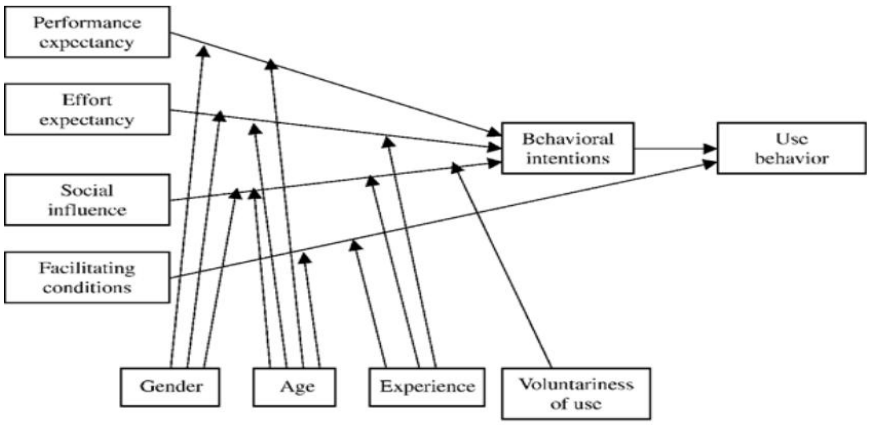

Figure 3. UTAUT Model**(Venkatesh et al., 2003)**

2.3.Previous Research

Research conducted by **(F. Liebana-Cabanillas et al. 2015)**, conducted research related to QR acceptance with the QRPAM model. QR. From this research, it is found that the variable that most influences Intention to Use is Attitude. Second, Subjective Norms as a social element by which users can increase their usefulness are also proven to be determinants in determining the intended use by an individual. Finally, the level of Innovationess also shows a significant relationship with the intended use of this new tool, as well as the research model used

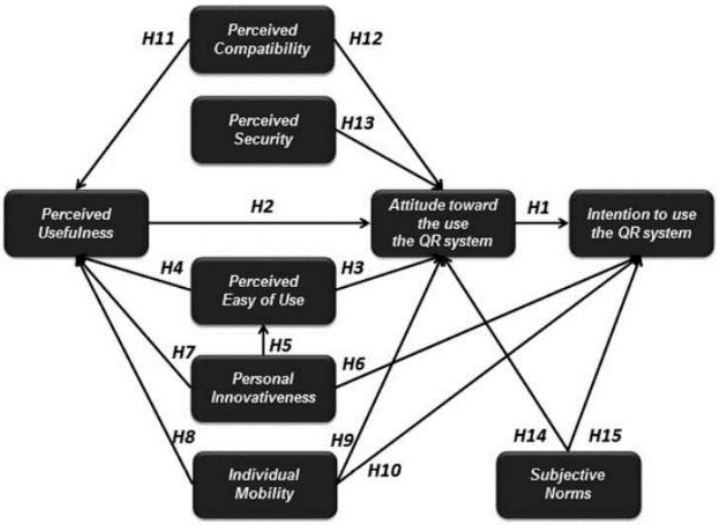

Figure 4. Research Model**(Liébana-Cabanillas et al., 2015)**

Research conducted by Khalilzadeh et al (2017), researchers conducted research on Behavior Intention on the NFC Mobile Based payment System using the UTAUT model, in this study it was found that Security has an important role in the context of new Car Payment. Security has a strong direct and indirect effect on the model lock construction. This positively affects Behavior Intention both directly and indirectly.

In this study, it was also found that the Risk and Trust factors had an influence either directly or indirectly on Behavior Intention. Another thing that was found in this study was the influence of Social Influence on Behavior Intention on Mobile Payment. These findings indicate that although users find using MP comfortable, useful and enjoyable, they will not start using it unless it is socially accepted. The following is the research model used

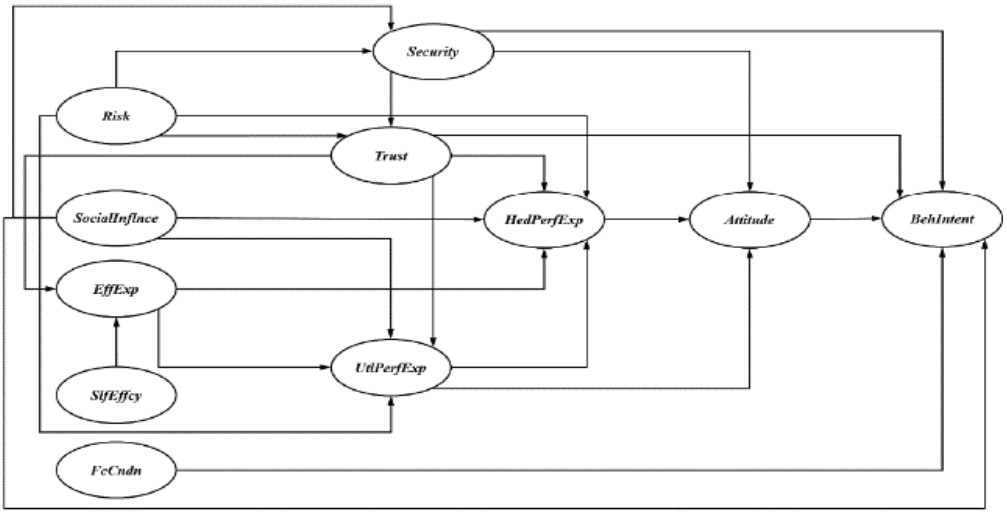

Figure 5. Research Model**(Khalilzadeh, Ozturk, & Bilgihan, 2017)**

Research conducted by Oliviera et al (2016), research conducted related to the intention to use mobile payments using the UTAUT 2 Model, this study confirms that Compability, Security, Performance Expectancy, Innovation, and Social Influence have direct and indirect effects that significant use of mobile payments and the intention to recommend this technology. The following is the research model used

