

# INVESTIGATION OF BEHAVIORAL INTENTION TO USE DIGITAL PAYMENT SYSTEM IN INDONESIA FROM MERCHANT AND CONSUMER PERSPECTIVE (CASE STUDY: QRIS)

**Kalasha Anajma Fathi<sup>1</sup>, Harimukti Wandebori<sup>2</sup>**

<sup>1,2</sup> School of Business and Management, Institut Teknologi Bandung, Indonesia  
Email: kalasha\_anajma@sbm-itb.ac.id, harimukti@sbm-itb.ac.id

## ABSTRACT

*As a developing country, Bank Indonesia has established a National QR payment system called QRIS as an implementation of Gerakan Nasional Non-Cash. QRIS aims to encourage national development through financial inclusion programs in the digital era. The QRIS system involves Merchants and Consumers as end-users of this system, as well as involving other main stakeholders such as Bank Indonesia, the Government, and PJSP. Since it was first published on August 17 2019, QRIS has experienced a significant increase in end-users, especially after the COVID-19 outbreak until now. However, this increase was not accompanied by an increase in transaction volume, resulting in a mismatch between end-user development and transaction volume. Therefore, in this research, an investigation will be carried out from the perspective of merchants and consumers to see what factors influence it and how these conditions can provide solutions for the development of QRIS. This research uses the extended variable UTAUT with government support, trust, and perceived value as additional variables. The data used is primary and secondary data with a non-probability approach involving 450 respondents, then processed using the SEM-PLS technique. The results show that government support is the variables that most influence behavioral intentions from the perspective of merchants and consumers. Increasing behavioral intentions from the perspective of merchants and consumers has a very important role. It is recommended that an integrated program between merchants involves other stakeholders to realize national development through QRIS. However, this research is still limited to the scope of Indonesia, so future research is recommended to add other variables and explore other digital payment developments to gain broader insight.*

**Keywords: QRIS, Merchant, Consumer, Integration**

## INTRODUCTION

The development of human civilization and science encourages technological development to become rapid and more sophisticated. This development encourages humans to be able to adapt to every change because they have an important role in various sectors. This factor encourages humans to continue to be creative and innovate. The "Internet" emerged as a technological development that always coexists with human life.

The use of technology in the financial sector has brought significant changes to the banking industry. Changes in people's consumption patterns towards digital encourage payments that are mobile, fast, and at the same time remain safe (Otoritas Jasa Keuangan, 2022). However, the uncontrolled flow of digitalization will limit the benefits to consumers macroeconomic stability and economic-financial inclusion in the long term (Damayanti & Jalunggono, 2022). Without adequate credibility and integrity, public trust in the financial system will eroded. For Bank Indonesia, the wrong

direction of digitalization will actually distort money circulation, as well as disrupting monetary stability and financial system stability. Bank Indonesia formulated BPSI 2025 which is fully oriented towards development efforts a healthy ecosystem as a guide to digital economic and financial development in Indonesia (Bank Indonesia, 2019a). One of the innovations carried out by Bank Indonesia in supporting BPSI 2025 is the launch of Quick Response Code Indonesian Standard (QRIS) on 17 August 2017.

According to data from the Indonesian Payment Systems Association (ASPI) (Asosiasi Sistem Pembayaran Indonesia, 2023), the number of merchants and consumers in 2022. Even though the number continues to increase, the value of QRIS transactions at each merchant on average still tends to be low and fluctuating. There is a mismatch between end-user development and transaction volume as a result of this increase not being matched by an increase in transaction volume. Therefore, in order to determine what influences it and how these circumstances can lead to solutions for the development of QRIS, an

investigation will be conducted in this study from the perspectives of merchants and consumers.

The gap in this research lies in the fact that the increase in the number of QRIS users is not followed by a significant increase in transaction volume. This suggests a mismatch between end-user development and the resulting transaction volume. This research attempts to map the Behavioural Intention factors developed through the adapted basic concept of UTAUT2, by involving the perspectives of the two sides of QRIS users, namely Merchants and Consumers. The urgency of this research is to understand the factors that influence behavioural intention from the perspective of merchants and consumers, who have a very important role in the development of QRIS. This research also aims to provide solutions for the development of QRIS through an integrated programme involving merchants and other stakeholders, so as to support national development through financial inclusion in the digital era. In addition, this research is expected to provide a broader and deeper insight into the adoption of digital payment systems in Indonesia, which is highly relevant in the context of the ongoing digital transformation.

**LITERATURE REVIEW**

Behavioral intention is a condition where consumers have intentions or an attitude of loyalty to an item or services, and voluntarily tell the advantages of the product or services to people or other parties (Kotler & Armstrong, 2012). Technology Acceptance Model (TAM) initiated by Davis (Davis, 1989) and UTAUT initiated by Venkatesh (Venkatesh et al., 2003) are primary concept and widely applied as the main construct of Behavioral Intention. Behavioral intention is one of the measuring tools used to predict actual behavior when using new technology (Liébana-Cabanillas et al., 2015). One of the new technological developments is the use of mobile payments. In the context of mobile payment, (Zarpou et al., 2012) and (Saha & Theingi, 2009) state that behavioral intention refers to the user's probability of willingness to make mobile payment and perform a certain behavioral act. This can be interpreted as meaning that someone will carry out a behavior if they have the desire or interest to do so. Likewise with technology, the use of a technology is based on the user's desires or expectations, which are influenced by the user's actions and the benefits of the technology are realised by users who have used it. Behavioral intention reflects a person's level of tendency to use technology, so it plays an important role in the adoption and use of a technology.

**Table 1. Indicator of Behavioral Intention**

Indicator of Behavioral Intention	Definition	Reference
Intention to use in the future	Behavioral intention refers to whether or not an individual intends to use mobile internet again in the future.	(Slade et al., 2015) and (Venkatesh et al., 2012)
Intention to always use a system in everyday life	Behavioral intention is the presence or absence of an individual's intention to use mobile internet or systems in the individual's daily life.	
Plan to use a system as often as possible	Behavioral intention is measured by an individual's intention to use the mobile internet or the system they have used as often as possible.	

