

# Quick Response Indonesian Standard (QRIS): Does Government Support Contribute to Cashless Payment System Long-term Adoption?

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## **ABSTRACT:**

The Indonesian payment system industry and regulator have created a standard QR Code in Indonesia that applies to all payment system operators, known as the Quick Response Indonesian Standard (QRIS). QRIS payments are designed to make transactions easier, faster, and safer. The goal of this study was to look at the relationship between effort expectancy, social influence, innovativeness, perceived usefulness, government support, and behavioral intention to use QRIS in the future. This study included 275 Indonesian respondents who had made payments through QRIS. The findings indicate that government support has a positive and significant relationship with behavioral intention to continue using QRIS, both directly and through the mediation of trust and perceived usefulness. Furthermore, effort expectancy, social influence, innovativeness, perceived usefulness, and trust have a direct impact on behavioral intention. As the implication, QRIS implementation must not rely solely on government approval but must actively leverage that approval to build positive user experiences and trust, which drives to the long-term adoption intention.

## **Keywords:**

*QRIS, Cashless payment system, government support, innovativeness, perceived usefulness, trust.*

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## 1. INTRODUCTION

Nowadays, online transactions are shifting to the use of digital platforms. This shifting is based on the community's need for a fast and secure payment. It is undeniable that smartphones are now increasingly embedded in people's daily lives. Thus, the payment instruments have transformed to be available on smartphones. Bank Indonesia in the Indonesian Payment System Blueprint 2025 stated that the increasing demand for financial services meets the principles of a fast, efficient, and digital era that currently disrupts all aspects, including the payment (Bank Indonesia, 2019a). A payment system is a collection of rules, systems, and mechanisms for transferring funds to satisfy obligations arising from economic activity. The payment system components include payment instruments, clearing mechanisms, and final settlement (Bank Indonesia, 2019b). According to OJK's third national financial literacy and inclusive survey data in 2019, the financial literacy index reached approximately 38%, while the financial inclusion rate reached approximately 76%. Looking back at the average of the past 3 (three) years, Indonesian understanding of finance has generally increased by 8.33%, and access to financial products and services has increased by 8.39% (OJK, 2020).

As a derivative of the Indonesia Payment System 2025 vision and to solve challenges in the Indonesian payment system related to the interconnection issues, Bank Indonesia as the regulator along with ASPI (Indonesian Payment System Association) created a QR code-based payment standard initiative called Quick Response Indonesian Standard or QRIS. Begin to be implemented in January 2020, QRIS is an amalgamation of various QR codes from various payment system service providers. These providers, as defined by Bank Indonesia, are banks or other institutions that provide the payment system services. The availability of QRIS is expected to make the transactions be more efficient, quicker, and safer by integrating the QR code. In addition, QRIS is also needed to expand the acceptance of national non-cash payments more efficiently as well as to strengthen the interconnection of the digital ecosystem such as e-commerce, fintech, or banks (Bank Indonesia, 2019a).

Nevertheless, the implementation of QRIS still faces some challenges and obstacles. *Republika.co.id* reported that Indonesian people are still slow in responding to the development of digital financial ecosystem due to the low digital financial literacy. Another problem in implementing QRIS are the uneven connectivity constraints and the security infrastructure that should be a concern for all parties related (Wulandari & Darma, 2020).