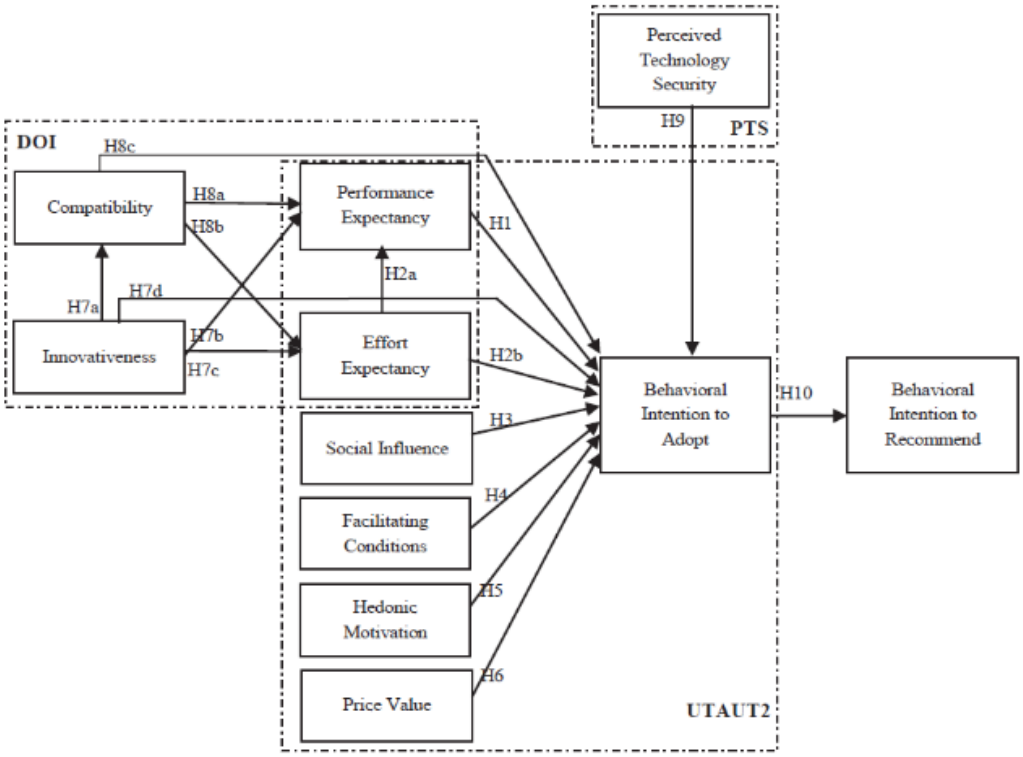

Figure 6. Research Model**(Oliveira, Thomas, Baptista, & Campos, 2016)**

3. Research Model and Hypothesis

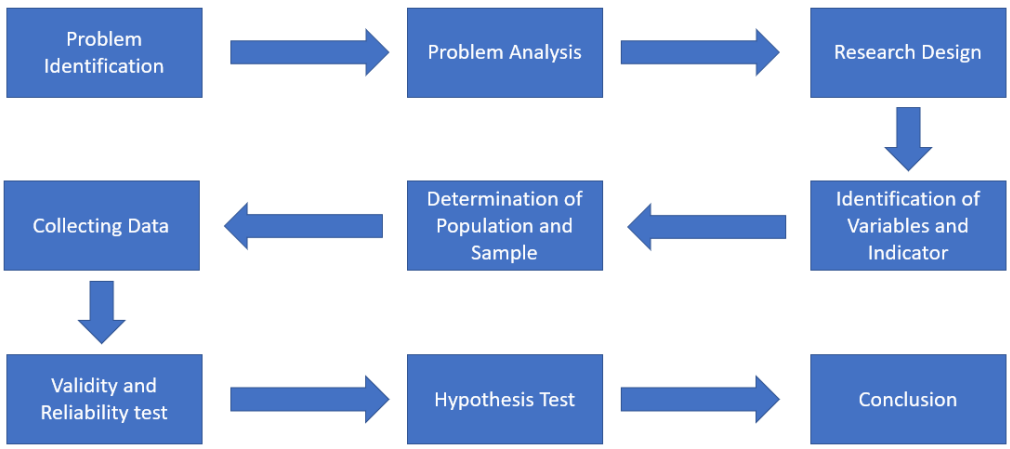

Figure 7. Research Methodology

Base on the research methodology in Figure 7,the research Divide into 9 Step.

- Problem Identification, At this stage the researcher collects data and facts to identify problems that exist in a topic

- Problem Analysis, At this stage the researcher conducts a similar research literature study to help understand the problem under study.
- Research Design, At this stage the researcher determines the models and hypotheses that will be used in the study.
- Identification of Variables and Indicators, At this stage the researcher identifies variables and indicators to be able to measure variables with existing measuring scales.
- Determination of Population and Samples, At this stage the researcher determines the population and number of samples to be used for research
- Collecting Data, At this stage the researcher collects data that will be used for research
- Validity and Reliability Test, At this stage the researcher will process the data, analyze the data and ensure the validity of the data that has been collected, the researcher uses the Smart PLS application to ensure the validity of the data before testing the hypothesis.
- Hypothesis Test, At this stage the researcher will test the hypothesis using the Statistical Test and write down the results obtained from the results of the statistical test.
- Conclusion, at this stage the researcher will draw conclusions from the results of the hypothesis test

Base on the research methodology in Figure 8, the research begins by making a research plan starting from the preparation of research materials, research design, research procedures, testing methods and data collection. Research materials were collected and combined by researchers from some previous literature / research through the internet media.

3.1. Research Model

The author chose to use the UTAUT model as the basic model for research because the UTAUT model has been proven and has been widely used in various countries and cultures to conduct research on system use and **Behavior (Im, Hong, & Kang, 2011; Oshlyansky, Cairns, & Thimbleby, 2007; Venkatesh & Zhang, 2010)**.

