



### QRIS: Factors Influencing Interest in Adoption by MSMEs in Semarang Regency

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#### Abstract

The motivation of this research is related to the use of QRIS in micro, small, and medium-sized enterprises (UMKM) in Semarang District. QRIS is a digital payment tool introduced by Bank Indonesia in 2019. The Government's initiative in launching QRIS is to make it easier for people who prefer digital payments, especially young people in Indonesia. The use of QRIS itself is increasing every year. The Governor of Bank Indonesia stated that more than 90% of UMKMs in Indonesia have used QRIS. The benefits of using QRIS for UMKM are faster payment processes, no need to prepare for money returns, increased sales turnover, easier settlement process, and financial discipline. The model used in this study is the Technology Accepted Model (TAM). TAM is a method to measure individual reception to the use of information technology systems. This research uses a quantitative descriptive approach. Micro, small, and medium-sized enterprises (UMKM) are used as populations in this study. In the sample selection, the researchers conducted the dissemination of the questionnaire with two events, namely online and offline. The samples obtained after the implementation of disseminated questionnaires and according to the conditions of the research sample are as many as 210 UMKM. Further, SmartPLS version 4 software is used for data processing. The findings from this study are that product knowledge variables significantly affect the use of QRIS. Perceived usefulness variables have also been found to influence the use. The same thing was also found in the perceived ease of use variable. Other findings that are backward related to the perception of risk variables. On this variable, it has been found that there is a negative influence against the use, so, it can be concluded that UMKM in Semarang district is still afraid related to financial risk as a result of the QRIS use.

**Keywords:** QRIS; Intention to Use; Product Knowledge; Perceived Usefulness; Perceived Ease of Use; Perceived Risk.

#### Abstrak

Motivasi dari riset ini terkait penggunaan QRIS pada usaha mikro, kecil dan menengah (UMKM) di Kabupaten Semarang. QRIS merupakan alat pembayaran digital yang dikenalkan oleh Bank Indonesia sejak tahun 2019. Inisiatif Pemerintah dalam meluncurkan QRIS adalah untuk mempermudah masyarakat yang lebih menyukai pembayaran via digital, terutama kaum muda di Indonesia. Penggunaan QRIS sendiri mengalami kenaikan setiap tahunnya. Gubernur Bank Indonesia menyatakan lebih dari 90% UMKM di Indonesia telah menggunakan QRIS. Manfaat penggunaan QRIS bagi UMKM ialah proses pembayaran

lebih cepat, tidak perlu mempersiapkan uang kembalian, omset penjualan meningkat, proses settlement lebih mudah, dan disiplin keuangan. Model yang digunakan pada penelitian ini ialah *Technology Accepted Model (TAM)*. TAM merupakan metode untuk mengukur penerimaan individual terhadap penggunaan system teknologi informasi. Penelitian ini menggunakan pendekatan deskriptif kuantitatif. Usaha mikro, kecil dan menengah (UMKM) dijadikan sebagai populasi dalam penelitian ini. Dalam pemilihan sampel, peneliti melakukan penyebaran kuesioner dengan dua acara, yakni secara online dan offline. Sampel yang didapat setelah melaksanakan penyebaran kuesioner dan sesuai syarat sampel penelitian yakni sebanyak 210 UMKM. Selanjutnya, untuk pengolahan data digunakan software *SmartPLS* versi 4. Temuan dari penelitian ini adalah variabel *product knowledge* mempengaruhi secara signifikan terhadap penggunaan QRIS. Variabel *Perceived usefulness* juga ditemukan memiliki pengaruh terhadap penggunaan QRIS. Hal yang sama juga ditemukan pada variabel *perceived ease of use*. Temuan lain yang bertolak belakang terkait *variable perceived risk*. Pada variabel ini, justru ditemukan adanya pengaruh *negative* terhadap penggunaan QRIS. Jadi, dapat disimpulkan bahwa UMKM di Kabupaten Semarang masih takut terkait risiko keuangan sebagai akibat dari penggunaan QRIS.

**Kata-kata kunci:** QRIS; Niat untuk Menggunakan; Pengetahuan Produk; Persepsi Kegunaan; Persepsi Kemudahan Penggunaan; Risiko yang Dipersepsikan.