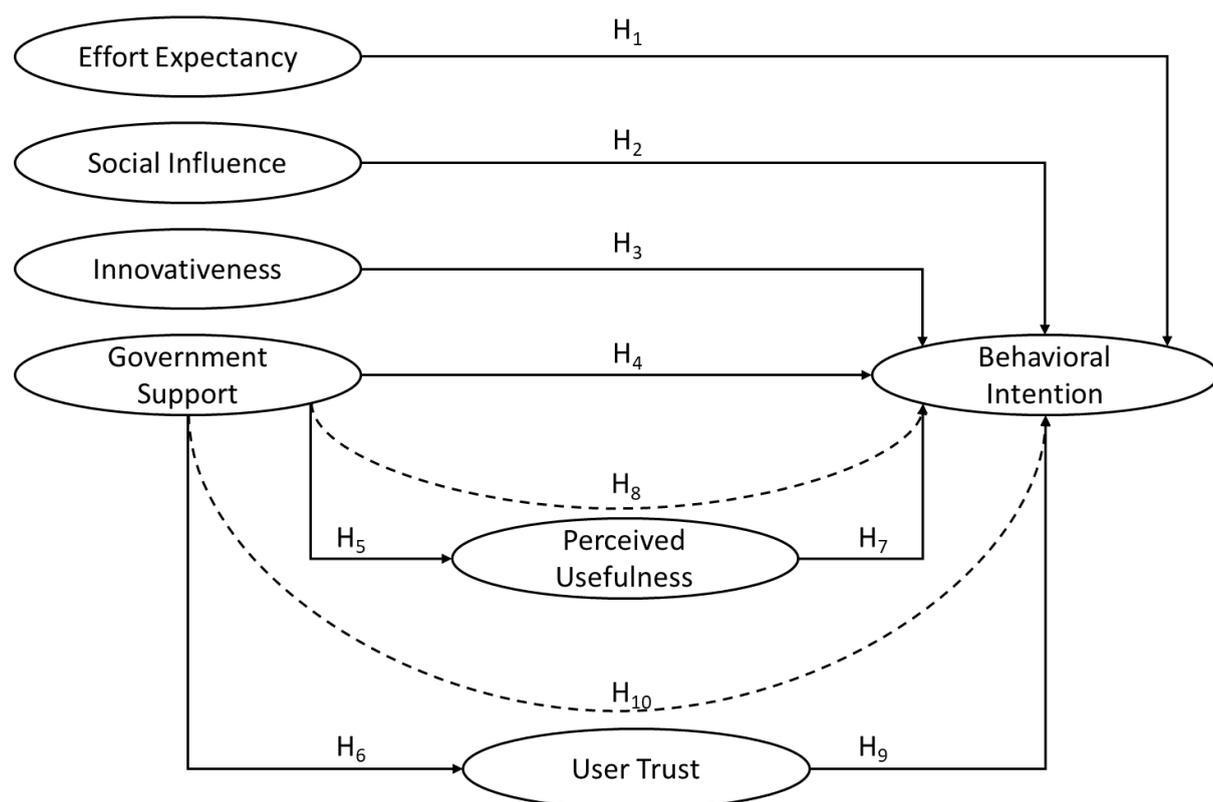
Traditional adoption models, such as Technology Acceptance Model (TAM) and Unified Theory of Technology Use Acceptance (UTAUT), have been used for years to assess users attitudes toward technology. TAM is a reliable and efficient model for evaluating the technology. In response to this criticism, Venkatesh et al. (2003) implemented TAM model into UTAUT by utilizing eight individual users who adopt a model. It is assumed that performance expectations, effort expectations, and social influence affect the behavioral intentions (Slade et al., 2015). Thus, this study examines the behavioral intention of adopting a cashless payment system via QRIS in terms of effort expectancy, social influence, innovativeness, government support, trust, and perceived usefulness.

This study is expected to help the industries in having a better understanding in consumer behavior when interacting with a digital service. Furthermore, it can be used to lay the groundwork for the development of digital payment products for the industry. The findings of this study are hoped to help regulators realize the payment system vision for 2025 and increase financial inclusion. This study was conducted in Indonesia due to the

borderless nature of the digital payment. Since it was done in a single session, more research is needed to determine the motivation for using this system. This research focuses solely on QRIS and does not consider other payment methods such as EDC or mobile payments. Furthermore, this study only pays attention on the consumer side, not the merchant side.

## 2. LITERATURE REVIEW

This research focuses on government support on payments using the QR Code standard in Indonesia named QRIS. Technological advancements lead to many developments related to the financial technology to meet the demands of Indonesian people in payment transaction. According to Ryu and Murdock, (2013), a Japanese firm, Denso Wave, invented the Quick Response (QR) code in 1994. It contains many types of material, including URLs, pictures, and videos. The code may be put to various goods and advertising media, including the product packaging, point-of-purchase displays, and print advertisements to enable users of various smartphone models to access the content by using their cameras and the QR Code Reader application. As reported by (Bank Indonesia, 2019a), QRIS is a standard QR Code payment for Indonesian payment system designed by Bank Indonesia and Indonesian Payment System Association (ASPI). This paper proposes the following research model to explain how the government support for QRIS affects users' behavioral intention to continue using the QRIS cashless payment system.