The level of convenience of the system that will reduce the effort (energy and time) of individuals in doing their work is referred as effort expectancy (Venkatesh et al., 2003). Export expectancy is similar to the concept of perceived ease of use in the Technology Acceptance Model (TAM). The convenience of information technology will create a feeling in a person that the system is useful and therefore creates a feeling of comfort when working using it. Effort expectancy strongly predicts the intention to use mobile payments (Wang & Yi, 2012). The distinct technological nature of QR Codes, separate from

remote mobile payments, will impact behavioral intention based on the perceived ease of use. Based on the arguments, this study concludes the following hypotheses:

H1: Effort expectancy positively affects behavioral intention to use digital payment system in Indonesia

**Table 2. Indicator of Effort Expectancy**

Indicator of Export Expectancy	Definition	Reference
Perceived ease of use	Perceived ease of use as the level of confidence that someone who uses a system will be free from effort.	(Davis, 1989)
Complexity	Complexity is defined as the degree to which a system is considered relatively difficult to understand and use	(Thompson et al., 1991)
Ease of use	Ease of use as the degree to which using an innovation is considered easy to use.	(Venkatesh et al., 2003)

The extent to which an individual perceives the interests believed by other people to influence him or her to use a new system is referred as social influence. Social influence is a determining factor in behavioral goals in using information technology (Venkatesh et al., 2003). In certain environments, the use of information technology will increase a person's status (image) in the social system (Moore & Benbasat, 1991). In terms of technology, social influence is one of the variables often used in mobile payments (Slade et al., 2015). According to Venkatesh and Davis (Venkatesh & Davis, 2000), social influence has an impact on individual behavior through three

mechanisms, namely compliance, internalization and identification. It can be concluded that the more influence an environment has on potential users of information technology to use a new information technology, the greater the interest that arises from the potential user's personality in using that information technology because of the strong influence of the surrounding environment. Based on the arguments above, this study concludes the following hypotheses:

H2: Social Influence positively affects behavioral intention to use digital payment system in Indonesia

**Table 3. Indicator of Social Influence**

Indicator of Social Influence	Definition	Reference
Surrounding individuals who use technology	Being in the presence of people who regularly use and interact with technology devices such as smartphones, tablets, laptops, or other electronic devices.	(Venkatesh et al., 2012)
Surrounding individual advice to use technology	The guidance and suggestions given to a specific person about their use of technology.	
The impact of the people around you on technology use	Influence can range from adoption and usage patterns to support and knowledge sharing, and can significantly impact how interact with technology in your daily life.	

Habit is defined as the extent to which people tend to use it automatically because of learning (Venkatesh et al., 2012). According to (Limayem et al., 2007), habit is defined as the extent to which people tend to carry out behavior automatically due to the learning process. A person's habits will determine how that person makes decisions. Likewise, interest in using a technology will very likely be influenced by the

habits of potential users. People who are used to using similar technology will tend to have more interest in using it than people who are not used to it. Based on the arguments above, this study concludes the following hypotheses:

H3: Habit positively affects behavioral intention to use digital payment system in Indonesia

**Table 4. Indicator of Habit**

Indicator of Habit	Definition	Reference
Past Behavior	Past behavior is often equated with habit for measurement convenience, but habit can only be considered an explanatory variable in the theory of planned behavior when defined independently.	(Thompson et al., 1991), (Ajzen, 1991)
Routine	Routine refers to unvarying daily habits or customs that reflect the observable consequences of habit, reflecting the unvarying procedures, habits, or customs that are part of daily life.	(Saga & Zmud, 1994)
User Gained Experience	Users developed stable routines and habits for using technology, reducing the need for discussion, coordination, or effortful decision making.	(Tyre & Orlikowski, 1994)

How quickly one person adopts a new technology compared to the other of society is the concept of innovation introduced by (Rogers, 1983) who defined personal innovativeness. The user's willingness to try out new things or new technology is referred as Innovativeness (Yi et al., 2006). Someone who is new to technology or is experimenting with new technology believes that new technology is an expression of an innovation or novelty-seeking tendency. While technology acceptance model is not discussed too much about innovativeness, it has been found that innovativeness has supported new product

purchases and innovation adoption (Slade et al., 2015). Consumer innovativeness concept is essential for marketing practitioners as an extension of the UTAUT concept (Aroean & Michaelidou, 2014). In the context of mobile payment, innovativeness possibly could affect mobile payment services (Liébana-Cabanillas et al., 2015). Based on the arguments above, this study concludes the following hypotheses:

H4: Innovativeness positively affects behavioral intention to use digital payment system in Indonesia

**Table 5. Indicator of Innovativeness**

Indicator of Social Influence	Definition	Reference
When I hear about new technology, I will try to find a way to experiment with it	Willingness to engage with and understand the new technology through hands-on experience or conducting experiments to gain practical knowledge about its functionality, capabilities, or possible applications.	(Slade et al., 2015), (Thakur & Srivastava, 2014), and (Wang & Yi, 2012)
Among my colleagues, I am the first to know about new technology.	The earliest or most informed individual to become aware of and acquire knowledge about new technological advancements.	
I like experimenting with new technology.	Individual's enjoyment and interest in trying out and exploring different types of advanced tools, devices, software, or any other technological innovations	

Price value is a form that underlies perceived service quality, as an ingredient of value, perceived service quality can be conceptualized as a result and exchange or Consumer sale between perceived quality and Consumer sacrifices in financial and non-financial terms. Price value is the cost that consumers must incur for using a product. Positive price value when used for

Technology use is perceived to outweigh the monetary costs of scarification by Consumers, so price value has a positive impact on intentions (Venkatesh et al., 2012). When a number of costs are charged to someone when using a technology, it should be accompanied by a benefit value that is balanced with the costs borne. Base on the

arguments above, this study concludes the following hypotheses:

H5: Price Value positively affects behavioral intention to use digital payment system in Indonesia

**Table 6. Indicator of Social Influence**

Indicator of Social Influence	Definition	Reference
Reasonable price value	Mobile internet has an affordable price. Affordable prices will be an individual consideration in determining the use of a technology.	
Good value for money	Good value for money is the second item used to measure the price value variable. This is because an individual will consider whether the price or costs incurred will be commensurate with the benefits the individual will obtain later.	(Venkatesh et al., 2012)
At the current price, Provides a good value	Whether mobile internet provides good value when individuals pay prices at a certain level.	