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## INTRODUCTION

Technology has made the payment method more efficient and cost-effective. It has required switching from cash to non-cash transactions.<sup>1</sup> A cashless society emerges from this change. Those who use non-cash instruments, especially in business, are called “cashless society.”<sup>2</sup> Technology has introduced electronic money (e-money), which has changed payment processes. Non-cash payment is electronic money. It works by depositing money with the issuer, which is stored electronically on a media server or chip. Indonesia’s use of electronic currency to reduce public currency use shows potential. It also affects Indonesia’s cashless society.

Electronic currency is accepted in Indonesia. Large annual increase proves this. In February 2023, Bank Indonesia reported 742.93 million e-money units. Bank Indonesia launched QRIS on August 17, 2019, to simplify QR code-based payment apps. Electronic

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<sup>1</sup> Hutami A. Ningsih, Endang M. Sasmita, and Bida Sari, “Pengaruh Persepsi Manfaat, Persepsi Kemudahan Penggunaan, Dan Persepsi Risiko Terhadap Keputusan Menggunakan Uang Elektronik (QRIS) Pada Mahasiswa,” *Jurnal IKRA-ITH Ekonomika* 4, no. 1 (2021): 1–9, <https://journals.upi-yai.ac.id/index.php/IKRAITH-EKONOMIKA/article/view/1067>.

<sup>2</sup> Evi Nur Aslinawati, Dwi Wulandari, and Thomas Soseco, “Public Perception of the Effectiveness of Less Cash Society,” *International Review of Social Sciences* 4, no. 1 (2016): 7–12, <https://www.researchgate.net/publication/321111096>.

money users can scan merchant QRISs without software changes. These characteristics boost MSMEs, financial inclusion, payment transactions, and economic growth.<sup>3</sup>

MSMEs dominate Indonesia's commercial atmosphere. Indonesia's economy depends on MSMEs. Micro, small, and medium companies (MSMEs) survived the 1998 Indonesian financial crisis, whereas larger businesses perished, and their numbers stayed stable. During the COVID-19 outbreak in Indonesia, MSMEs were resilient as larger businesses declined. MSMEs have many benefits but need help to grow and competitiveness. Human resources technical proficiency is a restriction. Thus, MSMEs must understand and adapt to new technologies to flourish. In light of this, the Ministry of Cooperatives and SMEs has promoted the MSME digitalization project, recognizing the importance of digital transformation in MSMEs. QRIS is being widely adopted as a digital payment method by Bank Indonesia Central Java Province. QRIS customers from Central Java MSMEs have exceeded 800,000 thanks to Bank Indonesia and PJSP.<sup>4</sup> Central Java Province MSMEs use QRIS extensively, indicating high technology adoption. In MSMEs digital payment service adoption aspirations.

Researchers are interested in transforming businesses and integrating information technology, especially e-banking, e-wallets, and online shopping apps. They recommend in-depth research into the factors influencing people's use of these technologies. QRIS, an Indonesian digital payment platform, requested more digital payment adoption research. QRIS payment technology reflects the government's drive to digitize MSMEs. QRIS is appealing to customers due to its perceived utility, convenience of use, and risk. QRIS adoption by MSMEs is driven by perceived utility and ease of use, according to the seller. This contradicts the finding that perceived usefulness and simplicity of use do not affect QRIS use. Another study indicated that QRIS adoption interest is unaffected by perceived ease of use. Given the different research findings, this study will provide significant insights and contribute to the literature on MSMEs QRIS utilization.

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<sup>3</sup> Bank Indonesia, "Blueprint Sistem Pembayaran Indonesia 2025 - Menavigasi Sistem Pembayaran Nasional Di Era Digital," Bank Indonesia, 2019, 81, <https://www.bi.go.id/id/publikasi/kajian/Documents/Blueprint-Sistem-Pembayaran-Indonesia-2025.pdf>.

<sup>4</sup> Risma Nurhapsari and Erlinda Sholihah, "Analysis of the Factors of Intention to Use QRIS for MSMEs in Semarang City's Traditional Market," *Jurnal Ekonomi Modernisasi* 18, no. 2 (2022): 199–211, [https://www.researchgate.net/publication/364472222\\_Analysis\\_of\\_the\\_factors\\_of\\_intention\\_to\\_use\\_QRIS\\_f\\_or\\_MSMEs\\_in\\_Semarang\\_City's\\_traditional\\_market](https://www.researchgate.net/publication/364472222_Analysis_of_the_factors_of_intention_to_use_QRIS_f_or_MSMEs_in_Semarang_City's_traditional_market).