In the UTAUT Model there are 6 Main Constructs, namely, Performance Expectancy, Effort Expectancy, Social influence / factor, Facilitating Condition, Behavior Intention, and Use Behavior which are used to measure the level of acceptance of a system **(Venkatesh et al., 2003)**. The 6 main constructs will be used in research:

(1) Performance Expectancy is the level at which a person believes that using the system will improve his job performance **(Venkatesh et al., 2003).** In the Ventakesh research Performance Expectancy study, the most influencing variable for the intention to use the system, the same thing was also found in research on mobile payments **(Slade, Dwivedi, Piercy, & Williams, 2015; Venkatesh et al., 2003),** based on this, the authors propose a hypothesis:

H6: Performance Expectancy has an influence on Behavior Intention

(2) Effort Expectancy is "the level of ease a person feels in using the system" **(Venkatesh et al., 2003)** Based on previous research, consumers will show more willingness to use if the payment system is easy to use. Research shows that effort expectations significantly influence Behavior intention., based on this, the authors propose a hypothesis:

H5: Effort Expectancy has an influence on Behavior Intention

(3) Social Influence is "the extent to which an individual feels that others who are close to the individual believe he must use the new system" **(Venkatesh et al., 2003).** Based on UTAUT's research, social influence has a direct positive impact on Behavior intention, based on this, the authors propose:

H4: Social Factor has an influence on Behavior Intention

(4) Facilitating condition is "the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system" **(Venkatesh et al., 2003).** In the UTAUT model, the facilitation condition has a direct positive relationship with user Behavior but has no effect on Behavior intention **(Venkatesh et al., 2003).** based on this, the authors propose a hypothesis:

H10: Facilitating Condition has an influence on Use Behavior

(5) Behavior Intention is a Behavior or attitude of consumers who have a desire to use services continuously, based on research Behavior Intention has a direct relationship with Use Behavior **(Venkatesh et al., 2003),** based on this, the authors propose a hypothesis:

H9: Behavior Intention has an influence on Use Behavior

(6) Use Behavior is a Degree or Behavior of Consumers regarding Intensity of System Use **(Venkatesh et al., 2003).**

In electronic payment systems, a feeling of security in making transactions is important to minimize concerns about the use of technology in conducting transactions (Salisbury, Pearson, Pearson, & Miller, 2001). Consumer attitudes towards electronic payment systems are linked to their perceptions of system security. In other words, consumers' perceptions of the principle of security enforcement add to their confidence in security, and hence contribute to their perceptions of trust for electronic transactions.**(Kniberg, 2002)**

Previous research has conceptualized this relationship in several ways. Trust predicts perceived risk, trust and risk together predict other variables such as attitude and Behavioral intention, risk predicts trust, or perceived risk moderates the relationship between trust and Behavioral intention **(Lim, 2003).** Other research also states that Security, Risk and Trust are important determinants and have a direct or indirect impact on the construction of other construct **(Khalilzadeh et al., 2017).** Seeing this and the conditions in the field where there are doubts in the community in using the QRIS system related to privacy and so in this study the authors add Risk, Trust and Security variables to the research model.

Perceived Security is the "extent to which users believe using a payment system will be safe" feeling safe in making transactions is important to minimize concerns about the use of technology in conducting transactions **(Lim, 2003).**

Based on previous research, it was found that consumer attitudes towards electronic payment systems were related to their perceptions of system security. In other words, consumers' perceptions of the principle of enforcing security add to their confidence in security, and hence contribute to their perceptions of trust for electronic transactions **(Kniberg, 2002).** Based on this, the authors propose a hypothesis:

H3: Perceived Security has an influence on Trust

H4: Perceived Security has an influence on Behavior Intention

Risk is "the combination of the uncertainty and seriousness of the outcome involved" **(Featherman & Pavlou, 2003),** as well as "the expected loss associated with buying and acting as a barrier to purchasing Behavior". Therefore, the relationship between risk and security must be negative. The more the user feels at risk, the more insecure he feels. So that there is a relationship between risk and security and risk also predicts trust, or perceived risk moderates the relationship between trust and Behavioral intention **(Lim, 2003).** In previous research, the effect of risk on trust and security was also found in mobile payment research **(Khalilzadeh et al., 2017),** based on this, the authors propose a hypothesis:

H1: Privacy Risk has an influence on Trust

H2: Privacy Risk has an influence on Perceived Security

Mobile Payment user trust is defined as consumer confidence that electronic payment transactions will be processed according to their expectations **(Mallat, 2007; Tsiakis & Sthephanides, 2005).** users and merchants are more likely to use unsecured payment systems from trusted companies than secure payment systems from untrusted companies **(Kniberg, 2002).** This is consistent with findings from previous studies **(Mallat, 2007;**

Tsiakis & Sthephanides, 2005).which suggest that trust is more important than safety. Without user trust, it will be very difficult for the Payment System to find users, based on this, the authors propose a hypothesis:

H8: Trust has influence on Use Behavior

Below is The Research model Using The Unified Theory of Acceptance and Use of Technology (UTAUT). The UTAUT model**(Venkatesh et al., 2003)** with additional Factor Trust, Privacy Risk and Perceived Security.

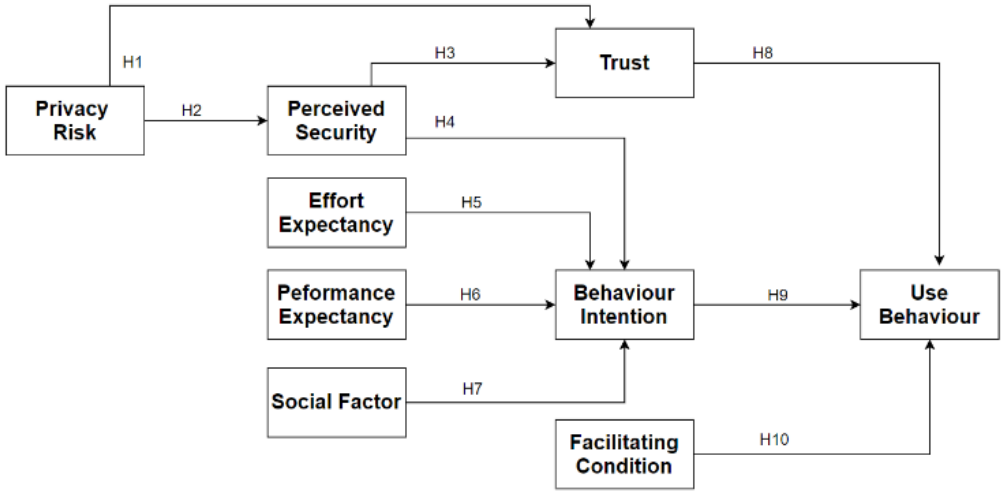

Figure 8. Research Model

3.2. Hypothesis

Base on the conceptual model in Figure 8, below is the hypothesis of this research:

H1: Privacy Risk has an influence on Trust

H2: Privacy Risk has an influence on Perceived Security

H3: Perceived Security has an influence on Trust

H4: Perceived Security has an influence on Behavior Intention

H5: Effort Expectancy has an influence on Behavior Intention

H6: Performance Expectancy has an influence on Behavior Intention

H7: Social Influence has an influence on Behavior Intention

H8: Trust has an influence on Use Behavior

H9: Behavior Intention has an influence on Use Behavior

H10: Facilitating Condition has an influence on Use Behavior

3.3. Operational Variable

Based on variables, indicators and previous research, the selection of indicators and questions that will be used in this research is carried out. The following variables, indicators and statements in the study

Table 2. Variables and indicator for questionnaire.

Variables	**Indicator**
Performance Expectancy **(Venkatesh et al., 2003)**	PE1: System benefits for users PE2: The system helps speed up user activity PE3: The system makes user activity easier
Effort Expectancy **(Venkatesh et al., 2003)**	EE1: The system is easy to understand EE2: Easy to master system

	EE3: The system is easy to use EE4: The system can be learned easily
Social Influence **(Venkatesh et al., 2003)**	SI1: The influence of the closest people in using the system SI2: the thought of the closest person in using the system SI3: Perception of people closest to the system
Perceived Security **(Salisbury et al., 2001)**	PS1: Feelings of security transmit information PS2: feeling safe using the system PS3: Users can safely provide information PS4: A feeling of security on system security
Privacy Risk **(Featherman & Pavlou, 2003)**	PR1: the system makes personal information loss PR2: the system makes personal information misused PR3: the system makes third parties access personal information
Trust **(Jarvenpaa, Tractinsky, & Saarinen, 1999)**	T1: User trust in the entity T2: User trust in entity promises T3: User trust in the responsibility of the entity
Facilitating Condition **(Thompson, Higgins, & Howell, 1991)**	FC1: Availability of system user tools FC2: Perception of user knowledge in running the system FC3: System compatibility with user systems FC4: Assistance from third parties
Behavior Intention **(Venkatesh et al., 2003)**	B1-B3: User perceptions in planning to use the System
Use Behavior **(Venkatesh et al., 2003)**	UB1-UB5: User Perception about the intensity of system use

3.4.Data Collection Method

This research is using quantitative methods and data collected using questionnaire. Questionnaire is the most common method of collecting data for a study or for a research purpose, the popularity of the questionnaire in research is because the questionnaire is very easy to build, flexible, and can quickly collect information in a unique way in a form that is ready to be processed.

this research, using a 5 points of Likert scale to measure respondent agreement and disagreement related to several statement. 1 (one) can be represented as strongly disagree, meanwhile 5 (five) can be represented as strongly agree.

The sample data Collection in this study used an online questionnaire that was built using Google Forms, which was distributed using the chat application and the Social Media application. The questionnaire was given to users of the QRIS payment system in the city of Jakarta the total respond get from questionnaire is 438 respond from 438 respond, 38 data is excluded because of double input and location is not from Jakarta. the final data from this research is 400 respondents., below is demographic result of survey respondent

Table 3. Demographics result of survey respondents.

Demographic	**Category**	**Number**	**Percentage**
Gender	Male	206	51.5%
	Female	194	48.5%
Age	15-20	11	2.75%
	21-30	174	43.5%
	31-40	176	44%
	41-50	32	8%
	>50	7	1.75%
Occupations	Business Employee	324	81%
	Housewives	17	4.25%

	Entrepreneur	25	6.25%
	Teacher	2	0.5%
	Student	15	3.75%
	Other fields	17	4.25%
Educational	Junior and below	45	11.25%
	Diploma's degree	18	4.5%
	Bachelor's degree	320	80%
	Master's degree	16	4%
	Doctor's degree	1	0.25%

3.5.Data Analysis Method

data analysis are using Partial Least Square (PLS). PLS is a structural equation model or know as SEM. SEM is one area of statistical studies that can test a series of relationships that are relatively difficult to measure simultaneously.

4.Data Analyst and Result

4.1.Validity Result

This validity test was carried out on the object of research with a sample of 400 samples collected. The purpose of this data validity test is to determine whether a variable or indicator is valid enough to be used in this study. Convergent Validity is defined as "consisting of scales of Behavior as if they measure common underlying constructs" **(Davis, 1989).** In the PLS model, convergent validity can be done in 2 ways:

4.1.1.Outer Loading

Outer Loading of the constructs / indicators shows that the associated sizes have a lot in common, which the constructs represent. The value of external loading must be> 0.70 to be accepted **(Barclay, Higgins, & Thompson, 1995),** the measurement value of Outer Loading used in this study is> 0.7, a value below 0.7 is assumed that the data in the study is invalid. The following are the results of the validity test using the Smart PLS Application based on the loading factor value of all variables and indicators.

Table 4. Test of the Validity of the Loading Value of Indicator Factors with Latent Variables

Variable	**Indicator**	**Outer Loading Value**	**Description**
Behavior Intention (BI)	BI1	0.883	Valid
	BI2	0.902	Valid
	BI3	0.939	Valid
Effort Expectancy (EE)	EE1	0.869	Valid
	EE2	0.887	Valid
	EE3	0.908	Valid
	EE4	0.893	Valid
Facilitating Condition (FC)	FC1	0.881	Valid
	FC2	0.889	Valid
	FC3	0.88	Valid
Performance Expectancy (PE)	PE1	0.895	Valid
	PE2	0.822	Valid
	PE3	0.922	Valid

Privacy Risk (PR)	PR1	0.943	Valid
	PR2	0.962	Valid
	PR3	0.949	Valid
Perceived Security (PS)	PS1	0.893	Valid
	PS2	0.853	Valid
	PS3	0.923	Valid
	PS4	0.916	Valid
Social Influence (SI)	SI1	0.889	Valid
	SI2	0.925	Valid
	SI3	0.918	Valid
Trust (T)	T1	0.919	Valid
	T2	0.948	Valid
	T3	0.912	Valid
	T4	0.926	Valid
Use Behavior (UB)	UB3	0.946	Valid
	UB4	0.899	Valid
	UB5	0.883	Valid

Based on Table 4 above, all the variables are all valid and can be used in research because they have an outer loading / loading factor value greater than 0.7.