The term "governance" refers to the formal or informal procedures used to assign accountability or responsibility to different system participants (Sheikh et al., 2021). Multiple studies have demonstrated that government regulations play a significant role in determining the level of acceptance of e-banking, as evidenced by the influence of the government's share. In Indonesia, QRIS is governed by the Peraturan Anggota Dewan Gubernur (PADG) No.21/18/PADG/2019 (Bank Indonesia, 2019b) concerning the Implementation of the National Standard Quick Response Code for Payments, which was enacted on August 16, 2019. As a result, it is predicted that government support will have an impact on behavioral intention. The research conducted by (Chong et al., 2010) and (Tan & Teo, 2000) demonstrates a direct correlation between government support and the intention to engage in certain behaviors, indicating a positive relationship. A study conducted by (Aji et al., 2020) indicates that government support has a positive impact on the perceived usefulness of using e-wallets in Malaysia and Indonesia during the covid-19 pandemic. This hypothesis is based on the research conducted by (Mohamed Al

Haderi, 2014a) and (Hai & Kazmi, 2015), which suggests that perceived usefulness can be influenced by external factors such as government support. The utilization of e-wallets by the Indonesian populace is influenced by their perception of government support manifested as benefits, as stated by Aji et al. (2020). The impact of government support on the willingness to utilize e-wallets can be better explained by perceived usefulness (Aji et al., 2020).

Consumers are more motivated to use an e-wallet when they perceive government assistance. According to the study conducted by (Budi et al., 2013), perceived usefulness is identified as a key determinant for technology adoption. Based on the arguments above, this study concludes the following hypotheses:

H6: Government Support positively affects behavioral intention to use digital payment system in Indonesia.

H6a: Government Support positively affects perceived usefulness to use digital payment system in Indonesia.

H6b: Government Support positively affects trust toward digital payment system in Indonesia.

**Table 7. Indicator of Government Support**

Indicator of Government Support	Definition	Reference
The government encourages transactions through QRIS	The government supports and promotes the use of QRIS as a preferred mode of conducting transactions	(Aji et al., 2020)
The government ensures that the QRIS server facility can run.	The government takes necessary measures to ensure the proper functioning and operation of the QRIS server facility	
The government encourages payment innovation through QRIS.	The Indonesian government, as the governing body, promotes payment innovation, which involves new and improved methods of financial transactions.	

Perceived usefulness refers to the degree to which an individual believes that utilizing a specific system will enhance their performance (Davis, 1989). When a user feels that there is a positive relationship between the system's use and performance, that system is perceived as being highly useful. This term aligns with the word "useful," which is defined as having the capacity to be utilized in a profitable manner. Perceived usefulness is an effective indicator of technology use, according to numerous findings of previous studies (Hampshire, 2017; Lifen Zhao et al., 2010). According to (Commer et al., 2018), there is a correlation between the Performance Expectancy and the Perceived Usefulness in the behavior model. The degree to which a person expects that utilizing a system would make it easier for them to perform better at work is known as performance expectancy (Ghalandari, 2012). A study conducted by (Aji et al., 2020) found that the perceived usefulness of e-wallets plays a mediating

role in the relationship between government support and behavioral intentions to use e-wallets in Malaysia and Indonesia during the COVID-19 pandemic. The perceived of usefulness has a positive impact on the intention to use an electronic wallet (Aji et al., 2020). The level of usefulness that people perceive in electronic money strongly predicts their actual use of it.

Based on the arguments above, this study concludes the following hypotheses:

- H7: Perceived usefulness positively affects behavioral intention to use digital payment system in Indonesia.
- H7a: Perceived usefulness mediates relationship between government support and behavioral intention to use digital payment system in Indonesia.

**Table 8. Indicator of Perceived Usefulness**

Indicator of Government Support	Definition	Reference
Faster work	Completing tasks or activities more quickly. This can be achieved through improved efficiency, reduced processing time, or the use of more effective tools and methods.	(Davis, 1989)
Job performance	The effectiveness and efficiency with which an individual carries out the responsibilities and tasks associated with their job	
Increase in productivity	A measure of how efficiently resources are utilized to achieve desired outputs.	
Effectiveness	The degree to which objectives are achieved. This phrase suggests that the tools, methods, or processes implemented in a work environment	
Makes work easier and useful	are designed to simplify tasks, reduce effort, and contribute to the overall usefulness and efficiency of the work being performed.	

Trust by is defined as a person's willingness to be sensitive to the actions of other people based on the hope that other people will carry out certain actions towards the person who trusts them, without depending on their ability to monitor and control them (Schoorman et al., 2007). (Owusu Kwateng et al., 2019) defines trust as reliability, truth, strength and ability over the personal opinions of other people or an organization. Trust is also a fundamental factor that builds lasting relationships between businesses and individuals. Historically, trust has been viewed as both a unitary and multidimensional concept and has proven challenging to define (McKnight et al., 2002). Furthermore, compared to other traditional technology adoption factors like perceived usefulness, trust has been found by some of these studies to be the most significant predictor of behavioral intention (Chandra et al., 2010; Shin, 2010). Prospective users give careful thought to the risks involved in adopting financial technology.

Consumers are eager to embrace technology as long as they feel secure and trusted with it (Hossain et al., 2020). It is also supported by past research by Namahoot and Laovachien (2018) that users' behavioral intention to use online banking is influenced by their level of trust. In order to explain how government endorsement can increase user adoption of a specific payment technology and shift trust toward the government, (Lu et al., 2011) employ the trust transfer theory. Therefore, the effect of government support on the behavioral intention to adopt the QRIS payment system may be mediated by user trust. Based on the arguments above, this study concludes the following hypotheses:

H8: Trust positively affects behavioral intention to use digital payment system in Indonesia.

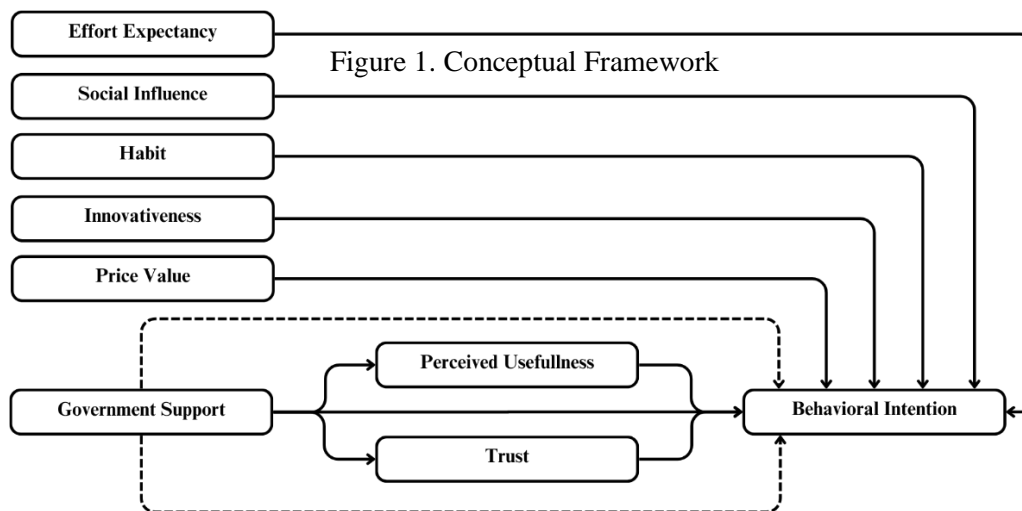
H8a: Trust mediates relationship between government support and behavioral intention to use digital payment system in Indonesia.