## LITERATURE REVIEW AND HYPOTHESIS

### Quick Response Code Indonesian Standard (QRIS)

QR Code The national payment standard is the Indonesian Standard (QRIS) QR code from Bank Indonesia. It streamlines Indonesian digital payments. Bank Indonesia and payment system providers produced QRIS. QRIS uses QR codes to streamline and safeguard transactions. QRIS combines QR codes from payment system providers. QRIS empowers many Payment System Service Providers (PJSP) to create a single QR code. QRIS is Bank Indonesia's creative response to Indonesia's growing digital payment app use. QRIS lets merchants combine many digital payment apps into one QR code. It is undisputed due to the popularity of payment transaction programs in Indonesia.

### Product Knowledge

Product knowledge is what customers know about the product they want. It includes consumer-accessible product information. Product knowledge is the entire collection of factual information that consumers remember and use to make decisions, according to.<sup>5</sup> Many studies have found that rural people, in particular, struggle to understand QRIS.<sup>6,7</sup> However, further research shows that people, especially urbanites, understand QRIS well.<sup>8</sup> QRIS digital barcodes record digital transactions and payments.<sup>9</sup> Prior research shows that QRIS comprehension strongly influences QRIS use.

### Perceived Usefulness

Usefulness's perceived utility is an individual's subjective belief that it will improve work performance.<sup>10</sup> It shows that perceived utility influences a person's decision to use technology. If someone thinks technology benefits them, they will use it. However, if a person questions the technology's benefits or does not work, they are unlikely to use it.

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<sup>5</sup> Viswanath Venkatesh, James Y L Thong, and Xin Xu, "Consumer Acceptance and Use of Information Technology: Extending The Unified Theory of Acceptance and Use of Technology," *Forthcoming in MIS Quarterly* 36, no. 1 (2012): 157–78, <https://doi.org/https://doi.org/10.2307/41410412>.

<sup>6</sup> Ni Luh Novi Arianti, Gede Sri Darma, and Luh Putu Mahyuni, "Menakar Keraguan Penggunaan QR Code Dalam Transaksi Bisnis," *Jurnal Manajemen Dan Bisnis* 16, no. 2 (2019): 67–78, <http://journal.undiknas.ac.id/index.php/magister-manajemen>.

<sup>7</sup> Ni Putu Ani Karniawati et al., "Community Perception of Using QR Code Payment in Era New Normal," *PalArch's Journal of Archeology of Egypt/ Egyptology* 18, no. 1 (2021): 3986–3999, <https://archives.palarch.nl/index.php/jae/article/view/6225>.

<sup>8</sup> I Wayan Arta Setiawan and Luh Putu Mahyuni, "QRIS Di Mata UMKM: Eksplorasi Persepsi Dan Intensi UMKM Menggunakan QRIS," *E-Jurnal Ekonomi Dan Bisnis Universitas Udayana* 9, no. 10 (2020): 921–946, [https://www.researchgate.net/publication/347334367\\_QRIS\\_DI\\_MATA\\_UMKM\\_EKSPLORASI\\_PERSEPSI\\_DAN\\_INTENSI\\_UMKM\\_MENGGUNAKAN\\_QRIS](https://www.researchgate.net/publication/347334367_QRIS_DI_MATA_UMKM_EKSPLORASI_PERSEPSI_DAN_INTENSI_UMKM_MENGGUNAKAN_QRIS).

<sup>9</sup> Setiawan and Luh Putu Mahyuni.

<sup>10</sup> Fred D. Davis, "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology," *MIS Quarterly: Management Information Systems* 13, no. 3 (1989): 319–339, <https://doi.org/https://doi.org/10.2307/249008>.

## Perceived Ease of Use

Perceived ease of use comes from the belief that technology can be easily handled. Technology usability can be determined by user involvement. Thus, if individuals use a technology often, it is likely more popular and user-friendly.<sup>11</sup>

## Perceived Risk

Perceived risk, as described by,<sup>12</sup> is an individual's subjective experience of uncertainty and the possibility of negative service events. These opinions can affect trust. Risk perception inversely affects product or service confidence. The more danger someone sees, the less confident they are utilizing it, and vice versa.

## Intention of Use

Individual's purpose or interest in technology shows their desire to use it.<sup>13,14</sup> States that the "intention to use" is a conscious system choice. The number of MSMEs in Semarang Regency that use the Quick Response Code Indonesian Standard (QRIS) may indicate their preference for QRIS. Interest is a person's desire or inclination to do something.<sup>15</sup> Interest in QRIS is a person's willingness to use it as a payment mechanism. The interest in QRIS for MSMEs relates to their desire to use QRIS services for digital transactions within their firms.