4.1.2.Average Variance Extracted

Average Variance Extracted, which is a measure of convergent validity that aims to assess the variance described by the item compared to the variance because the AVE measurement error can be interpreted as a more conservative assessment of reliability. For adequate reliability, the given construction must reach at least a value of 0.5. Otherwise, the reliability will be problematic and the construction questionable **(Fornell & Larcker, 1981).** Measurement value of Average Variance Extracted (AVE) used in this study is> 0.5, a value below 0.5 is assumed that the data in the study is invalid. The following are the results of the validity test using the Smart PLS Application based on Average Variance Extracted (AVE) value of all variables and indicators.

Table 5. Validity Test -Average Variance Extracted (AVE) Parameters

Variable	**Average Variance Extracted (AVE)**	**Description**
Behavior Intention (BI)	0.825	Valid
Effort Expectancy (EE)	0.791	Valid
Facilitating Condition (FC)	0.78	Valid
Performance Expectancy (PE)	0.776	Valid
Privacy Risk (PR)	0.905	Valid
Perceived Security (PS)	0.804	Valid
Social Influence (SI)	0.83	Valid
Trust (T)	0.858	Valid
Use Behavior (UB)	0.853	Valid

Based on Table 5 above, all variables are all valid and can be used in research because they have an Average Variance Extracted (AVE) value greater than 0.5

4.2. Reliability Result

Testing the reliability of the questionnaire data as part of the evaluation of the measurement model (outer model), Reliability test can be done in 2 ways:

4.2.1. Composite Reliability

Composite Reliability Using several observed variables in a latent variable that leads not only to item reliability, but also the extent to which the underlying construct is free from random errors. Composite Reliability is also known as internal consistency **(Fornell & Larcker, 1981),** in determining its boundary value Composite Reliability uses the same value as Cronbach's Alpha where a value of 0.7 is used as a benchmark **(Barclay et al., 1995).** Measurement value of Composite Reliability used in this study is> 0.7, a value below 0.7 is assumed that the data in the study is not reliable

Following are the results of the reliability test using the Smart PLS Application version 3.3.2 based on the Composite Reliability value and Cronbach Alpha value of all variables.

Table 6. Reliability Test - Composite Reliability Parameters

Variable	**Composite Reliability (CR)**	**Description**
Behavior Intention (BI)	0.934	Reliable
Effort Expectancy (EE)	0.938	Reliable
Facilitating Condition (FC)	0.914	Reliable
Performance Expectancy (PE)	0.912	Reliable
Privacy Risk (PR)	0.966	Reliable
Perceived Security (PS)	0.943	Reliable
Social Influence (SI)	0.936	Reliable
Trust (T)	0.948	Reliable
Use Behavior (UB)	0.946	Reliable
Behavior Intention (BI)	0.934	Reliable

Based on Table 6 above, all variables are all valid and can be used in research because they have an Average Variance Extracted (AVE) value greater than 0.5

4.2.2. Cronbach's Alpha

Cronbach's Alpha is used to measure the internal consistency of items to see how closely related a set of items / indicators is in a group, to ensure data reliability, the Cronbach's Alpha value must be above 0.7 **(Hair Jr, Hult, Ringle, & Sarstedt, 2016).** Measurement value of Cronbach's Alpha used in this study is> 0.7, a value below 0.7 is assumed that the data in the study is unreliable.

Table 7. Reliability Test - Cronbach's alpha Parameters

Variable	**Cronbach Alpha**	**Description**
Behavior Intention (BI)	0.894	Reliable
Effort Expectancy (EE)	0.912	Reliable
Facilitating Condition (FC)	0.859	Reliable
Performance Expectancy (PE)	0.857	Reliable
Privacy Risk (PR)	0.948	Reliable

Perceived Security (PS)	0.919	Reliable
Social Influence (SI)	0.9	Reliable
Trust (T)	0.917	Reliable
Use Behavior (UB)	0.915	Reliable

Based on Table 7 above, all variables are all valid and can be used in research because they have an Average Variance Extracted (AVE) value greater than 0.5

4.3. Inner Model / Structural Model Test

The structural model at this stage is to see the significance of the relationship between latent variables by looking at the path coefficient which shows whether or not there is a relationship between latent variables in the research model.

4.3.1. R2 (R-Square)

To evaluate the structural model starting from looking at the R-Square (R2) value for each prediction of the structural model, the R2 value is used to explain the effect of certain latent (exogenous) variables on the latent (endogenous) variable or how much influence it has.

Following are the results of the structural model test using the Smart PLS Application based on the R-Square (R2) value.

Table 8.R2 Value on Dependent Variable

Variable	**R-Square(R2)**
Behavior Intention (BI)	0.419
Perceived Security (PS)	0.020
Trust (T)	0.648
Use Behavior	0.324

Table 8 shows the R-Square (R2) value of the dependent variables tested in this study. With result as follow :

- R-Square of variable Behavior Intention is 0.419, this means that the variables making up the Behavior Intention variable (Effort Expectancy, Perceived Security, Performance Expectancy and Social Influence) are able to explain the Behavior Intention variable by 41.9%, while the remaining 57.1% is explained by other variables outside of this study.
- R-Square of variable Perceived Security is 0.020, this means that the variables making up the Perceived Security variable (privacy Risk) are able to explain the Perceived Security variable by 2%, while the remaining 98% is explained by other variables outside of this study.
- R-Square of variable Trust is 0.648, this means that the variables composing the Trust variable (Privacy Risk and Perceived Security) are able to explain the Trust variable by 64.8%, while the remaining 35.2% is explained by other variables outside of this study.
- R-Square of variable Use Behavior is 0.324, this means that the variables making up the Use Behavior variable (Trust, Facilitating condition and Behavior Intention) are able to explain the Use Behavior variable by 32.4%, while the remaining 67.3% are explained by other variables outside of this study.