**Table 9. Indicator of Trust**

Indicator of Government Support	Definition	Reference
Ability	Consumers receive a guarantee of satisfaction and security from the seller when carrying out transactions.	
Integrity	Integrity is related to how the seller's behavior or habits run their business. The information provided to consumers is true or not. The quality of the products sold is whether they can be trusted or not.	(Mayer et al., 1995)
Benevolence	Sellers do not only pursue maximum profits, but also have great attention in realizing consumer satisfaction.	

Based on published data from the Indonesian Payment System (Asosiasi Sistem Pembayaran Indonesia, 2023) and previous research that integrates the concept of adapting payment system technology to Behavioral Intention, it can be concluded that the increase in QRIS users from the end-user, does not go hand in hand with the increase in transaction volume significantly. Therefore, this research tries to carry

out a mapping between Behavioral Intention factors which were developed through the adapted basic concept of UTAUT2. This research involves research from two sides of QRIS users, namely Merchants and Consumers to facilitate mapping of the relationship between variables in the model formulated based on literature studies from this research. The figure below shows the conceptual framework of this study:



**RESEARCH METHODS**

This analysis will use both primary data and secondary data approaches to collect the data and materials required for this research. Furthermore, data will be collected through a quantitative approach by distributing an online survey, which will then be examined using statistical data analysis. The PLS-SEM method was chosen as the research methodology with a sample size ranging from 100 to 200 which is usually recommended as a good first step in conducting path modeling (Hoyle, 1995). This study uses primary and secondary data with a non-probability approach involving 450 respondents. The sampling method used is purposive sampling, which is a non-random sampling technique. The online survey questionnaire will be available through Google Forms and distributed through social media platforms such as WhatsApp and Instagram. This research processes data in the form of a Likert scale for each construct that will provide solutions to the research conducted. The outline of the questionnaire is as follows. To examine the distribution of the data obtained from the previous online survey, this investigation uses

descriptive analysis. The collected data will later be processed using SmartPLS 4.0 software, a graphical user interface to simplify calculations (Hair et al., 2019). The measurement model, multicollinearity assessment, and structural model are the three components of the analysis.

**RESULTS AND DISCUSSION**

This chapter involves a thorough analysis of collected data. This process begins with the development of a structured questionnaire aligned with research objectives. Criteria are then defined to categorize responses, facilitating later analysis. Behavioral analysis focuses on identifying patterns in participant responses. Descriptive analysis summarizes data characteristics, while statistical analysis involves applying tests to assess relationships or differences between variables. Validity and reliability checks, ethical considerations, and acknowledging study limitations are essential. The chapter concludes by summarizing key findings, setting the stage for interpretation in subsequent chapters.



**Table 10. Merchant Profile**

Variables	Options	Percentage
Gender	Male	53.3%
	Female	46.7%
Age	17 - 25 Years	14.7%
	26 - 35 Years	30.7%
	36 - 45 Years	34.7%
	46 - 55 Years	12%
	> 55 Years	8%
Domcile	Medan	16%
	Jakarta	8%
	Bandung	52%
	Semarang	6.7%
	Surabaya	6.7%
	Kalimantan	0.7%
	Makassar	9.3%
Position on Business	Indonesia Timur	0.7%
	Owner	52.7
	Employee	47.3%
Business Category	Culinary	38%
	Fashion	12%
	Crafting	22%
	Tour & Travel	9.3%
	Others	18.7%
Type of Business	Micro enterprise	80%
	Small Enterprise	20%

**Table 11. Consumer Profile**

Variables	Options	Percentage
Gender	Male	47%
	Female	53%
Age	17 - 25 Years	10%
	26 - 35 Years	38.3%
	36 - 45 Years	33%
	46 - 55 Years	18.7%
Domcile	Medan	6.7%
	Jakarta	13.3%
	Bandung	28.3%
	Semarang	2%
	Surabaya	4.3%
	Kalimantan	4%
	Makassar	12.3%
	Indonesia Timur	28%
Incomer per Month	< Rp1.000.000	3.7%
	Rp1.000.000 - Rp3.000.000	11.3%
	Rp3.000.000 -Rp5.000.000	28%
	> Rp5.000.000	57%
Occupation	Student	6.3%
	Employee	86.7%
	Housewife	2.3%
	PNS	1.3%
	Unemployment	1.3%
	Other	2%
Expense per Month	< Rp1.000.000	5.3%
	Rp1.000.000 – Rp2.500.000	24%
	Rp2.500.000 -Rp5.000.000	35.7%
	> Rp5.000.000	35%

### Measurement Model (Validity, Reliability, and Collinearity)

The measurement model began with validity (convergent validity with AVE) that all latent variables are considered valid because AVE values meet the acceptable limit of 0.5 and (discriminant validity with HTMT) HTMT values are below 0.9 can be concluded that each variable passed the discriminant validity and measurement model tests. Reliability (indicator reliability with factor loading) indicate that the tested indicator

loadings are all reliable, as their values exceed the minimum requirement of 0.70 and (internal consistent reliability with cronbach's alfa and composite reliability) it can assume that each variable has successfully passed the internal consistency reliability test and is suitable for further evaluation because have minimum values of 0.7 (or 0.6 for exploratory studies). The collinearity (VIF) values are below 5, indicating that there isn't of any multicollinearity issue with the indicators.