## Hypothesis

This article's hypothesis is as follows.

H1: Product knowledge understanding increases use intentions.

H2: Perceived usefulness increases use intentions.

H3: Perceived ease of use improves usage intentions.

H4: Perceived risk decreases use intentions.

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<sup>11</sup> Davis.

<sup>12</sup> Hengky Wongso and Ramadania, "Pengaruh Self-Efficacy, Perceived Usefulness, Perceived Ease of Use, Dan Perceived Risk Terhadap Intention to Use Mobile Banking Bank Kalbar," in *Proceeding Seminar Bisnis Seri V*, 2021, 224–239, <https://pascasarjanafe.untan.ac.id/wp-content/uploads/2022/05/23.pdf>.

<sup>13</sup> Andre et al., "The Effect of Perceived Usefulness, Perceived Ease of Use, Perceived Risk and Technology Readiness on Intention to Use E-Banking in Jakarta," *Turkish Journal of Computer and Mathematics Education* 12, no. 10 (2021): 6829–6836, <https://turcomat.org/index.php/turkbilmater/article/view/5550/4653>.

<sup>14</sup> Muhammad Haidhar Ibrahim, Siti Rahayu Hussin, and Siti Haslina Hussin, "Factors Influencing Malaysian Consumers' Intention to Use Quick Response(QR) Mobile Payment," *Jurnal Pengurusan* 5, no. 7 (2019): 1–16, <https://journalarticle.ukm.my/14557/>.

<sup>15</sup> Davis, "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology."

## **METHOD**

### **Research Design**

The study examines QRIS-paying Semarang Regency MSMEs. Purposive sampling was used for the investigation. These are the research needs:

1. The sample includes Semarang Regency MSMEs.
2. The sample uses QRIS, a server-based payment system.
3. The sample firm has used QRIS for payment for at least one month.

Table 1 shows 210 samples based on these criteria.

### **Data Analysis Method**

SmartPLS SEM, a program for partial least square structural equation modeling, will be used in this study to process the data that were gathered. PLS describes the link between variables and aids in the confirmation of the tested theory. Through its indicator, PLS can reveal the latent variable being assessed. As a result, decided to evaluate this research data using the PLS approach. This article combines the Structural Equation Model (SEM) and descriptive statistical analysis for data analysis. The validity and reliability tests of the outer model, the hypothesis test, and the inner model test are all covered in SEM.

## **RESULT AND DISCUSSION**

### **Research Overview**

The research data was obtained via questionnaires delivered to Micro, Small, and Medium Enterprises (MSMEs) actors in all sub-districts of Semarang Regency between May 29, 2023, and May 12, 2023. In July 2023, the questionnaire completed by respondents included information such as the type of business, sub-district, annual gross income, duration of utilizing QRIS for business transactions, digital sales partners, and monthly income derived from using QRIS. The participant's reactions to the indicators of the research variable were documented in 21 statements. Data was acquired through both online and offline methods in this investigation. A total of 158 respondents were gathered through an online platform utilizing a Google form, while an additional 52 respondents were obtained through in-person visits to various establishments. The table below, labeled Table 1, displays the extent of participation in distributing the questionnaire.

**Table 1. Details of Distribution and Return of Questionnaires**

<b>Information</b>	<b>Total</b>
Questionnaires distributed offline	52
Accepted offline questionnaires	52
Questionnaires distributed online	Unlimited

Accepted online questionnaires	158
Total questionnaires returned	210
Total questionnaires returned	210

### Respondent Characteristic

The data received from 210 questionnaires distributed to MSMEs in Semarang Regency who have implemented QRIS in their enterprises can be analyzed depending on their respective features. It was conducted to ascertain the attributes of the participants in this research.

**Table 2. Classification Based on District**

District	Amount	Percentage
Getasan	1	0,5
Tengaran	10	4,8
Susukan	3	1,4
Kaliwungu	0	0
Suruh	3	1,4
Pabelan	4	1,9
Tuntang	6	2,9
Banyubiru	7	3,3
Jambu	4	1,9
Sumowono	5	2,4
Ambarawa	18	8,6
Bandungan	12	5,7
Bawen	14	6,7
Bringin	4	1,9
Bancak	5	2,4
Pringapus	14	6,7
Bergas	16	7,6
Ungaran Barat	46	21,9
Ungaran Timur	38	18,1
Total	210	100

According to Table 2, the largest population of respondents in this study came from West Ungaran at 21.9%, followed by East Ungaran at 18.1%, Ambarawa at 8.6%, Bergas at 7.6%, Bawen and Pringapus at 6.7%. %, Bandungan as much as 5.7%, Tengaran as much as 4.8%, Banyubiru as much as 3.3%, Tuntang as much as 2.9%, Sumowono and Bancak as much as 2.4%, Pabelan, Jambu and Bringin as much as 1.9%, Susukan and Suruh as much as 1.4%.