4.3.2.Path Coefficient

Path Coefficients refer to the hypothesized relationship between constructs. The Path Coefficients ranged between −1 and +1, where values close to +1 indicate a strong positive relationship. The measurement can be

done by using p-values to assess the level of significance. The p-value (p-Values) must be <0.05 assuming a Significant Level of 5% to reveal that the observed relationship is significant.**(Hair Jr et al., 2016)**

Apart from p-values, t-statistics can also be used for significance testing. Assuming that the path coefficient is significantly different from zero at the 5% (two-tailed) level of significance, the relationship between variables is said to be significant, that is, when the t-statistics value is above 1.96. **(Hair Jr et al., 2016)** the value for measurement with a Significant Level of 5% in this study will see the value of p-values and the value of t-statistics where the value of p-Values is <0.05 and t-statistics> 1.96, if the p-value is above 0, 05 or t-statistics below 1.96, it is assumed that the hypothesis has no effect, Following are the path coefficient model results are obtained by using Smart PLS Application 3.3.2 with a bootstrapping procedure.

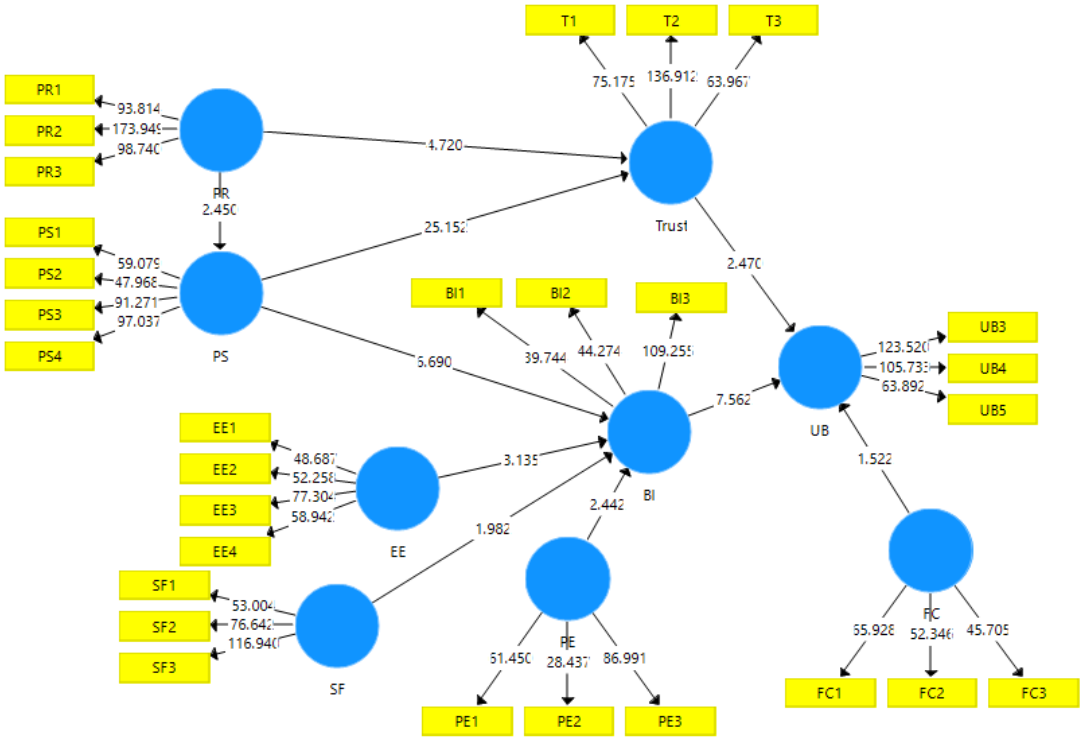

Figure 9. Booth Straping result

4.3.3.Path Coefficient – Direct Path Result

Following are the Table results of the structural model test using the Smart PLS Application based on and Path Coefficient value.

Table 9. Direct Path Coefficient and T-Statistics

	Path Coefficient	**T Statistics**	**P-Values**
Privacy Risk (PR) -> Trust (T)*	-0.133	4,622	0.000
Privacy Risk (PR) -> Perceived Security (PS)*	-0.142	2,572	0.010
Perceived Security (PS)-> Trust (T)	0.775	26,030	0.000
Perceived Security (PS) -> Behavior Intention (BI)	0.339	6,424	0.000
Effort Expectancy -> Behavior Intention (BI)	0.209	3,219	0.001
Performance Expectancy -> Behavior Intention (BI)	0.160	2,500	0.013
Social Influence (SI) -> Behavior Intention (BI)	0.099	2,075	0.039
Trust (T) -> Use Behavior (UB)	0.138	2,454	0.015

Behavior Intention (BI) -> Use Behavior (UB)	0.429	7,371	0.000
Facilitating Condition (FC) -> Use Behavior (UB)	0.081	1,413	0.158

1 * Items on variables are negative so they have the opposite effect.

4.3.4. Path Coefficient – indirect Path Result

Following are the Table results of the Indirect result from research model using the Smart PLS Application based on and Path Coefficient value.

Table 10. indirect Path Coefficient and T-Statistics

Variable	**Path Coefficient**	**T-Statistics**	**P-Values**
Effort Expectancy (EE) -> Use Behavior (UB)	0.090	2,868	0.004
Performance Expectancy (PE) -> Use Behavior (UB)	0.068	2,300	0.022
Privacy Risk (PR) -> Use Behavior (UB)*	-0.054	2,662	0.008
Perceived Security (PS) -> Use Behavior (UB)	0.252	5,397	0.000
Social Influence (SI) -> Use Behavior (UB)	0.042	1,943	0.053
Privacy Risk (PR) -> Behavior Intention(BI)*	-0.048	2,384	0.018
Privacy Risk (PR) -> Trust (T)*	-0.110	2,625	0.009

1 * Items on variables are negative so they have the opposite effect.