**Table 11. Measurement Model**

Variable	Code	Factor Loading		Cronbach's Alfa		CR		AVE		VIF	
		M	C	M	C	M	C	M	C	M	C
Effort	EE1	0,9320	0,9320								
Expectancy (EE)	EE2	0,9525	0,9525	0.932	0.903	0.956	0.939	0.880	0.837	2.924	2.975
	EE3	0,9304	0,9304								
Social Influence (SI)	SI1	0,9412	0,939								
	SI2	0,9420	0,961	0.929	0.945	0.954	0.965	0.875	0.902	1.853	1.952
	SI3	0,9243	0,948								
Habit (HT)	HT1	0,8254	0,8254								
	HT2	0,8863	0,8863	0.831	0.842	0.899	0.905	0.748	0.762	2.597	3.069
	HT3	0,8820	0,8820								
Innovativeness (IV)	IV1	0,8731	0,8731								
	IV2	0,8978	0,8978	0.860	0.829	0.914	0.898	0.781	0.746	2.222	2.573
	IV3	0,8802	0,8802								
Price Value (PV)	PV1	0,9622	0,978								
	PV2	0,9690	0,983	0.965	0.979	0.977	0.986	0.935	0.959	2.077	1.766
	PV3	0,9698	0,978								
Government Support (GS)	GS1	0,8586	0,8586								
	GS2	0,8464	0,8464	0.899	0.927	0.929	0.948	0.768	0.821	2.841	3.125
	GS3	0,9188	0,9188								
	GS4	0,8801	0,8801								
Perceived Usefulness (PU)	PU1	0,8461	0,8461								
	PU2	0,8645	0,8645								
	PU3	0,8678	0,8678	0.914	0.934	0.936	0.950	0.745	0.792	5.316	5.777
	PU4	0,8733	0,8733								
	PU5	0,8661	0,8661								
Trust (T)	T1	0,8998	0,905								
	T2	0,8800	0,900	0.889	0.901	0.931	0.938	0.819	0.834	4.017	4.322
	T3	0,9349	0,934								
Behavioral Intention (BI)	BI1	0,9372	0,914								
	BI2	0,8912	0,917	0.886	0.891	0.929	0.932	0.815	0.821	1	1
	BI3	0,8802	0,887								

**Table 12. Merchant Discriminant Validity with HTMT**

	BI	EE	GS	HT	IV	PU	PV	SI	T
BI									
EE	0,5952								
GS	0,6026	0,6763							
HT	0,9475	0,7365	0,6906						
IV	0,7686	0,6559	0,7013	0,7940					
PU	0,7734	0,8523	0,7236	0,7964	0,6637				
PV	0,4659	0,5578	0,7292	0,5957	0,5595	0,5638			
SI	0,7145	0,4859	0,5917	0,6646	0,6164	0,5853	0,5629		
T	0,7838	0,7647	0,7499	0,7070	0,6254	0,9387	0,5282	0,5748	

**Table 13. Consumer Discriminant Validity with HTMT**

	BI	EE	GS	HT	IV	PU	PV	SI	T
BI									
EE	0,665								
GS	0,739	0,682							
HT	0,880	0,815	0,691						
IV	0,829	0,678	0,754	0,839					
PU	0,823	0,856	0,828	0,813	0,767				
PV	0,485	0,552	0,636	0,590	0,619	0,572			
SI	0,668	0,563	0,575	0,721	0,658	0,556	0,475		
T	0,847	0,784	0,824	0,764	0,781	0,927	0,579	0,624	

**Hypothesis Testing**

The investigation has established the hypothesis, which was previously outlined with twelve hypothesis for perspective of merchant and consumer. During this part, the investigation is

going to support these hypotheses by assessing the t-test, p-value, and path coefficient. Listed below is a comprehensive table and detailed analysis of the findings for each hypothesis.

**Table 13. Hypothesis Testing**

Hypotheses		Path Coefficient ( $\beta$ )	T Statistic* ( O/STDEV )	P Values**	Result	Conclusion
Merchant						
H1	EE → BI	-0,2040	2,9818	0,0015	Sig	Accepted
H2	SI → BI	0,1954	3,0157	0,0013	Sig	Accepted
H3	HT → BI	0,5425	7,6933	0,0000	Sig	Accepted
H4	IV → BI	0,1976	3,5478	0,0002	Sig	Accepted
H5	PV → BI	-0,0935	1,2773	0,1010	Insig	Rejected
H6	GS → BI	-0,1173	1,6234	0,0526	Insig	Rejected
H6a	GS → PU	0,6561	10,0866	0,0000	Sig	Accepted
H6b	GS → T	0,6740	11,7727	0,0000	Sig	Accepted
H7	PU → BI	0,1009	0,8693	0,1925	Insig	Rejected
H7a	GS → PU → BI	0,0662	0,8693	0,1925	Insig	Rejected
H8	T → BI	0,3394	3,3493	0,0004	Sig	Accepted
H8a	GS → T → BI	0,2288	3,2197	0,0007	Sig	Accepted
Consumer						
H1	EE → BI	-0,175	3,027	0,003	Sig	Accepted
H2	SI → BI	0,073	1,780	0,076	Insig	Rejected
H3	HT → BI	0,772	5,436	0,000	Sig	Accepted
H4	IV → BI	0,754	2,782	0,006	Sig	Accepted
H5	PV → BI	0,376	2,150	0,032	Sig	Accepted
H6	GS → BI	0,172	0,871	0,384	Insig	Rejected
H6a	GS → PU	0,221	26,377	0,000	Sig	Accepted
H6b	GS → T	-0,114	21,126	0,000	Sig	Accepted
H7	T → BI	0,095	2,835	0,005	Sig	Accepted
H7a	GS → T → BI	0,282	2,713	0,007	Sig	Accepted
H8	PU → BI	0,171	2,435	0,015	Sig	Accepted
H8a	GS → PU → BI	0,213	2,439	0,015	Sig	Accepted

\*t-value > 1.96 | \*\* p-value < 0.05

Based on hypothesis testing result it can be conducted that from merchant perspective eight from twelve hypothesis are significant toward behavioral intention. This result is aligned with prior investigations conducted by (Madigan et al., 2016) who indicated that EE is having significant

effects towards BI, (Nugraha & Rachmawati, 2019) who indicated that SI is having significant effects towards BI, (Chen & Chen, 2021) and (Qazi et al., 2021) who indicated that HT is having significant effects towards BI, (Michael Musyaffi et al., 2021) and (Jaiswal et al., 2018) who

indicated that IV is having significant effects towards BI, (Slade et al., 2015) who indicated that PV isn't having significant effects towards BI, (Aji et al., 2020) who indicated that GS isn't having significant effects towards BI, (Mohamed Al Haderi, 2014b) who indicated that GS is affected PU to use digital payment, (Welch et al., 2005) who indicated that GS is affected T to use digital payment, (Afgani et al., 2021) indicated that PU isn't having significant effects towards BI, (Aji et al., 2020) indicated that insignificant effect of Trsut (T) as mediator between Government Support (GS) and Behavioral Intention (BI), (Slade et al., 2015) regarding the willingness to accept proximity mobile payments as well as by (Widodo et al., 2019) on the subject of digital wallets, and (Aji et al., 2020) who indicated significant effect of Perceived Usefulness (PU) as mediator between Government Support (GS) and Behavioral Intention (BI).