## Partial Least Square Analysis

### Outer Model

#### 1. Convergent Validity

Convergent validity analyses use each construction's outer model indicator value. It is acceptable if the indicator outer model value exceeds 0.70. The analyzed data provided these validity test results:

**Table 3 Outer Loading Result**

Variable	Indicator	Loading Factor	AVE
Product Knowledge (X1)	PK1	0,806	0,666
	PK2	0,818	
	PK3	0,825	
Perceived Usefulness (X2)	PU1	0,787	0,581
	PU2	0,764	
	PU3	0,783	
	PU4	0,749	
	PU5	0,731	
	PU6	0,759	
Perceived of Ease (X3)	POE1	0,781	0,610
	POE2	0,809	
	POE3	0,822	
	POE4	0,715	
	POE5	0,753	
	POE6	0,802	
Perceived Risk (X4)	PR1	0,910	0,847
	PR2	0,924	
	PR3	0,927	
Intention to Use (Y)	INT1	0,862	0,683
	INT2	0,825	
	INT3	0,792	

The outer loadings data processing confirmed the validity of the variables Product Knowledge (X1), Perceived Usefulness (X2), Perceived Ease of Use (X3), Perceived Risk (X4), and The Intention to Use (Y). The AVE value of all variables is over 0.5, implying convergent validity and the ability to define 1 or 2 indicator variations.

#### 2. Discriminant Validity

To assess discriminant validity, compare the loading values of one variable to another. An indicator is valid if it has the highest loading value compared to other variables. The discriminant validity tests yielded the following results:



**Table 4 Cross-Loading Result**

Indicators	Variables				
	Product knowledge (X1)	Perceived Usefulness (X2)	Perceived Ease of Use (X3)	Perceived Risk (X4)	Intention to Use (Y)
PK1	0,806	0,551	0,529	-0,069	0,489
PK2	0,818	0,510	0,451	-0,116	0,476
PK3	0,825	0,454	0,480	-0,137	0,562
PU1	0,466	0,787	0,588	-0,052	0,489
PU2	0,527	0,764	0,636	-0,065	0,531
PU3	0,449	0,783	0,561	-0,109	0,576
PU4	0,521	0,749	0,610	-0,077	0,538
PU5	0,475	0,731	0,549	-0,094	0,541
PU6	0,388	0,759	0,494	-0,193	0,612
POE1	0,418	0,545	0,781	-0,209	0,569
POE2	0,435	0,594	0,809	-0,189	0,617
POE3	0,563	0,618	0,822	-0,062	0,598
POE4	0,458	0,530	0,715	-0,064	0,508
POE5	0,468	0,614	0,753	-0,065	0,556
POE6	0,451	0,607	0,802	-0,181	-0,559
PR1	-0,152	-0,111	-0,126	0,910	-0,239
PR2	-0,060	-0,060	-0,121	0,924	-0,209
PR3	-0,144	-0,181	-0,201	0,927	-0,269
INT1	0,582	0,652	0,634	-0,172	0,862
INT2	0,496	0,584	0,572	-0,261	0,825
INT3	0,471	0,551	0,600	-0,222	0,792

As seen in Table 4, the cross-loading value for each latent variable exceeds the cross-value (once connected to other latent variables). It implies that the latent variable has robust discriminant validity.

**Inner Model**

**1. R Square**

The R-Square determinant coefficient measures construct size. The exogenous can explain how it occurs. SmartPLS data processing output R-Square testing is performed by taking note of the values in the R-Square Table 5 below.

**Table 5. R-Square Result**

<b>R-Square Result</b>	0,647
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As indicated in Table 5, the r-square value of 0.647 reveals that product knowledge, perceived usefulness, perceived ease of use, and perceived risk influence 64.7% of intention to use, though 35.3% is influenced by variables absent in the present research. Judging by the data analysis, the model has a moderate impact.

## 2. Variance Inflation Factors (VIF)

VIF graded collinearity. The VIF test results for each construct in this research are as follows.