**Figure 1.** Research Model

Behavioral intention is the possibility of consumers' desire to use mobile payments (Zarmpou et al., 2012). In addition, various theories have used behavioral intention as one of the primary constructs in various theories, such as the Technology Acceptance Model (TAM)

initiated by (Davis, 1989) and UTAUT by Venkatesh et al. (2003). Behavioral intention can be the best measuring tool to see user behavior in using new technology (Liébana-Cabanillas et al., 2015).

### **2.1 Effort Expectancy**

Effort expectancy refers to consumer's expectation of the level of convenience associated with technology use (Venkatesh et al., 2012). One example of effort expectancy is the Technology Acceptance Model's principle of perceived ease of use (TAM). According to Wang and Yi (2012), effort expectancy is a strong predictor of the intention to use the mobile payments. Since QR codes use different technology from the remote mobile payments, the perceived ease of use of QR codes will influence the behavioral intention. On the other hand, Ayaz and Yanartaş, (2020) discovered that effort expectation does not affect the behavioral intention. As a result, this paper proposes the following hypothesis:

H<sub>1</sub>: Effort expectancy positively affects behavioral intention to continue using the QRIS Cashless Payment System.

### **2.2 Social Influence**

In the consumer context, social influence is when users perceive that they need to use the similar technology that meets their necessary (Venkatesh et al., 2012). This assumption is based on the individuals' tendency to employ the new technology to social networks and the influence of social pressure. In terms of technology, social influence is one of the variables often used in mobile payments (Slade et al., 2015). Therefore, this paper proposes the following hypothesis:

H<sub>2</sub>: Social influence positively affects behavioral intention to continue using the QRIS Cashless Payment System.

### **2.3 Innovativeness**

Innovativeness reflects in a person's desire to look for something new and different (Slade et al., 2015). New technology is an expression of a tendency in innovation or novelty-seeking for those who are new to this area. Although innovativeness is not discussed too much in the technology acceptance model, innovativeness has supported new product purchases and innovation adoption in various other subjects (Slade et al., 2015). The concept of consumer innovativeness is crucial for marketing practitioners (Aroean & Michaelidou, 2014), which is an extension of the UTAUT concept. Another study from Liébana-Cabanillas et al. (2015) stated that in connection with the mobile payment, an innovative technology that has become a trend in recent years, personal innovativeness possibly could affect the use of mobile payment services. Thus, this paper proposes the following hypothesis:

H<sub>3</sub>: Innovativeness positively affects behavioral intention to continue using the QRIS Cashless Payment System.

### **2.4 Government Support**

Research from Chong et al. (2010) and Tan & Teo (2000) shows the relationship between government support and behavioral intention to produce a positive relationship. Several studies explain that government's share greatly influences the acceptance of e-banking through government regulations. In Indonesia, QRIS is regulated in the Regulation of Members of the Board of Governors or Peraturan Anggota Dewan Gubernur (PADG) No.21/18/PADG/2019 concerning the Implementation of the National Standard Quick Response Code for Payments on August 16, 2019. So, it is estimated that government support will affect the behavioral intention. Research by Aji et al. (2020) states that

government support positively affects perceived usefulness in using e-wallets in Malaysia and Indonesia during Covid-19. This hypothesis is developed on Haderi (2014) and Hai and Alam Kazmi's (2015) research that various external factors can affect perceived usefulness: government support.

According to Aji et al. (2020), Indonesian people prefer to use e-wallets when they perceive government support in the form of benefits. The research of Budi et al. (2013) stated that perceived usefulness could be determined as a primary factor for using the technology. Based on these facts, the effect of government support on the intention to use e-wallets will be better explained by the perceived usefulness (Aji et al., 2020).

The new QR technology also requires a transparent regulation to protect all stakeholders affected by the QR technology, including the merchants and consumers. This need is similar to introducing the mobile wallets digital ecosystem, which necessitates stronger regulation by monetary policymakers to build trust toward the technology (George & Sunny, 2021). Arguably, the government's stronger and more transparent regulatory framework will reduce the risk of using a mobile payment system and develop user trust toward the payment system (Srivastava et al., 2010). Based on the arguments above, this study concludes the following hypotheses:

H<sub>4</sub>: Government support positively affects behavioral intention to continue using the QRIS Cashless Payment System.

H<sub>5</sub>: Government support positively affect perceived usefulness in using the QRIS Cashless Payment System.

H<sub>6</sub>: Government support positively affects user trust toward the QRIS Cashless Payment System.

