

ANALYSIS OF THE TECHNOLOGY ACCEPTANCE MODEL (TAM) ON QRIS USAGE THROUGH INTENTION TO USE

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Abstrak

Pemanfaatan QRIS pada UMKM SRC Sugianto di Ngawi masih menghadapi perbedaan tingkat penggunaan di antara konsumen, meskipun sarana pembayaran digital telah tersedia. Penelitian ini ditujukan untuk menguji hubungan *perceived ease of use* dan *perceived usefulness* terhadap penggunaan QRIS, baik secara langsung maupun melalui minat menggunakan sebagai variabel intervening. Penelitian menggunakan pendekatan kuantitatif dengan desain *explanatory research*. Sebanyak 385 responden dipilih menggunakan *purposive sampling*. Data primer diperoleh melalui kuesioner berskala Likert, sedangkan data sekunder berasal dari buku, artikel ilmiah, dan dokumen pendukung. Pengolahan data dilakukan dengan IBM SPSS Statistics melalui analisis deskriptif, uji validitas dan reliabilitas, pengujian asumsi klasik, *path analysis*, uji t, koefisien determinasi, serta Sobel. Temuan menunjukkan bahwa *perceived ease of use* dan *perceived usefulness* berpengaruh positif serta signifikan terhadap minat menggunakan dan penggunaan QRIS. Minat menggunakan juga terbukti meningkatkan penggunaan QRIS dan berfungsi sebagai mediator yang signifikan pada hubungan kedua persepsi tersebut dengan penggunaan QRIS. Hasil ini menegaskan bahwa penerimaan QRIS tidak cukup dijelaskan oleh ketersediaan fasilitas, tetapi juga oleh penilaian konsumen atas kemudahan, manfaat, dan dorongan internal untuk menggunakannya. Penelitian berikutnya dapat memperluas objek, wilayah, serta konstruk yang digunakan agar dapat menjelaskan model menjadi lebih komprehensif.

Kata Kunci: *Technology Acceptance Model, Perceived Ease of Use, Perceived Usefulness, Minat Menggunakan, Penggunaan QRIS.*

Abstract

The use of QRIS at SRC Sugianto MSME in Ngawi varies among consumers even though digital payment facilities are already available. This study examines the effect of *perceived ease of use* and *perceived usefulness* on QRIS usage, directly and indirectly through intention to use. A quantitative *explanatory design* was applied to 385 respondents selected by *purposive sampling*. Primary data were gathered using a five-point Likert questionnaire, while secondary information was obtained from books, journal articles, and supporting documents. The data were processed with IBM SPSS Statistics using descriptive

analysis, validity and reliability assessment, classical assumption tests, path analysis, t-test, coefficient of determination, and Sobel test. The findings demonstrate that perceived ease of use and perceived usefulness positively and significantly influence intention to use as well as QRIS usage. Intention to use also has a significant positive relationship with QRIS usage and mediates the effects of both perceptions. These results indicate that QRIS adoption is shaped not merely by the availability of the payment facility, but also by how users evaluate its ease, benefits, and their willingness to employ it in transactions. Future studies may broaden the research setting and introduce additional constructs to improve the explanatory scope of the model.

Keywords: *Technology Acceptance Model, perceived ease of use, perceived usefulness, intention to use, QRIS usage.*

A. Introduction

Digitalization has increasingly altered the way consumers carry out economic activities. Payment is one of the areas where this shift is particularly visible. Consumers now encounter transaction systems that prioritize speed, practicality, and reduced dependence on physical cash. For micro, small, and medium enterprises (MSMEs), this transformation creates an opportunity to improve service delivery while also requiring them to adapt to changing consumer habits. Digital payment therefore represents not only a technological innovation but also a change in the interaction between sellers and buyers.

QRIS (Quick Response Code Indonesian Standard) is one of the payment instruments that supports this transition in Indonesia. Its use allows different payment applications to interact with a standardized QR code, reducing the need for merchants to provide multiple codes for different providers. The growing adoption of QRIS nationally indicates that consumers and businesses are becoming more familiar with digital payment ecosystems. Nevertheless, broad availability does not automatically mean that every consumer will choose QRIS when making a purchase. Differences in habit, perceived convenience, perceived benefit, and willingness to use technology may still shape actual behavior.