**Table 6. VIF and F-Square Result**

Variables	VIF Value	F-Square Value
Product Knowledge (X1)	1,727	0,071
Perceived Usefulness (X2)	2,534	0,114
Perceived Ease of Use (X3)	2,458	0,135
Perceived Risk (X4)	1,030	0,050

Table 6 discloses that all variables have VIF values beneath five. So, no collinearity exists between variables.

## 3. F-Square

How much effect between variables is determined by F-Square. Variables with F values of 0.02, 0.15, and 0.35 indicate small, moderate, or vigorous effects, respectively. Table 6 indicates that product knowledge and perceived risk have a negligible influence. Both perceived utility and perceived risk are considered medium influences.

## 4. Fit Model

A fit model determines if a model or data is suitable for research use. One of the needed values on the Standardized Root Mean Residual (SRMR) tests fit model. Fit model test results are in Table 7 below.

**Table 7. Fit Model Result**

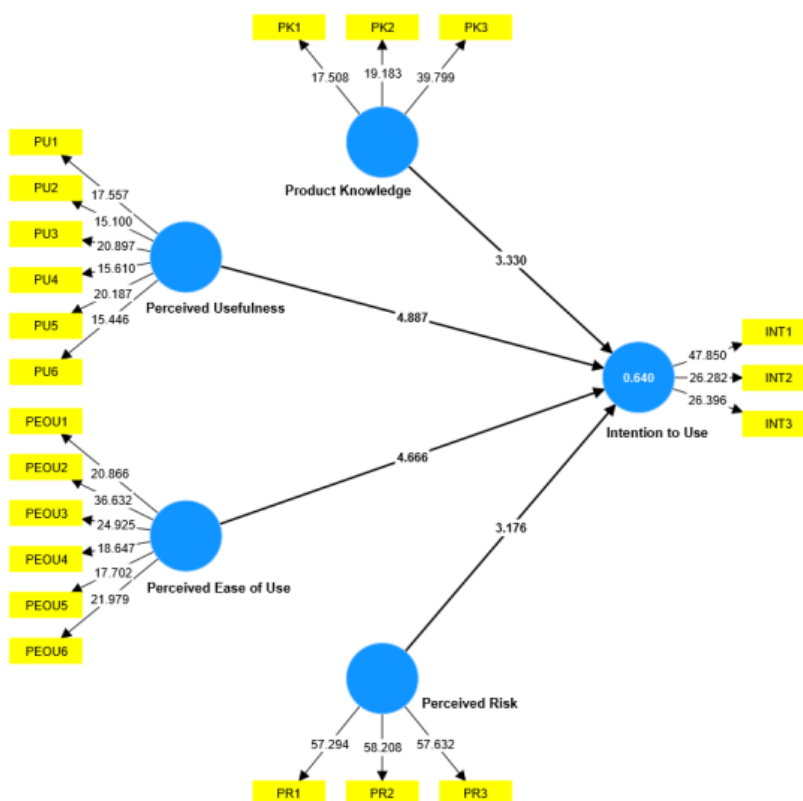
	Saturated Model	Estimated Model
SRMR	0,066	0,066
d ULS	1,002	1,002
d G	0,426	0,426
Chi-square	523,620	523,620
NFI	0,796	0,796

The SRMR value is 0.066, according to the tests conducted. The model satisfies the fit criterion since this value is less than 0.08.

## Hypothesis Test

### *Partial Hypothesis Test*

After evaluating both outer and inner models, the following phase is to test hypotheses. The bootstrapping hypothesis test yielded the following results:



Picture 1. Bootstrapping Hypothesis Test Result

The significance level utilized in this investigation was 5%, or 0.05. Therefore, the p-value can be compared with that. Any hypothesis can be accepted if the p-value is smaller than 0.05, while all other hypotheses are rejected. The next step is to compare the estimated t-statistics with the research-based t-table values, which reach 1.96. The hypothesis is accepted if the t-statistics value is higher than 1.96 and rejected otherwise.

Table 8. Path Coefficients Hypothesis Test Result

Hypothesis	Effect	Original Sample (O)	t-Statistics	p-values	Information
H1	PK > INT	0,208	3,330	0,000	Accepted
H2	PU > INT	0,320	4,887	0,000	Accepted
H3	POE > INT	0,343	4,666	0,000	Accepted
H4	PR > INT	-0,135	3,176	0,001	Accepted

Table 8 will be discussed in the following.