## 2.5 Perceived Usefulness

Perceived usefulness is a measure of consumers' confidence in the ability of a particular system to improve their performance (Aji et al., 2020). Previous studies have found that one of the strong predictors of using technology is perceived usefulness (Hampshire, 2017; Lifan Zhao et al., 2010). The perceived usefulness variable in the behavior model is consistent with the performance expectancy variable (Sair and Danish, 2018). Performance expectancy is the level where an individual believes that using a system will make their work performance improved (Ghalandari, 2012).

Research by Aji et al. (2020) states that perceived usefulness mediates the relationship between government support and behavioral intentions in using e-wallets in Malaysia and Indonesia during COVID-19. According to Aji et al. (2020), perceived usefulness positively affects behavioral intention to use an e-wallet. As Aji and Dharmmesta, (2019) explain, perceived usefulness strongly predicts the use of e-money. Thus, these hypotheses are written as follows:

H<sub>7</sub>: Perceived usefulness positively affects behavioral intention to continue using the QRIS Cashless Payment System.

H<sub>8</sub>: Perceived usefulness mediates the relationship between government support and behavioral intention to continue using the QRIS Cashless Payment System.

## 2.6 User Trust

Slade et al. (2015) argue that user trust positively influences behavioral intention to use the remote mobile payment. They define user trust as a subjective belief toward the ability and reliability of a person or an object to deliver a contractual obligation (Lu et al., 2011; Zhou, 2013). Earlier studies also found a positive relationship between user trust and adoption intention (Shin, 2010; Srivastava et al., 2010).

Potential users put significant considerations to the risks associated with financial technology adoption. Users are willing to adopt a technology they trust and can feel safe using (Hossain et al., 2020). Earlier findings by Namahoot and Laohavichien (2018) also support this proposition that users' trust affects their behavioral intention to use internet banking. Lu et al. (2011) adopt the trust transfer theory to explain how government endorsement can transfer the trust toward the government toward a particular payment technology and support the user adoption. Thus, user trust potentially mediates the effect of government support toward the behavioral intention to adopt the QRIS payment system. Thus, this study proposes the following hypotheses:

- H<sub>9</sub>: User trust positively affects behavioral intention to continue using the QRIS Cashless Payment System.
- H<sub>10</sub>: User trust mediates the relationship between government support and behavioral intention to continue using the QRIS Cashless Payment System.

### **3. METHODS**

#### **3.1 Data Collection**

The population of this study is Indonesian residents, at least 17 years old, who are familiar with the QRIS cashless payment system and have made at least one cashless payment using a digital banking account through the QRIS within the study period. The study period was between April and June 2021. Survey respondents were recruited online through social media using the purposive sampling technique. Potential respondents must pass three screening questions and one knowledge check before being eligible to fill the survey. The study recruited 30 respondents for the pre-test and 275 respondents for the main test.

Questionnaire items were adapted from multiple sources. Two items for effort expectancy were adapted from Slade et al. (2015) and one from Venkatesh et al. (2012). Similarly, the study adapted two items from Slade et al. (2015) and Venkatesh, Thong, and Shu (2012) for social influence. For innovativeness, the study adapted one item each from Slade et al. (2015), Thakur and Srivastava (2014), and Lu et al. (2011).

This study adapted four items for government support and five items for perceived usefulness from Aji et al. (2020). Four items for user trust were adapted from Slade et al. (2015). Finally, three items for behavioral intention to continue using the QRIS cashless payment system were adapted from Slade et al. (2015) and Venkatesh et al. (2012).

#### **3.2 Data Analysis**

All adapted measures went through a wording test and a pre-test of 30 respondents. Data from the pre-test were analyzed using SPSS for scale reliability and factor convergence. All 25 items passed the minimum requirement for Cronbach's alpha coefficient and convergent standardized Loading factors. A description of the items is shown in Table 2.

The main data were analyzed using LISREL 8.8. The measurement model was tested using confirmatory factor analysis, and the research hypotheses were tested using structural equation modeling. Additionally, Sobel tests were conducted for the two mediation hypotheses.

### **4. RESULTS AND DISCUSSION**

#### 4.1 Respondent Demographics

This section describes the demographics and usage characteristics of the 275 respondents recruited in the main survey. A summary of the demographic profile is shown in Table 1. In general, the respondents are slightly skewed toward female (68.7%), mostly millennials (91.6%), private employees (51%), living in the Greater Jakarta area (54.5%), completed a bachelor's degree (75.6%), and with an average monthly expense of between Rp 1.2 million to Rp 4.7 million (35.6%).