The same issue appears at SRC Sugianto in Ngawi. The business has provided QRIS as an alternative payment channel, yet consumers do not necessarily use it with the same frequency. Some consumers remain accustomed to cash, whereas others regard QRIS as a practical way to complete transactions. This condition creates an empirical question: why does a payment facility that is already available produce different levels of use among consumers within the same business setting?

The Technology Acceptance Model (TAM) provides a suitable framework for examining this issue. Davis (1989) explains technology acceptance through users' perceptions of usefulness and ease of use, which subsequently influence behavioral intention and actual use. In the present context, perceived ease of use refers to the extent to which consumers regard QRIS as understandable and uncomplicated to operate, while perceived usefulness reflects the benefits they expect from using QRIS during payment. Intention to use is positioned as an intervening construct because a favorable evaluation of technology may first generate willingness before being translated into actual behavior.

Previous studies have generally supported the relevance of TAM for digital payment adoption. Research on QRIS has found that perceptions of ease and usefulness are associated with intention or usage, while recent work also reports a significant relationship between intention and actual QRIS use (Sholihah & Nurhapsari, 2023; Rahimi et al., 2024; Ramayanti et al., 2025). Kurnianingrum et al. (2023) similarly indicate that perceived ease of use and perceived usefulness contribute to the formation of intention in mobile payment contexts. Although these findings strengthen the TAM perspective, evidence concerning the mediating role of intention in the specific context of consumers at SRC Sugianto in Ngawi remains limited.

Based on this gap, the study focuses on seven relationships: the effects of perceived ease of use and perceived usefulness on intention to use; the direct effects of both perceptions and intention on QRIS usage; and the indirect effects of perceived ease of use and perceived usefulness on QRIS usage through intention to use. The

research is expected to contribute empirical evidence to the discussion of technology acceptance in MSME payment transactions and to provide practical input for improving the use of QRIS at the research site.

B. Method

This research adopts a quantitative approach with an explanatory design. The design was selected because the study seeks to examine directional relationships among perceived ease of use, perceived usefulness, intention to use, and QRIS usage. The research setting is SRC Sugianto, an MSME located in Jeblogan Village, Ngawi, where QRIS is available as a payment option.

The respondents were consumers who had experience using QRIS at the research object. A total of 385 respondents participated, and purposive sampling was applied so that the collected responses corresponded to the research criteria. Data were obtained mainly through a structured questionnaire using a five-point Likert scale. Supporting information was taken from relevant books, journal articles, and documents. The research variables consist of perceived ease of use (X1), perceived usefulness (X2), intention to use (Z), and QRIS usage (Y).

Data analysis was conducted with IBM SPSS Statistics. The analytical sequence comprised descriptive statistics, instrument testing, classical assumption testing, path analysis, partial hypothesis testing, coefficient of determination, and Sobel testing. Instrument quality was examined through item validity and Cronbach's Alpha reliability. The regression assumptions were evaluated through normality, multicollinearity, and heteroscedasticity tests. Path analysis was then used to estimate the direct relationships in two structural models: the first model explains intention to use from X1 and X2, while the second explains QRIS usage from X1, X2, and Z.

For the hypothesis decision, a significance probability below 0.05 was treated as evidence of a statistically significant effect. The mediation relationships were examined using the Sobel statistic to assess whether intention to use significantly

carries the influence of perceived ease of use and perceived usefulness toward QRIS usage.

C. Results and Discussion

Data from 385 QRIS users were analyzed using IBM SPSS Statistics. The variables were X1, X2, Z, and Y.

Data Analysis Test

Descriptive Statistical Analysis

Descriptive analysis presents the minimum, maximum, mean, and standard deviation of each variable.

Table 1. Descriptive Statistical Analysis

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Perceived Ease of Use (X1)	385	13	25	21,7013	1,56679
Perceived Usefulness (X2)	385	14	25	21,561	1,82917
Intention to Use (Z)	385	17	25	21,7766	1,535
QRIS Usage (Y)	385	14	25	22,0468	1,56555
Valid N (listwise)	385				

Source: Primary Data Processed (2026)

Table 1 shows high mean scores and relatively low standard deviations, indicating positive and consistent responses.