1. The relationship between perceived ease of use and intention to use is strong. The t-statistics value of 4.666 is greater than 1.96, and all P-values are less than 0.05 (0.000). The original sample value of 0.343 indicates a positive relationship between perceived ease of use and intention to use. Following the hypothesis test results, H3

found that perceived ease of use had a positive and substantial impact on intention to use.

2. The interaction between perceived usefulness and intention to use it is significant. The t-statistics value of 4.887 is more than 1.96, and all P-values are less than 0.05 (0.000). The initial sample result of 0.320 suggests that perceived usefulness correlates favorably with intending to utilize. Based on the hypothesis test results, the study concluded that Perceived Usefulness had a positive and significant impact on Intention to Use, supporting H2.
3. The relationship between perceived ease of use and intention to use is strong. The t-statistics value of 4.666 is more significant than 1.96, and all P-values are less than 0.05 (0.000). The original sample value of 0.343 indicates a positive relationship between perceived ease of use and intention to use. Following the hypothesis test results, H3 found that perceived ease of use positively and substantially impacted intention to use.
4. The interaction between perceived risk and intention to use is significant. The t-statistics value of 3.176 exceeds 1.96, and the p-values are  $0.001 < 0.05$ . The original sample result of -0.135 suggests a negative relationship between perceived usefulness and intention to utilize. Based on the hypothesis test results, the study concluded that H4 suggested that Perceived Usefulness has a negative and significant impact on Intention to Use acceptance.

## **DISCUSSION**

### **The Impact of Product Knowledge on Intention to Use**

The research shows that product knowledge positively and significantly affects variable utilization. The t-statistical value of 3.330 is more than 1.96, and the p-value is 0.001, lower than 0.05. Knowledge of the product and willingness to utilize it are positively correlated, as shown by the original sample value of 0.208. It suggests that understanding a technology increases one's desire to use it and vice versa.

Indicated that product comprehension improves intention. MSMEs will assess what they will gain from utilizing QRIS before using it because a person's high level of

understanding about a product or service might influence their intention to utilize it. The survey found that MSMEs are interested.<sup>16,17</sup>

### **The Impact of Perceived Usefulness on Intention to Use**

The research shows that perceived usefulness positively and significantly affects the intention to use. The topic's relevance is shown by the t-statistics value of 4.887, more significant than the crucial value of 1.96, and the p-value of 0.000, less than 0.05. The initial sample value of 0.320 indicates direction. Usefulness and intention to use are positively correlated. The perceived utility of a technology increases a person's inclination to use it in turn.

This study supports previous research by<sup>18,19,20,21,22</sup> that QRIS's perceived usefulness increases MSMEs intentions to adopt it. MSMEs prefer QRIS because its perks and criteria match. It streamlines buying and selling. Merchants also know that QRIS can speed up payment processes, boost operational efficiency and sales productivity, and help them go cashless.

### **The Impact of Perceived Ease of Use on Intention to Use**

The research illustrates that perceived ease of use positively and substantially affects intention to use. The t-statistics value of 4.666, which is larger than the crucial value of 1.96, and the p-value of 0.000, which is less than 0.05, illustrate the importance of the issue in question. The initial sample value of 0.343 indicates direction. Perceived simplicity of use increases usage intention. It implies that the more user-friendly a technology, the more likely individuals will learn and use it.

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<sup>16</sup> Nurhapsari and Erlinda Sholihah, "Analysis of the Factors of Intention to Use QRIS for MSMEs in Semarang City's Traditional Market."

<sup>17</sup> Setiawan and Luh Putu Mahyuni, "QRIS Di Mata UMKM: Eksplorasi Persepsi Dan Intensi UMKM Menggunakan QRIS."

<sup>18</sup> Nurhapsari and Erlinda Sholihah, "Analysis of the Factors of Intention to Use QRIS for MSMEs in Semarang City's Traditional Market."

<sup>19</sup> Bobby Setiawan et al., "An Investigation of Behavioral Intention on QRIS Payment System in MSME Merchants," *Jurnal Teknik Informatika Dan Sistem Informasi* 9, no. 4 (2022), <http://jurnal.mdp.ac.id>.

<sup>20</sup> Indah Kumala Sari, Anak Agung Elik Astari, and Ni Luh Indiani, "Pengaruh Perceived Usefulness Dan Perceived Ease to Use Pada Niat Aplikasi Tiktok Dimasa Pandemi (Studi Pada Genari Z Di Bali)," *Jurnal Ekonomi, Manajemen, Bisnis Dan Akuntansi* 1, no. 5 (2022): 827–842, <https://bajangjournal.com/index.php/JEMBA/article/view/3368>.