**Table 1.** Respondent Demographics

Characteristics	Category	Result	
		N	%
<b>Gender</b>	Men	86	31.3
	Women	189	68.7
<b>Age</b>	17-23 years old	17	6.2
	24-39 years old	252	91.6
	40-55 years old	6	2.2
<b>Job Status</b>	Homemakers	8	2.9
	Consultants	2	0.7
	SME employees	14	5.1
	Non- Government Agency Employees	14	5.1
	Government employees	26	9.5
	Private employees	141	51
	Freelancers	13	13
	Students	32	11,6
	Currently Not Working (Retired, Not Working)	7	2,5
	Entrepreneurs	18	6,5
<b>Marriage</b>	Single	159	57.8
	Married	116	42.2
<b>Latest Formal Education</b>	Primary school	1	0,38
	High school	6	2,2
	Diploma/Vocational	10	3,6
	Undergraduate (bachelor)	208	75,6

Characteristics	Category	Result	
		N	%
	Postgraduate (masters and doctorate)	50	18,2
<b>Expenses per month</b>	< 1.2 million	15	5,5
	1.2 – 4.7 million	98	35,6
	4.7 – 5.5 million	55	20
	5.5 – 10 million	76	27,6
	10 -14.5 million	17	6,2
	>14.5 million	14	5,1
<b>Total Respondents</b>		275	100%

In addition to the demographics, the survey also asked the respondents about their QRIS current usage characteristics. On average, the respondents used QRIS 2-5 times a week (35.4%). Most respondents have a monthly QRIS transaction of less than Rp 0.5 million (48.7%). As a comparison, The respondents have a monthly digital transaction of less than Rp 1.5 million (50.2%). The most often usage situation experienced by the respondents is QRIS payment for street food vendors (65.1%), followed by payments in supermarkets or minimarkets (54.9%) and payments in digital markets or platforms (50.5%). Finally, the payments made through QRIS are most often for food or cuisine (94.5%) and groceries (47.3%).

#### 4.2 Measurement Validation

Before conducting the hypotheses tests, the researchers conducted measurement validation using confirmatory factor analysis. First, the analysis focuses on the measurement of the goodness of fit of model. Second, the validation looked at the t-values items and the standardized loading factors. Third, the researchers calculated the construct reliability (CR) and variance extracted (AVE) for each construct. Finally, by using the Fornell-Lacker criterion, the analysis compared the VE for each construct with another construct correlations.

The measurement model generated sufficient goodness of fit, with RMSEA of 0.053 and Standardized RMR of 0.049. Next, all items in the questionnaire meet the critical t-value of 1.95 and the standardized loading factors threshold of 0.5. Subsequently, all seven constructs meet the 0.7 thresholds for CR and the 0.5 thresholds for VE. Table 2 shows the measurement items and the validation result for the items.

For the final step of the measurement validation, the VE for each construct exceeded their constructs' correlation with other constructs. Thus, the study concludes that the measurements are all valid and reliable. Therefore, the analysis can proceed to the hypotheses testing.

**Table 2.** Measurement Validation Results

Variable Items	Source	SLF	Error	CR	AVE	Results
<b>Effort Expectancy</b>				0.89	0.67	Reliable
Learning to use QRIS was very easy for me.	(Slade et al., 2015;	0.78	0.39			Valid
Interaction with QRIS is clear and understandable.	Venkatesh et al., 2012)	0.78	0.39			Valid
In my opinion, QRIS is easy to use		0.82	0.33			Valid
It will be easy for me to be able to use QRIS.		0.88	0.22			Valid
<b>Social Influence</b>				0.90	0.76	Reliable
People important to me think that I should use QRIS	(Slade et al., 2015;	0.75	0.44			Valid
People who influence my behavior think that I should use QRIS.	Venkatesh et al., 2012)	0.88	0.23			Valid
People whose opinions I value prefer me to use QRIS.		0.97	0.06			Valid
<b>Innovativeness</b>				0.83	0.62	Reliable
When I hear about new technology, I will try to find a way to experiment with it	Lu et al., (2011);	0.91	0.18			Valid
Among my colleagues, I am the first to know about new technology.	Slade et al. (2015);	0.62	0.61			Valid
I like experimenting with new technology.	Thakur and Srivastava. (2014)	0.80	0.35			Valid