1. **Perceived Ease of Use (X1)** has a mean of 21.7013, a standard deviation of 1.56679, and scores ranging from 13–25, indicating that QRIS is considered easy to use.
2. **Perceived Usefulness (X2)** has a mean of 21.5610, a standard deviation of 1.82917, and scores ranging from 14–25, indicating that QRIS is considered useful and efficient.
3. **Intention to Use (Z)** has a mean of 21.7766, a standard deviation of 1.53500, and scores ranging from 17–25, indicating that the intention to use QRIS is relatively high.
4. **QRIS Usage (Y)** has the highest mean of 22.0468, a standard deviation of 1.56555, and scores ranging from 14–25, indicating that the level of QRIS usage is relatively high.

Overall, respondents gave positive and consistent assessments.

Research Instrument Test

Validity Test

Validity was assessed by comparing r-count with r-table (0.098); items are valid when r-count > r-table (Ghozali, 2018).

Table 2. Validity Test of the *Perceived Ease of Use* Variable (X1)

No	Item	r-value	r-table	Description
		Description	r-value > r-table	
1	X1.1	0,891	0,098	Valid
2	X1.2	0,898	0,098	Valid
3	X1.3	0,887	0,098	Valid
4	X1.4	0,885	0,098	Valid
5	X1.5	0,878	0,098	Valid

Source: Primary Data Processed (2026)

Table 3. Validity Test of the *Perceived Usefulness* Variable (X2)

No	Item	r-value	r-table	Description
		Description	r-value > r-table	
1	X2.1	0,881	0,098	Valid
2	X2.2	0,905	0,098	Valid
3	X2.3	0,904	0,098	Valid
4	X2.4	0,898	0,098	Valid

5	X2.5	0,901	0,098	Valid
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Source: Primary Data Processed (2026)

Table 4. Validity Test of the Intention to Use Variable (Z)

No	Item	r-value	r-table	Description
		Description	r-value > r-table	
1	Z1	0,909	0,098	Valid
2	Z2	0,908	0,098	Valid
3	Z3	0,903	0,098	Valid
4	Z4	0,899	0,098	Valid
5	Z5	0,905	0,098	Valid

Source: Primary Data Processed (2026)

Table 5. Validity Test of the QRIS Usage Variable (Y)

No	Item	r-value	r-table	Description
		Description	r-value > r-table	
1	Y1	0,935	0,098	Valid
2	Y2	0,946	0,098	Valid
3	Y3	0,932	0,098	Valid
4	Y4	0,938	0,098	Valid
5	Y5	0,950	0,098	Valid

Source: Primary Data Processed (2026)

All item r-count values exceed 0.098, so the instruments for X1, X2, Z, and Y are valid

Reliability Test

Reliability was assessed using Cronbach's Alpha.

Table 6. Reliability Test Results

No	Variable	Cronbach's Alpha	Reliability Standard	Description
1	<i>Perceived Ease of Use (X1)</i>	0,933	0,70	Reliabel
2	<i>Perceived Usefulness (X2)</i>	0,940	0,70	Reliabel
3	Intention to Use (Z)	0,945	0,70	Reliabel
4	QRIS Usage (Y)	0,967	0,70	Reliabel

Source: Primary Data Processed (2026)

All Cronbach's Alpha values exceed 0.70, indicating that all instruments are reliable.

Classical Assumption Test

Classical assumptions were assessed through normality, multicollinearity, and heteroscedasticity tests.

Normality Test

Normality was tested using the One-Sample Kolmogorov-Smirnov test.

Table 7. Normality Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		385
Normal Parameters ^{a, b}	Mean	0.0000000
	Std. Deviation	3.31846716
Most Extreme Differences	Absolute	0.036
	Positive	0.036
	Negative	-0.035
Test Statistic		0.036
Asymp. Sig. (2-tailed)		.200 ^{c, d}
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Source: Primary Data Processed (2026)

The Asymp. Sig. value is $0.200 > 0.05$, indicating normally distributed residuals.

Multicollinearity Test

Multicollinearity is absent when Tolerance > 0.10 and VIF < 10 .

Table 8. Multicollinearity Test Results

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.038	0.504		-2.057	0.040		
	Perceived Ease of Use	0.368	0.035	0.348	10.654	0.000	0.612	1.633
	Perceived Usefulness	0.313	0.035	0.299	8.901	0.000	0.577	1.732

	Intention to Use	0.388	0.038	0.373	10.280	0.000	0.495	2.019
a. Dependent Variable: Penggunaan QRIS								

Source: Primary Data Processed (2026)

All Tolerance values exceed 0.10 and VIF values are below 10; therefore, no multicollinearity is indicated.