5. Hypotheses Of The Study

Following are the results of the research model based on structural model test conducted before The results of hypothesis testing in this study can be seen in table 11 below.

Table 11. Hypothesis Analysis

Hypothesis		**Path Coefficient**	**P-Values**	**Result**
Code	**Variable**			
H1	Privacy Risk (PR) -> Trust (T)*	-0.133	0.000	Accept
H2	Privacy Risk (PR) -> Perceived Security (PS)*	-0.142	0.010	Accept
H3	Perceived Security (PS)-> Trust (T)	0.775	0.000	Accept
H4	Perceived Security (PS) -> Behavior Intention (BI)	0.339	0.000	Accept
H5	Effort Expectancy -> Behavior Intention (BI)	0.209	0.001	Accept
H6	Performance Expectancy -> Behavior Intention (BI)	0.160	0.013	Accept
H7	Social Influence (SI) -> Behavior Intention (BI)	0.099	0.039	Accept
H8	Trust (T) -> Use Behavior (UB)	0.138	0.015	Accept
H9	Behavior Intention (BI) -> Use Behavior (UB)	0.429	0.000	Accept
H10	Facilitating Condition (FC) -> Use Behavior (UB)	0.081	0.158	Reject

1 * Items on variables are negative so they have the opposite effect.

From Table 11,Following are the results of the research model based on structural model test conducted before.

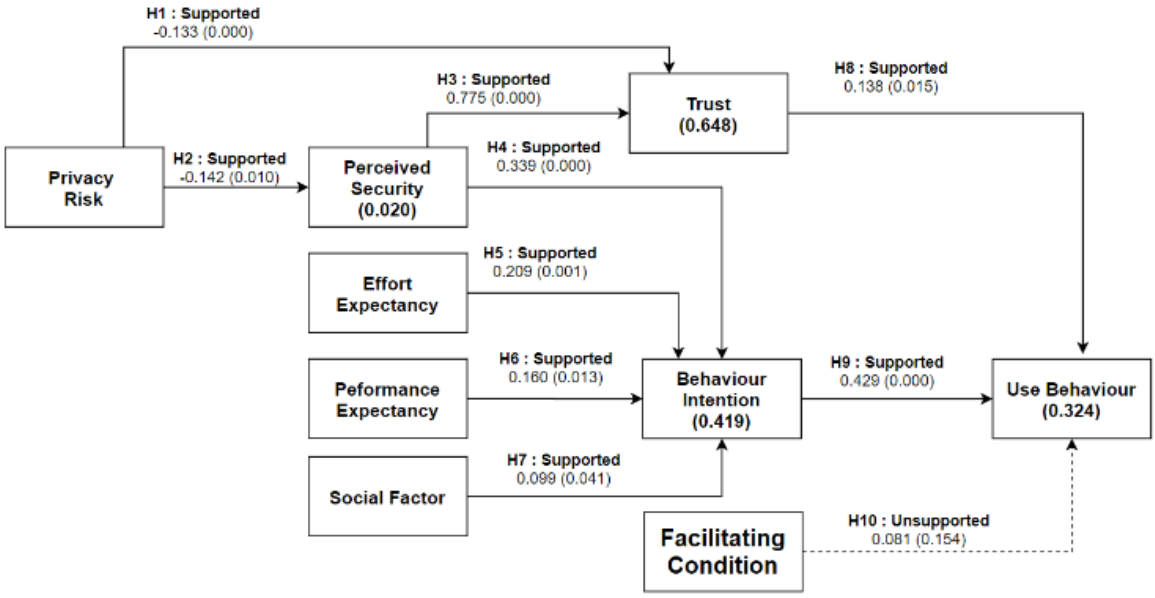

Figure 10. Research Model result

From Figure 10 and table 11 above show the results :

(1) Path coefficient Privacy Risk (PR) → Trust has a p-value below 0.05. So it can be concluded that Privacy Risk (PR) has a positive and significant effect on Trust

(2) Path coefficient Privacy Risk (PR) → Perceived Security (PS) a p-value below 0.05. So it can be concluded that Privacy Risk (PR) has a positive and significant effect on Perceived Security (PS)

(3) Path coefficient Perceived Security (PS) → Trust (T) has a p-value below 0.05. So it can be concluded that Perceived Security (PS) has a positive and significant effect on Trust (T)

(4) Path coefficient Perceived Security (PS) → Behavior Intention (BI) has a p-value below 0.05. So it can be concluded that Perceived Security (PS) has a positive and significant effect on Behavior Intention (BI)

(5) Path coefficient Perceived Effort Expectancy (EE) → Behavior Intention (BI) has a p-value below 0.05. So it can be concluded that Effort Expectancy (EE) has a positive and significant effect on Behavior Intention (BI)

(6) Path coefficient Perceived Performance Expectancy (PE) → Behavior Intention (BI) has a p-value below 0.05. So it can be concluded that Performance Expectancy (PE) has a positive and significant effect on Behavior Intention (BI)

(7) Path coefficient Perceived Social Influence (SI) → Behavior Intention (BI) has a p-value below 0.05. So it can be concluded that Social Influence (SI) has a positive and significant effect on Behavior Intention (BI)

(8) Path coefficient Trust (T) → Use Behavior (UB)has a p-value below 0.05. So it can be concluded that Trust (T) has a positive and significant effect on Use Behavior (UB)

(9) Path coefficient Perceived Behavior Intention (BI) → Use Behavior (UB) has a p-value below 0.05. So it can be concluded that Behavior Intention (BI) has a positive and significant effect on Use Behavior (UB)

(10) Path coefficient Facilitating Condition (FC) → Use Behavior (UB) has a p-value Above 0.05. So it can be concluded that Facilitating Condition (FC) not have significant effect on Use Behavior (UB)

Below in table 12 is the result of indirect effect from variable on research model

Table 12. Indirect Effect Analysis

Variable	Path Coefficient	P-Values	Result
Effort Expectancy (EE) -> Use Behavior (UB)	0.090	0.004	Positive Effect
Performance Expectancy (PE) -> Use Behavior (UB)	0.068	0.022	Positive Effect
Privacy Risk (PR) -> Use Behavior (UB)*	-0.054	0.008	Positive Effect
Perceived Security (PS) -> Use Behavior (UB)	0.252	0.000	Positive Effect
Social Influence (SI) -> Use Behavior (UB)	0.042	0.053	Positive Effect
Privacy Risk (PR) -> Behavior Intention(BI)*	-0.048	0.018	Positive Effect
Privacy Risk (PR) -> Trust (T)*	-0.110	0.009	Positive Effect

1 * Items on variables are negative so they have the opposite effect.