**Table 2.** Measurement Validation Results (continued)

Variable Items	Source	SLF	Error	CR	AVE	Results
<b>Government Support</b>				0.88	0.54	Reliable
The government encourages transactions through QRIS	Aji et al. (2020)	0.92	0.16			Valid
The government ensures that the QRIS server facility can run.		0.86	0.25			Valid
The government encourages payment innovation through QRIS.		0.92	0.16			Valid
The government controls the operation of the digital payment system through QRIS.		0.75	0.44			Valid
<b>Perceived Usefulness</b>				0.83	0.72	Reliable
I find using QRIS useful in my daily life	Aji et al. (2020)	0.80	0.36			Valid
QRIS really helped me		0.85	0.27			Valid
My work is easier after using QRIS.		0.89	0.21			Valid
QRIS helps me to do things better		0.85	0.28			Valid

I find using QRIS useful in my daily life.		0.86	0.25		Valid	
<b>User Trust</b>				0.93	0.87	Reliable
I believe the QRIS is reliable	Slade et al. (2015)	0,90	19,2 9			Valid
I believe the QRIS is secure.		0,93	20,4 4			Valid
I believe the QRIS is trustworthy.		0,97	21,9 2			Valid
I trust the QRIS payment system.		0,95	20,9 9			Valid
<b>Behavioral Intention</b>				0.83	0.62	Reliable
I want to use QRIS in the future.	Slade et al. (2015);	0.84	0.29			Valid
I will always try to use QRIS in my daily life.	Venkatesh et al. (2012)	0.79	0.38			Valid
I plan to use QRIS regularly.		0.73	0.46			Valid