Heteroscedasticity Test

Heteroscedasticity was tested using the Glejser method; Sig. > 0.05 indicates no heteroscedasticity.

Table 9. Heteroscedasticity Test Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.608	0.318		8.204	0.000
	Perceived Ease of Use	-0.002	0.022	-0.006	-0.097	0.923
	Perceived Usefulness	0.004	0.022	0.014	0.202	0.840
	Intention to Use	-0.005	0.024	-0.015	-0.199	0.842
a. Dependent Variable: RES_2						

Source: Primary Data Processed (2026)

All Sig. values are above 0.05, indicating that the model is free from heteroscedasticity.

Path Analysis

Path analysis examines direct effects using Beta coefficients and significance values; Sig. < 0.05 indicates significance.

Table 10. Results of Path Analysis Model 1

Independent Variable	Dependent Variable	Beta	Calculated t-value	Sig.	Description
<i>Perceived Ease of Use</i>	Intention to Use	0,379	9,09	0	Positive and Significant Effect
<i>Perceived Usefulness</i>	Intention to Use	0,439	10,522	0	Positive and Significant Effect

Source: Primary Data Processed (2026)

Based on the Model 1 path analysis, *Perceived Ease of Use* has a positive and significant effect on Intention to Use, with a coefficient of **0.379** and a Sig. value of **0.000**. This means that the easier QRIS is to use, the higher the consumers' intention to use it.

Perceived Usefulness has a positive and significant effect on Intention to Use, with a coefficient of **0.439** and a Sig. value of **0.000**. This means that the greater the perceived benefits of QRIS, the higher the consumers' intention to use it.

Tabel 11. Hasil Uji Analisis Jalur Model 2

Independent Variable	Dependent Variable	Beta	Calculated t-value	Sig.	Description
<i>Perceived Ease of Use</i>	QRIS Usage	0,348	10,654	0	Positive and Significant Effect
<i>Perceived Usefulness</i>	QRIS Usage	0,299	8,901	0	Positive and Significant Effect
Intention to Use	QRIS Usage	0,373	10,28	0	Positive and Significant Effect

Source: Primary Data Processed (2026)

Model 2 shows positive and significant effects of X1, X2, and Z on Y ($\beta = 0.348, 0.299, \text{ and } 0.373$; Sig. = 0.000).

Hypothesis Testing

The hypotheses were tested using the t-test; Sig. < 0.05 indicates acceptance.

Table 12. Hypothesis Test Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1,038	0,504		-2,057	0,040
	Perceived Ease of Use	0,368	0,035	0,348	10,654	0,000
	Perceived Usefulness	0,313	0,035	0,299	8,901	0,000
	Intention to Use	0,388	0,038	0,373	10,280	0,000

a. Dependent Variable: Penggunaan QRIS

Source: Primary Data Processed (2026)

The hypothesis results are summarized below:

1. **H1:** *Perceived Ease of Use* has a positive and significant effect on QRIS Usage, with a calculated t -value of $10.654 > t$ -table value of 1.966 and Sig. $0.000 < 0.05$. Therefore, H1 is accepted.
2. **H2:** *Perceived Usefulness* has a positive and significant effect on QRIS Usage, with a calculated t -value of $8.901 > t$ -table value of 1.966 and Sig. $0.000 < 0.05$. Therefore, H2 is accepted.
3. **H3:** Intention to Use has a positive and significant effect on QRIS Usage, with a calculated t -value of $10.280 > t$ -table value of 1.966 and Sig. $0.000 < 0.05$. Therefore, H3 is accepted.
4. **H4:** *Perceived Ease of Use* has a positive and significant effect on Intention to Use, with a calculated t -value of 9.090 and Sig. $0.000 < 0.05$. Therefore, H4 is accepted.
5. **H5:** *Perceived Usefulness* has a positive and significant effect on Intention to Use, with a calculated t -value of 10.522 and Sig. $0.000 < 0.05$. Therefore, H5 is accepted.
6. **H6:** Intention to Use significantly mediates the effect of *Perceived Ease of Use* on QRIS Usage, with a Sobel Test Statistic of 6.752 and a p -value of $0.000 < 0.05$. Therefore, H6 is accepted.
7. **H7:** Intention to Use significantly mediates the effect of *Perceived Usefulness* on QRIS Usage, with a Sobel Test Statistic of 13.165 and a p -value of $0.000 < 0.05$. Therefore, H7 is accepted.