From table 12 indirect effect, above show the results :

- Effort Expectancy (EE), Performance Expectancy (PE), Privacy Risk (PR), Perceived Security (PS) and Social influence (SI) have positive indirect effect to Use Behavior
- Privacy Risk (PR) have positive indirect effect to Behavior Intention (BI)
- Privacy Risk (PR) have positive Indirect effect to Trust (T)

6. Discusion and Recommendation

Based on the results of the hypothesis analysis that has been carried out in sub-chapter 4.7 above, it is found that:

(1) Privacy Risk has a significant effect on Trust and Perceived Security and has an indirect effect on Behavior Intention and Use Behavior, this proves that the QRIS application users already understand the importance of confidentiality of personal information and are careful in providing information to an institution. With this result we suggest to QRIS payment system service providers for :

- pay attention to and safeguard the personal information of users who use and send their personal information to the payment system because this will affect the trust and feeling of security that users feel
- companies can add a clauses that appear in the application with information that user data will not be used for the benefit of private companies or the interests of the company.

(2) Perceived Security has a significant effect on Trust and Behavior Intention and has an indirect effect on Use Behavior, this proves that in digital financial transactions the sense of security that users perceive has a huge influence on customer use, customers will prefer to use the payment system which feels safe with this result, we suggest QRIS payment system service companies pay more attention to the security of their systems so as to prevent leakage of user data that can be used by certain parties.

(3) Effort Expectancy has a significant effect on Behavior Intention and indirect influence on Use Behavior, This proves that in digital financial transactions ease of use has an effect on customer use, customers will prefer to use a payment system that is easy to use, With this result, we suggest the QRIS payment system service company pay attention to the ease of use of the payment system.

- Adding access to payments using finger print or face recognition as an alternative if the user forgets the transaction PIN
- Further analysis for the current QRIS QR code specification which has a very high density level making it difficult to scan

(4) Performance Expectancy has a significant effect on Behavior Intention and indirect influence on Use Behavior. This proves that in digital financial transactions the value of benefits provided by applications has an influence on a person using the QRIS payment system. Users will choose to use a system that can provide better benefits. With this result, we suggest the QRIS payment system service company to :

- Consistently maintaining the quality of the system so that transaction performance is not disrupted when using the system.
- Provide new features that can be used in the QRIS payment system, such as the TTS (Transfer, Cash Withdrawal and Cash Deposit) and Cross border features (shopping transactions in other countries) which will be issued in 2021.

(5) Social influence has a significant effect on Behavior Intention. This proves that the influence of the closest person can increase customer Behavioral intentions, someone will provide recommendations to others if a service / application provides value that is felt to be useful and beneficial to the user. With this result we suggest the QRIS payment system service company to :

- maintain the quality of the system so as not to give a bad reputation
- Another thing that can be done is a marketing strategy using influential individuals, such as social media influencers.

(6) Trust has a significant effect on Use Behavior, this proves that the influence of the closest person can increase customer Behavior intentions, this proves that users will prefer to use digital payment applications issued by trusted companies than digital payment application systems issued by companies. which the user does not or has not trusted. With this result we suggest the QRIS payment system service company to :

- Maintain the trust that has been obtained today by ensuring the security and confidentiality of user data is maintained.
- Increase user trust by providing a company commitment to prioritizing user interests and resolving problems that arise appropriately and quickly.

(7) Behavior intention has a significant effect on Use Behavior, this proves that Behavioral intentions affect customer usage Behavior, with this result, the company must increase user Behavioral intentions by looking at points that need to be improved in the discussion above regarding Perceived Security, Effort Expectancy, Performance Expectancy, social influence and also privacy risk which have an indirect impact.

7.Conclusion

The purpose of this study is to determine what factors affect Customer Use Behaviors of QRIS Payment System in DKI Jakarta using UTAUT Model and is added Privacy Risk, Perceived Security and Trust factors based on various journals, literature review and previous studies which are then combined into a research model. The results of this study indicate that:

(1) On this study found Trust and Behavior Intention have a direct impact to customer use Behavior of customer. With Behavior Intention have the biggest impact directly to Use Behavior Meanwhile Effort Expectancy, performance Expectancy, Privacy Risk and Perceived Security have indirect effect to use Behavior customer.

(2) On this study also found Perceived Security have a biggest impact to Trust and Behavior intention directly and Use Behavior Indirectly. Its mean for a digital payment system the feeling of secure have a big role not only on customer Behavior but also on customer trust to company/ institution.

(3) The other factor have a role is effort expectancy, in modern era customer will use system that easy to use and make a transaction faster, also on privacy risk factor its impacting a perceived security and trust, its mean customers already understand the importance of the confidentiality of personal information. Company/institution must make sure the safety of customer data.

(4) The current study contributes the existing literature, in this study enables us to understand a factor impacting use Behavior and Behavior intention of customer for digital payment system. For practical contributions this study can be used as input in the development of the QRIS System by taking into account the factors that influence the use of services by customers., For the Indonesian government, it is hoped that the results of this study can be used as material for evaluating the government in implementing the QRIS program and assisting in achieving the 2024 financial inclusion target..

(5) Despite of academic and practical contributions, some limitations should be noted. Firstly, the survey was only conducted in Jakarta City. Payment culture differs in different city. The study also only research on consumer side and there's other factor that can be impacted Behavior intention and use Behavior of customer

(6) For Future studies its hoped a study can analyzed from merchant side and the variables need to be further investigated. More relevant variables, should be taken into the research model in further study.

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