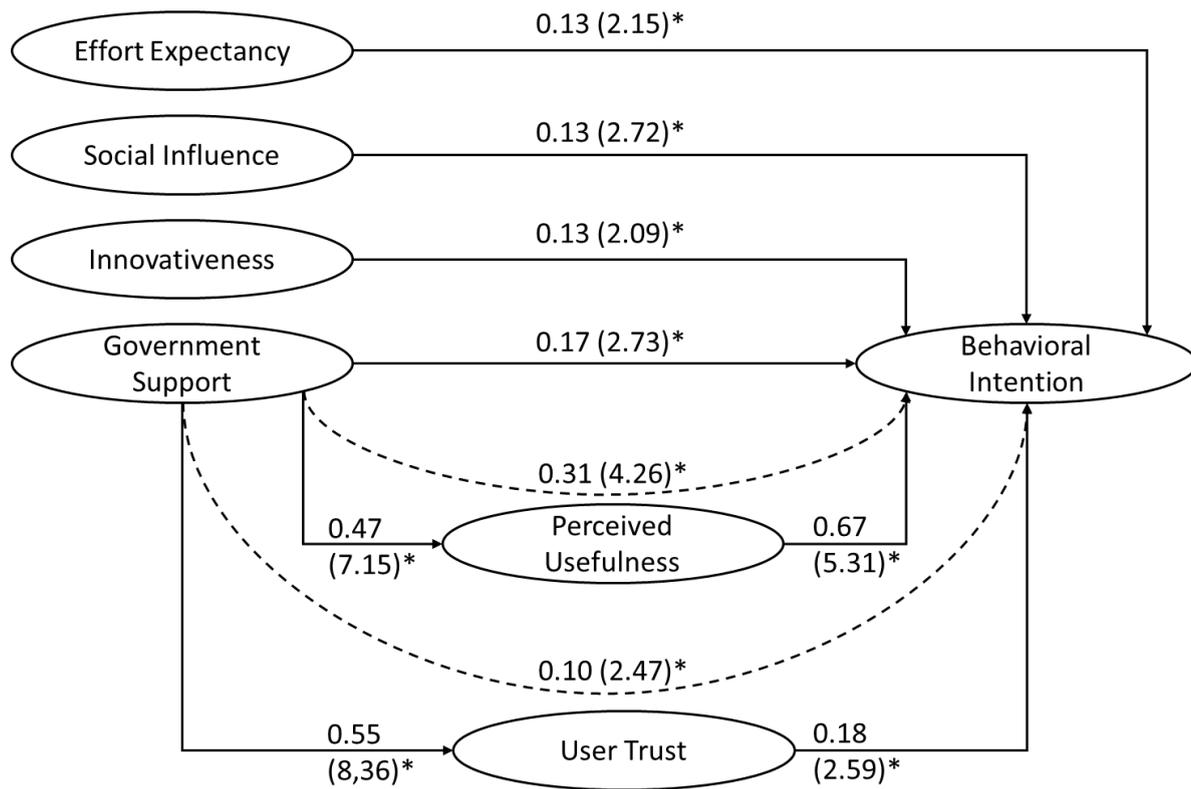
### 4.3 Hypotheses Testing

Before the hypotheses testing, the analysis looked at the goodness of fit of the structural model. The goodness of fit statistics showed that the absolute goodness of fit indices remained above the threshold. The RMSEA rises slightly to 0.06 but is still below the 0.08 threshold. Furthermore, the Goodness of Fit Index (GOFI), Normed Fit Index, and Comparative Fit Index for the structural model shows good results above the 0.90 good fit threshold. Thus, the structural model fits well, and the analysis can proceed to the next step.

In the next step, the analysis looked at individual paths to test the ten hypotheses in the research model. A significant path must have a t-value exceeding the critical t-value of 1.95 (Hair et al., 2018). The structural equation model result showed that all ten paths have t-values exceeding 1.95; thus, the study concludes that all ten hypotheses are significant and accepted. Figure 2 summarizes the path diagram, and Table 3 shows the full hypotheses testing result.

Furthermore, the paper will discuss each hypothesis. From the results in Table 3, Effort Expectancy positively influences behavioral intention to continue using QRIS (t values = 2.15; SLF = 0.13). Thus, the results of  $H_1$  can support the results of research from Slade et al. (2015) that the higher the effort expectancy perceived by the respondent, the higher the behavioral intention to continue using QRIS.

The data obtained from the research results show that social influence has a statistically significant positive effect on behavioral intention to continue using QRIS (t-value = 2.72, SLF = 0.16). It can be said that the higher the influence of the social environment, the higher the desire of people to use QRIS. This finding is in line with Slade et al. (2015) research. The relationship between innovativeness and behavioral intention also showed positive results (t-value = 2.09; SLF = 0.13) in the use of QRIS. So, it can be concluded that the higher a person's level of innovation, the higher the behavioral intention in using QRIS. This finding is also in line with Slade et al. (2015) research.



\*) Significant at 95% confidence level

**Figure 2.** Summary of Research Result

The main exogenous variable, the government support, showed a positive direct effect to behavioral intention (t-value = 2.73; SLF = 0.17). This finding shows that the perceived government support for QRIS increases users’ behavioral intention to continue using QRIS. This finding is in line with the research of Tan and Teo (2000) and Chong et al. (2010). They examined the relationship between government support and intention to use internet banking services positively. In Indonesia, the role of the government is very important. This role is because QRIS is initiated and operated by the regulator and the industry (Payment System Service Providers and the Indonesian Payment System Association). The government can help increasing user confidence in using QRIS by preparing good infrastructure and transparency in cashless transactions.

Furthermore, the relationship between government support and perceived usefulness shows a positive relationship (t-value = 7.15; SLF = 0.47). This finding shows that government support affects Perceived Usefulness in the use of QRIS and shows that the hypothesis is accepted and is still in line with the research results of Aji et al. (2020).

The relationship between perceived government support and user trust is also positive and significant (t-value 9.36; SLF=0.55). This finding supported the trust transfer proposition in which perceived government support will transfer part of the trust to the government to the endorsed payment system. The path coefficient is also relatively high; thus, highlighting the importance of maintaining government support is needed to increase the trust of potential users.

Table 3. Hypothesis Testing Result

Path	Hypothesis	t-value	SLF	Results
H <sub>1</sub> (+)	Effort Expectancy Behavioral Intention	2.15	0.13	Supported
H <sub>2</sub> (+)	Social Influence Behavioral Intention	2.72	0.16	Supported
H <sub>3</sub> (+)	Innovativeness Behavioral Intention	2.09	0.13	Supported
H <sub>4</sub> (+)	Government Support Behavioral Intention	2.73	0.17	Supported
H <sub>5</sub> (+)	Government Support Perceived Usefulness	7.15	0.47	Supported
H <sub>6</sub> (+)	Government Support Trust	8.36	0.55	Supported
H <sub>7</sub> (+)	Perceived Usefulness Behavioral Intention	5.31	0.67	Supported
H <sub>8</sub> (+)	Government Support Perceived Usefulness Behavioral Intention	4.26*	0.31	Supported
H <sub>9</sub> (+)	Trust Behavioral Intention	2.59	0.18	Supported
H <sub>10</sub> (+)	Government Support Trust Behavioral Intention	2.47*	0.10	Supported

\*t value as the result of Sobel test.