Moreover, from consumer perspective ten from twelve hypothesis are significant toward behavioral intention. This result is aligned with prior investigations conducted by Hafiy Fadzil, 2017) who indicated that EE is having significant effects towards BI, (Sultana, 2020) who indicated that SI isn't having significant effects towards BI, (Duong & Nguyen, 2022) who indicated that HT is having significant effects towards BI, (Michael Musyaffi et al., 2021) and (Jaiswal et al., 2018) who indicated that IV is having significant effects towards BI, (Hafiy Fadzil, 2017) who indicated that PV is having significant effects towards BI, (Mensah, 2019) who indicated that GS isn't a predictor of the intention to use e-government services, (Mohamed Al Haderi, 2014b) who indicated that GS is affected PU to use digital payment, (Welch et al., 2005) who indicated that GS is affected T to use digital payment, (Puspitasari & Salehudin, 2022) indicated that PU is having significant effects towards BI, (Puspitasari & Salehudin, 2022) indicated that significant effect of Trust (T) as mediator between Government Support (GS) and Behavioral Intention (BI), (Puspitasari & Salehudin, 2022) and (Widodo et al., 2019) who indicated that T is having significant effects towards BI, and (Puspitasari & Salehudin, 2022) and (Aji et al., 2020) who indicated significant effect of Perceived Usefulness (PU) as mediator between Government Support (GS) and Behavioral Intention (BI)..

In looking for factors that can influence merchants' and consumers' intentions to actually use QRIS technology, the investigation adopted a theory by (Venkatesh et al., 2012) called UTAUT2. The researcher also added two

additional independent variables adopted from prior frameworks by (Puspitasari & Salehudin, 2022) and (Slade et al., 2015), namely innovativeness, perceived usefulness, and innovativeness. The research found that, from a merchant perspective, five hypotheses significantly affect behavioral intention, and the other three focus on perceived usefulness and trust as intervening factors of the QRIS feature. The eight hypotheses are effort expectancy, social influence, habit, innovativeness, perceived usefulness towards behavioral intention, government toward trust, and trust as an intervening variable between government support and behavioral intention.

This is different from the consumer perspective, where six hypotheses significantly affect behavioral intention and the other four on perceived usefulness and trust as intervening of the QRIS feature toward behavioral intention. The ten variables are effort expectancy, habit, innovativeness, price value, trust, perceived usefulness, government toward perceived usefulness and trust, and trust also perceived usefulness as an intervening variable between government support and behavioral intention. These significant constructs can be used further as the literature to consider these variables important in determining QRIS feature adoption. The outcome can also be one of the most influential factors for the particular target markets of this research.

This research offers valuable insights for managerial decision-making, particularly in fostering economic growth for merchants, consumers, and stakeholders within the digital payment ecosystem. The study's findings can serve as a guide for SME owners and managers, aiding in the formulation of effective business strategies by underscoring the significance of QRIS as a preferred payment method. By delving into the preferences and behaviors of consumers across diverse demographic segments, such as age and gender, businesses can tailor their marketing and operational approaches to attract and retain consumer successfully. Furthermore, the research emphasizes the critical role of a user-friendly QRIS payment infrastructure for SMEs. Encouraging businesses to invest in and integrate QRIS payment systems can enhance the overall customer experience, increase convenience, boost customer sales, and foster loyalty. Additionally, the recommendations from this study can assist stakeholders in evaluating the impact of QRIS adoption on merchants, consumers, and the broader economy. This information is instrumental in formulating supportive policies and initiatives to

further drive digital payment adoption and cultivate a favorable business environment. In summary, the managerial contribution of this research lies in its ability to offer practical implications for business practitioners and decision-makers, aiding them in navigating challenges and making informed decisions. The study provides suggestions and recommendations that can assist companies and organizations in addressing strategic or tactical changes aligned with the research's objectives.

## CONCLUSION

QRIS aims to encourage national development through financial inclusion programs in the digital era should implement integrated system to make sustainable system. These results are possible given that the combination of these factors addresses various aspects of user experience, social dynamics, individual characteristics, and external support. This holistic approach acknowledges the multifaceted nature of digital payment adoption, emphasizing that successful implementation requires a balance of usability, social acceptance, habit formation, technological openness, governmental backing, perceived utility, and user trust. It can contribute to the overall perceived usefulness and trust in QRIS, positively shaping consumers' behavioral intentions to use the system in Indonesia. The interplay of these factors creates a favorable environment for the adoption of digital payment QRIS systems.