Coefficient of Determination Test (R^2)

R^2 indicates the proportion of Y variation explained by X1, X2, and Z.

Table 13. Coefficient of Determination Test Results (R^2)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.867 ^a	0.751	0.750	3.33151
a. Predictors: (Constant), Minat Menggunakan, Perceived Ease of Use, Perceived Usefulness				

Source: Primary Data Processed (2026)

$R^2 = 0.751$, meaning X_1 , X_2 , and Z explain 75.1% of Y ; the remaining 24.9% is explained by other factors.

Sobel Test

The Sobel test evaluates the indirect effects of X_1 and X_2 on Y through Z .

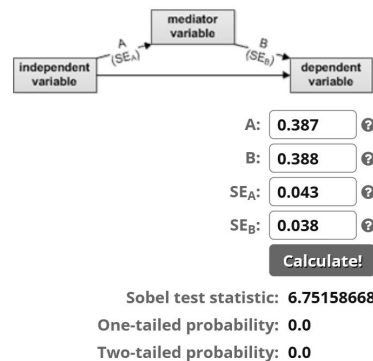


Figure 1. Type of Mediation (*Full Mediation* or *Partial Mediation*) Can Only Be Determined After Examining the Direct Effect of X_1 on Y When Variable Z Is Included in the Regression Model.

Source: Primary Data Processed (2026)

For $X_1 \rightarrow Z \rightarrow Y$, the Sobel statistic is 6.752 with $p = 0.000 < 0.05$, confirming significant mediation.

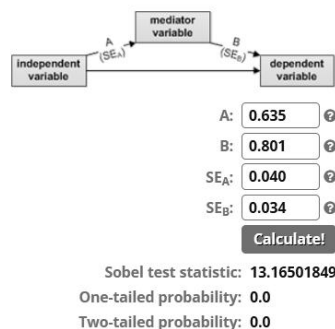


Figure 2. Type of Mediation (*Full Mediation* or *Partial Mediation*) Can Only Be Determined After Examining the Direct Effect of X_2 on Y When Variable Z Is Included in the Regression Model.

Source: Primary Data Processed (2026)

For $X_2 \rightarrow Z \rightarrow Y$, the Sobel statistic is 13.165 with $p = 0.000 < 0.05$, confirming significant mediation.

D. Conclusion

Based on the research results, the following conclusions can be drawn:

1. Perceived Ease of Use has a positive and significant effect on QRIS Usage. The easier QRIS is to understand and use, the higher its usage in transactions.
2. Perceived Usefulness has a positive and significant effect on QRIS Usage. Benefits such as convenience, speed, and efficiency encourage consumers to use QRIS.
3. Intention to Use has a positive and significant effect on QRIS Usage. The higher consumers' intention to use QRIS, the greater their tendency to use it as a payment method.
4. Perceived Ease of Use has a positive and significant effect on Intention to Use. The ease of using QRIS can increase consumers' interest in using it.
5. Perceived Usefulness has a positive and significant effect on Intention to Use. The greater the perceived benefits, the higher consumers' intention to use QRIS.
6. Intention to Use mediates the effect of Perceived Ease of Use on QRIS Usage, indicating that ease of use can increase QRIS Usage both directly and through increased intention to use.
7. Intention to Use mediates the effect of Perceived Usefulness on QRIS Usage. This means that perceived benefits increase consumers' intention to use QRIS, which subsequently encourages its usage.

E. Suggestions

Based on the results of the research, the following suggestions can be provided:

1. For SRC Sugianto MSME
SRC Sugianto MSME is advised to increase the utilization of QRIS by providing information to consumers and ensuring that QRIS facilities are always available and function properly.
2. For Consumers

Consumers are encouraged to make greater use of QRIS in their daily transactions because it provides convenience, practicality, and payment efficiency.

3. For Future Researchers

Future research is recommended to expand the research objects and geographical areas and to include other variables, such as trust, security, perceived risk, *social influence*, and *facilitating conditions*, so that the research results are more comprehensive and generalizable.

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