The relationship between perceived usefulness and behavioral intention showed a significant positive path (t-value = 5.31; SLF = 0.67). It can be said that the higher perceived usefulness of QRIS can increase the desire to use behavioral intention in using QRIS. This finding is in line with the research of Aji et al. (2020) and Mutahar et al. (2018), which also produces perceived usefulness, which positively influences intention to use.

For the mediation analysis, the relationship that shows government support to the behavioral intention mediated by perceived usefulness is also significantly positive (t values = 4.25; SLF = 0.31). It is also aligned with previous research by Aji et al. (2020). Having both a direct effect and indirect through perceived usefulness means that perceived usefulness partially mediates the relationship between government support and behavioral intention to continue using the QRIS cashless payment system.

In this study, the relationship between user trust and behavioral intention to continue using QRIS showed a positive significant coefficient (t-value = 2.59; SLF = 0.18). This finding showed that higher user trust in QRIS leads to higher behavioral intention to continue using QRIS. This finding supports earlier findings by Phonthanukitithaworn et al. (2016) that user trust affects the adoption intention of mobile payment systems in Thailand. Arguably, the user will not have a strong intention to continue using QRIS if they do not trust the system. Thus, it is the role of regulators wanting to encourage the QRIS cashless payment system to build and maintain trust through the system security and regulatory transparency.

The result of the mediation analysis supports this argument. The Sobel test showed that the relationship between government support and behavioral intention is mediated by user trust with a significant and positive coefficient ( $t$  values = 2.47; SLF = 0.10). Having both a direct and indirect effect through user trust means that user trust partially mediates the relationship between government support and behavioral intention to continue using the QRIS cashless payment system.

The reduced form equation for perceived usefulness showed an  $R^2$  of 0.27, which means that 27% of all variations of perceived usefulness of the QRIS cashless payment system can be explained by the perceived government support. On the other hand, the reduced form equation for user trust showed an  $R^2$  of 0.31, which means that 31% of all variations of user trust to the QRIS cashless payment system can be explained by the perceived government support.

Finally, the reduced form equation for behavioral intention showed an  $R^2$  of 0.48, which means that 48% of the variations in behavioral intention can be explained by effort expectancy, social influence, innovativeness, and government support. On the other hand, 52% of the variations are explained by other variables. Out of the four exogenous variables, perceived government support has the highest total effect on behavioral intention (0.58), followed by social influence (0.16), effort expectancy (0.13), and innovativeness (0.13).

## 5. CONCLUSION

Based on the previous discussion, the following are some findings that can be used as the input to regulators and industry in the Indonesian payment system, particularly in optimizing QRIS to promote the development of a cashless society. Specifically, it increases the socialization of electronic money and mobile banking via QRIS among Indonesians. Regulators and industry can also work together to promote QRIS through influencers or key opinion leaders to encourage non-cash transactions through QRIS. In terms of innovativeness, as Slade et al. (2015) discovered in the United Kingdom, it is necessary to consider focusing on innovative consumers or early adopters. According to the findings of this study, it is best to focus on generation Y to maximize QRIS socialization.

Furthermore, this study discovered that the government's role in socializing QRIS was critical, as evidenced by the direction of the relationship between government support and perceived usefulness, as well as the direction of the relationship between government support and behavioral intention, either directly or indirectly. Since the regulator operates QRIS, government support is essential for users, both in terms of QRIS utility and intention to use it. According to Aji et al. (2020), it is necessary to strengthen government support for electronic money use for public. As a result, regulator-provided incentives to use QRIS should be strengthened. For example, a merchant discount rate (MDR) subsidy will encourage merchants to promote the use of the QRIS rate through simultaneous campaigns running across Indonesia and through the paid promotion.

Finally, the most important factor in encouraging long-term adoption of the QRIS cashless payment system is the government support. This effect, however, is mediated in part by perceived usefulness and user trust in the QRIS system. As the implication, QRIS implementation should not rely solely on government approval but should actively leverage that approval to build a positive user experience and trust. Although government support is beneficial to adoption, potential users are more likely to convert to long-term users if they believe the QRIS cashless payment system is trustworthy and useful.

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