<sup>21</sup> Endah Pri Ariningsih, Wijayanti, and Mahendra Galih Prasaja, "Intention to Use E-Wallet Dilihat Dari Perceived Usefulness, Perceived Ease of Use, Perceived Security, Dan Trust," *Jurnal Maksipreneur: Manajemen, Koperasi, Dan Entrepreneurship* 11, no. 2 (2022): 227–238, <https://ejournal.up45.ac.id/index.php/maksipreneur/article/view/916>.

<sup>22</sup> Setiawan and Luh Putu Mahyuni, "QRIS Di Mata UMKM: Eksplorasi Persepsi Dan Intensi UMKM Menggunakan QRIS."

This study confirms past findings that perceived ease of use positively affects MSME intentions to utilize QRIS.<sup>23,24,25,26</sup> It appears that way here. Due to its various benefits, QRIS is used by many SMEs.

### **The Impact of Perceived Risk on Intention to Use**

The study found that perceived risk negatively impacts variable use. The t-statistic value of  $3.176 > 1.96$  and p-value of  $0.002 < 0.05$  point to this. Initial sample results of  $-0.135$  imply that. Usefulness perception inversely affects intent to use. It suggests that people are more inclined to use a technology if they see minimal risk in exhibiting it, and vice versa.

Like previous studies, this-one-finds that risk perception influences MSMEs QRIS adoption.<sup>27,28,29</sup> Risk perception may affect a person's unwillingness to use a product or service. Risk perception affects technology use. If they see technology as riskier, people are also less likely to use it.

## **CONCLUSION**

Product knowledge, perceived usefulness, and perceived ease of use had positive and statistically significant benefits. Meanwhile, perceived risk had an enormous negative influence. Tests on all four variables simultaneously show that they affect intent to use.

## **FURTHER RESEARCH RECOMMENDATIONS**

First, additional studies should limit themselves to Semarang Regency as their investigation site. Additional research is needed to include variables not explored in this study to understand further the factors that influence MSMEs' interest in utilizing QRIS.

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<sup>23</sup> Ricky Aditya and Aditya Wardhana, "Pengaruh Perceived Usefulness Dan Perceived Ease of Use Terhadap Behavioral Intention Dengan Pendekatan Technology Acceptance Model (TAM) Pada Pengguna Instant Messaging LINE Di Indonesia," *Jurnal Siasat Bisnis* 20, no. 1 (2016): 24–32, <https://doaj.org/article/08f144cd1e9e47f1849ecdaf8c1c8b4c>.

<sup>24</sup> Altin Gumussoy Cigdem, Aycan Kaya, and Erhan Ozlu, "Determinants of Mobile Banking Use: An Extended TAM with Perceived Risk, Mobility Access, Compatibility, Perceived Self-Efficacy and Subjective Norms," in *Industrial Engineering in the Industry 4.0 Era*, 2018, 225–238, [https://link.springer.com/chapter/10.1007/978-3-319-71225-3\\_20](https://link.springer.com/chapter/10.1007/978-3-319-71225-3_20).

<sup>25</sup> Andre et al., "The Effect of Perceived Usefulness, Perceived Ease of Use, Perceived Risk and Technology Readiness on Intention to Use E-Banking in Jakarta."

<sup>26</sup> Ariningsih, Wijayanti, and Mahendra Galih Prasaja, "Intention to Use E-Wallet Dilihat Dari Perceived Usefulness, Perceived Ease of Use, Perceived Security, Dan Trust."

<sup>27</sup> Cigdem, Aycan Kaya, and Erhan Ozlu, "Determinants of Mobile Banking Use: An Extended TAM with Perceived Risk, Mobility Access, Compatibility, Perceived Self-Efficacy and Subjective Norms."

<sup>28</sup> Andre et al., "The Effect of Perceived Usefulness, Perceived Ease of Use, Perceived Risk and Technology Readiness on Intention to Use E-Banking in Jakarta."

<sup>29</sup> Musa F. Silaen, Sepbeariska Manurung, and Christine D. Nainggolan, "Effect Analysis of Benefit Perception, Ease Perception, Security and Risk Perception of Merchant Interest in Using Quick Response Indonesia Standard (Qris)," *International Journal of Science, Technology & Management* 2, no. 5 (2021): 1574–1581, <https://doi.org/https://doi.org/10.46729/ijstm.v2i5.313>.

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