## BIBLIOGRAPHY

- Afgani, K. F., Santoso, O. R., Pringgabayu, D., Dewi, E. F., & Simorangkir, Z. Z. (2021). The Analysis on Factors Influencing the Use of Mobile Payment System Among Generation Z in Indonesia. *International Conference on Industrial Engineering and Operations Management Monterrey*.
- Aji, H. M., Berakon, I., & Md Husin, M. (2020). COVID-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia. *Cogent Business and Management*, 7(1). <https://doi.org/10.1080/23311975.2020.1804181>
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Process*, 50, 179–221.
- Aroean, L., & Michaelidou, N. (2014). Are innovative consumers emotional and prestigiously sensitive to price? *Journal of Marketing Management*, 30(3–4), 245–267.
- <https://doi.org/10.1080/0267257X.2013.811094>
- Asosiasi Sistem Pembayaran Indonesia. (2023). *Berita Statistik Sistem Pembayaran Indonesia*.
- Bank Indonesia. (2019a). *Blueprint Sistem Pembayaran Indonesia 2025 | Bank Indonesia: Menavigasi Sistem Pembayaran Nasional di Era Digital*.
- Bank Indonesia. (2019b). *Peraturan Anggota Dewan Gubernur Nomor 21/18/PADG/2019 tentang Implementasi Standar Nasional Quick Response Code untuk Pembayaran*. [https://www.bi.go.id/id/publikasi/peraturan/Pages/padg\\_211819.aspx](https://www.bi.go.id/id/publikasi/peraturan/Pages/padg_211819.aspx)
- Budi, A. S. L., Efendi, E., & Dahesihsari, R. (2013). Perceived Usefulness as Key Stimulus to the Behavioral Intention to Use 3G Technology. *ASEAN Marketing Journal*, 3(2). <https://doi.org/10.21002/amj.v3i2.2025>
- Chandra, S., Srivastava, S. C., & Theng, Y.-L. (2010). Evaluating the Role of Trust in Consumer Adoption of Mobile Payment Systems: An Empirical Analysis. *Communications of the Association for Information Systems*, 27. <https://doi.org/10.17705/1cais.02729>
- Chen, L. Y., & Chen, Y.-J. (2021). A Study of The Use Behavior of Line Today in Taiwan Based on The UTAUT2 Model. *Revista de Administração de Empresas*, 61(6). <https://doi.org/10.1590/s0034-759020210607>
- Chong, A. Y. L., Ooi, K. B., Lin, B., & Tan, B. I. (2010). Online banking adoption: An empirical analysis. *International Journal of Bank Marketing*, 28(4), 267–287. <https://doi.org/10.1108/02652321011054963>
- Commer, P. J., Sci, S., Sair, S. A., & Danish, R. Q. (2018). Effect of Performance Expectancy and Effort Expectancy on the Mobile Commerce Adoption Intention through Personal Innovativeness among Pakistani Consumers. *Pakistan Journal of Commerce and Social Sciences*, 12(2), 501–520.
- Damayanti, S. A., & Jalunggono, G. (2022). Analysis Of The Influence Of Macroeconomic Variables On Inflation: The Vecm Approach. *Journal of Humanities, Social Sciences and Business (JHSSB)*, 2(1), 199–218.
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319–340.
- Duong, V., & Nguyen, T. T. (2022). *Central European Management Journal A Study On*

*The Behavioral Intention And Behavior Of Using E-Money In Vietnam* (Vol. 30, Issue 3).

- Ghalandari, K. (2012). The Effect of Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions on Acceptance of E-Banking Services in Iran: the Moderating Role of Age and Gender. *Middle-East Journal of Scientific Research*, 12(6), 801–807. <https://doi.org/10.5829/idosi.mejsr.2012.12.6.2536>
- Hafiy Fadzil, F. (2017). A Study on Factors Affecting the Behavioral Intention to use Mobile Apps in Malaysia. *SSRN Electronic Journal*. <https://ssrn.com/abstract=3090753>
- Hai, L. C., & Kazmi, S. H. A. (2015). Dynamic support of government in online shopping. *Asian Social Science*, 11(22), 1–9. <https://doi.org/10.5539/ass.v11n22p1>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hampshire, C. (2017). A mixed methods empirical exploration of UK consumer perceptions of trust, risk and usefulness of mobile payments. *International Journal of Bank Marketing*, 35(3), 354–369. <https://doi.org/10.1108/IJBM-08-2016-0105>
- Hossain, S. A., Bao, Y., Hasan, N., & Islam, M. F. (2020). Perception and prediction of intention to use online banking systems. *International Journal of Research in Business and Social Science* (2147- 4478), 9(1), 112–126. <https://doi.org/10.20525/ijrbs.v9i1.591>
- Hoyle, R. H. (1995). *Structural Equation Modeling*. SAGE Publication Inc.
- Jaiswal, A. K., Niraj, R., Park, C. H., & Agarwal, M. K. (2018). The effect of relationship and transactional characteristics on customer retention in emerging online markets. *Journal of Business Research*, 92, 25–35. <https://doi.org/10.1016/j.jbusres.2018.07.007>
- Kotler, P., & Armstrong, G. (2012). *Principles of Marketing* (14th ed.). Pearson Education.
- Liébana-Cabanillas, F., Ramos de Luna, I., & Montoro-Ríos, F. J. (2015). User behaviour in QR mobile payment system: the QR Payment Acceptance Model. *Technology Analysis and Strategic Management*, 27(9), 1031–1049. <https://doi.org/10.1080/09537325.2015.1047757>
- Lifen Zhao, A., Koenig-Lewis, N., Hanmer-Lloyd, S., & Ward, P. (2010). Adoption of internet banking services in China: Is it all about trust? *International Journal of Bank Marketing*, 28(1), 7–26. <https://doi.org/10.1108/02652321011013562>
- Limayem, M., Hirt, S. G., & Cheung, C. M. K. (2007). How Habit Limits the Predictive Power of Intention: The Case of Information Systems Continuance. *Source: MIS Quarterly*, 31(4), 705–737. <http://www.jstor.orgStableURL:http://www.jstor.org/stable/25148817>
- Lu, Y., Yang, S., Chau, P. Y. K., & Cao, Y. (2011). Dynamics between the trust transfer process and intention to use mobile payment services: A cross-environment perspective. *Information and Management*, 48(8), 393–403. <https://doi.org/10.1016/j.im.2011.09.006>
- Madigan, R., Louw, T., Dziennus, M., Graindorge, T., Ortega, E., Graindorge, M., & Merat, N. (2016). Acceptance of Automated Road Transport Systems (ARTS): An Adaptation of the UTAUT Model. *Transportation Research Procedia*, 14, 2217–2226. <https://doi.org/10.1016/j.trpro.2016.05.237>
- McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information Systems Research*, 13(3), 334–359. <https://doi.org/10.1287/isre.13.3.334.81>
- Mensah, I. K. (2019). Factors Influencing the Intention of University Students to Adopt and Use E-Government Services: An Empirical Evidence in China. *SAGE Open*, 9(2). <https://doi.org/10.1177/2158244019855823>
- Michael Musyaffi, A., Agustin Pratama Sari, D., & Kismayanti Respati, D. (2021). Understanding of Digital Payment Usage During COVID-19 Pandemic: A Study of UTAUT Extension Model in Indonesia. *Journal of Asian Finance*, 8(6), 475–0482. <https://doi.org/10.13106/jafeb.2021.vol8.no6.0475>
- Mohamed Al Haderi, S. (2014a). The Influences of Government Support in Accepting the Information Technology in Public Organization Culture. *International Journal of Business and Social Science*, 5(5). [www.ijbssnet.com](http://www.ijbssnet.com)
- Mohamed Al Haderi, S. (2014b). The Influences of Government Support in Accepting the Information Technology in Public Organization Culture. *International Journal*

- of *Business and Social Science*, 5(5).  
www.ijbssnet.com
- Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research*, 2(3), 192–222.  
<https://doi.org/10.1287/isre.2.3.192>
- Nugraha, A., & Rachmawati, I. (2019). The Use of Modified Unified Theory of Acceptance and Use of Technology 2 Model to Analyse Factors Influencing Behavioural Intentions (A Study on Bukalapak Mobile App Indonesia). *International Journal of Business and Management Invention (IJBMI) ISSN*, 8, 80–84. www.ijbmi.org
- Otoritas Jasa Keuangan. (2022, October 13). *Banking Digital Transformation*.  
<https://sikapiuangmu.ojk.go.id/FrontEnd/CM/S/Article/40774>
- Owusu Kwateng, K., Osei Atiemo, K. A., & Appiah, C. (2019). Acceptance and use of mobile banking: an application of UTAUT2. *Journal of Enterprise Information Management*, 32(1), 118–151.  
<https://doi.org/10.1108/JEIM-03-2018-0055>
- Puspitasari, A. A., & Salehudin, I. (2022). Quick Response Indonesian Standard (QRIS): Does Government Support Contributes to Cashless Payment System Long-term Adoption? *Journal of Marketing Innovation (JMI)*, 1(2), 27–41.  
<https://doi.org/10.17509/jmi.v1i1.xxxx>
- Qazi, W., Raza, S. A., Khan, K. A., & Salam, J. (2021). Adoption of E-learning System in Higher Education Environments: Evidence from Modified UTAUT Model. *ASR: Chiang Mai University Journal of Social Sciences and Humanities*, 7(1).  
<https://doi.org/10.12982/CMUJASR.2020.003>
- Rogers, E. M. (1983). *Diffusion of innovations*. Free Press.
- Saga, V. L., & Zmud, R. W. (1994). *The Nature and Determinants of IT Acceptance, Routinization, and Infusion*. Elsevier.
- Saha, G. C., & Theingi. (2009). Service quality, satisfaction, and behavioural intentions: A study of low-cost airline carriers in Thailand. *Managing Service Quality*, 19(3), 350–372.  
<https://doi.org/10.1108/09604520910955348>
- Schoorman, F. D., Mayer, R. C., & Davis, J. H. (2007). AN INTEGRATIVE MODEL OF ORGANIZATIONAL TRUST: PAST, PRESENT, AND FUTURE. In *Academy of Management Review* (Vol. 32, Issue 2).
- Sheikh, K., Sriram, V., Rouffy, B., Lane, B., Soucat, A., & Bigdeli, M. (2021). Governance roles and capacities of ministries of health: A multidimensional framework. *International Journal of Health Policy and Management*, 10(5), 237–243.  
<https://doi.org/10.34172/ijhpm.2020.39>
- Shin, D. H. (2010). Modeling the interaction of users and mobile payment system: Conceptual framework. *International Journal of Human-Computer Interaction*, 26(10), 917–940.  
<https://doi.org/10.1080/10447318.2010.502098>
- Slade, E. L., Dwivedi, Y. K., Piercy, N. C., & Williams, M. D. (2015). Modeling consumers' adoption intentions of remote mobile payments in the UK: Extending UTAUT with innovativeness, risk and trust. *Psychology and Marketing*, 32(8), 860–873.
- Sultana, J. (2020). Determining the factors that affect the uses of Mobile Cloud Learning (MCL) platform Blackboard- a modification of the UTAUT model. *Education and Information Technologies*, 25(1), 223–238.  
<https://doi.org/10.1007/s10639-019-09969-1>
- Tan, M., & Teo, T. (2000). Factors Influencing the Adoption of Internet Banking. *Journal of the Association for Information Systems*, 1(1), 1–44.  
<https://doi.org/10.17705/1jais.00005>
- Thakur, R., & Srivastava, M. (2014). Adoption readiness, personal innovativeness, perceived risk and usage intention across customer groups for mobile payment services in India. *Internet Research*, 24(3), 369–392.  
<https://doi.org/10.1108/IntR-12-2012-0244>
- Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). Personal Computing: Toward a Conceptual Model of Utilization Utilization of Personal Computers Personal Computing: Toward a Conceptual Model of Utilization1. *MIS Quarterly*, 15(1), 125–143.
- Tyre, M. J., & Orlikowski, W. J. (1994). Windows of Opportunity: Temporal Patterns of Technological Adaptation in Organizations. *Organization Science*, 5(1), 98–118.  
<https://doi.org/10.1287/orsc.5.1.98>
- Venkatesh, V., & Davis, F. D. (2000). Theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186–204.  
<https://doi.org/10.1287/mnsc.46.2.186.11926>
- Venkatesh, V., Smith, R. H., Morris, M. G., Davis, G. B., Davis, F. D., & Walton, S. M. (2003). User Acceptance of Information Technology:



Toward a Unified View. *MIS Quarterly*, 27(3), 425–478.

- Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, 36(1), 157–178. <http://about.jstor.org/terms>
- Wang, L., & Yi, Y. (2012). The Impact of Use Context on Mobile Payment Acceptance: An Empirical Study in China. Wang, L., & Yi, Y. (2012). *The Impact of Use Context on Mobile Payment Acceptance: An Empirical Study in China. Advances in Intelligent and Soft Computing*, 293–299. Doi:10.1007/978-3-642-27945-4\_47 , 140, 293–299.
- Welch, E. W., Hinnant, C. C., & Moon, M. J. (2005). Linking Citizen Satisfaction with E-Government and Trust in Government. In *Public Administration Research and Theory: J-PART* (Vol. 15, Issue 3).
- Widodo, M., Irawan, M. I., & Sukmono, R. A. (2019). *Extending UTAUT2 to Explore Digital Wallet Adoption in Indonesia*.
- Yi, M. Y., Fiedler, K. D., & Park, J. S. (2006). Understanding the Role of Individual Innovativeness in the Acceptance of IT-Based Innovations: Comparative Analyses of Models and Measures \*. In *The Author Journal compilation C* (Vol. 37). Decision Sciences Institute.
- Zarmpou, T., Saprikis, V., Markos, A., & Vlachopoulou, M. (2012). Modeling users' acceptance of mobile services. *Electronic Commerce Research*, 12(2), 225–248. <https://doi.org/10.1007/s10660-012-9092-x>