

# The Influence of TAM Variables and Financial Literacy on QRIS Payment Decisions with Interest as an Intervening Variable (Study on Semarang State Polytechnic Students)

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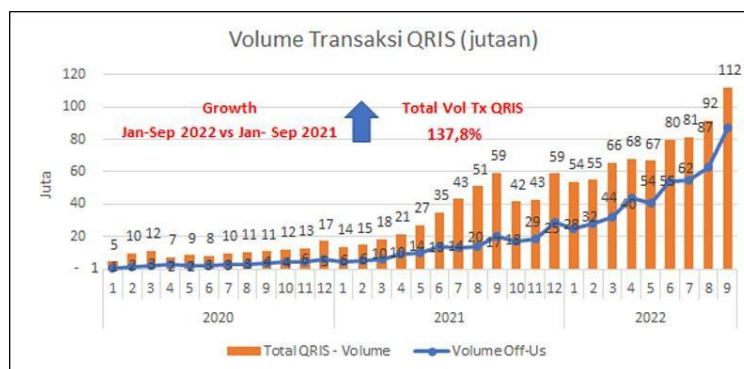
## Abstract:

The rapid evolution of digital technology, especially in the digital economy and payment sector, has driven the widespread adoption of digital payment services utilizing QR Codes. The Quick Response Code Indonesian Standard (QRIS), introduced by Bank Indonesia and the Indonesian Payment System Association (ASPI) on August 17, 2019, serves as the national QR code standard, facilitating QR code-based payments across Indonesia. QRIS presently allows the acceptance of payment applications, whether from banks or non-banks, at various establishments. This study, involving 370 students from a population of 6,128, utilizes the Structural Equation Model (SEM) for analysis, demonstrating a robust fit with a GFI value surpassing 0.913. The findings reveal that TAM variables—perceived ease of use, perceived usefulness, perceived enjoyment, and financial literacy—significantly influence decision of QRIS payment through interest in adopting digital payments as an intervening variable, supported by probability values below 5%

**Keywords:** QRIS, TAM variables, Financial Literacy.

## Introduction

Industrial technology development, especially in the digital economy sector, has created a significant impact, especially in the innovation of QR Code-based payment services. QRIS (Quick Response Code Indonesian Standard) is an efficient solution that supports financial inclusion and the progress of Micro, Small, and Medium Enterprises (MSMEs). QRIS was introduced by Bank Indonesia and the Indonesian Payment Systems Association (ASPI) on August 17, 2019, as the national QR code standard. QRIS facilitates using various payment applications from organizers, both banks and non-banks, in places such as shops, traders, stalls, parking lots, tourist tickets, and donations (merchants) with the QRIS logo. Even though the QRIS providers at merchants differ, users can choose various payment applications according to their preferences. In October 2022, QRIS transaction volume reached 112 million, showing explosive growth of 1735% compared to March 2020, which was only 5.08 million.



**Figure 1:** Graph of QRIS transaction volume growth March 2020 – September 2022

Source: Indonesian Payment Systems Association (ASPI) by Bank Indonesia (BI)

Even though QRIS adoption is increasing, many shops still need to understand or know about QRIS fully. According to (Akbar, 2022), this obstacle is due to the low financial literacy of the Indonesian people. Research (Palupi et al., 2022) confirms that financial literacy and ease of using QRIS influence the decision of MSME players to adopt this payment system. Financial literacy is the key to consumer empowerment in the QRIS context. Understanding digital finance is considered a life skill required by every individual, but research (Sucuahi, 2013) shows a low level of financial literacy, especially among students, which is influenced by the level of education.

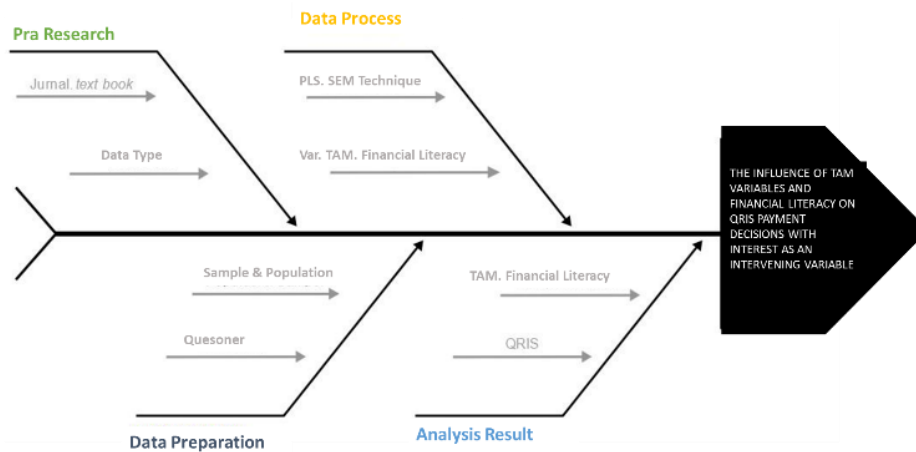
The growth of digital payment services is also influenced by concerns about the confidentiality and security of personal data and the risk of transaction failure, which could lead to fraud (Adiatama & Sar, 2020). Users' interest in digital financial technology also influences their choice, including the decision to continue using, switch to, or return to previous technology (Rasyid et al., 2020). Technology acceptance theory is the research framework, especially the Technology Acceptance Model (TAM). TAM emphasizes that perceptions of ease, usefulness, and comfort influence attitudes toward the use of technology. The combination of financial literacy and TAM becomes an analytical tool to explore the factors influencing user attitudes and behavior in adopting QRIS.

This research aims to identify the influence of perceived convenience, usefulness, and comfort variables on interest in using QRIS as an intervening variable, as well as evaluate the impact of financial literacy on the decision to pay for QRIS through interest in digital payments as an intervening variable among Semarang State Polytechnic students. The urgency of this research lies in its contribution to understanding the factors that influence the decision to pay QRIS with interest in digital payments as an intervening variable, which can help determine the level of success of QRIS as a digital payment tool. The results of this research will likely become the basis for the government and stakeholders to design more effective socialization and education models, encouraging society's transition from cash payments to QRIS digital payments. With increasing QRIS adoption, it is hoped that transaction security will increase, reduce the risk of fraud, accelerate economic growth, and improve the overall welfare of society.

## **Methodology**

Quantitative research methods are approaches that use large amounts of data to test hypotheses using the theoretical basis of the Quick Response Code Indonesian Standard (QRIS), Technology Acceptance Model (TAM), and Financial Literacy. This research was conducted by collecting data through a questionnaire using a 5-point Likert scale with answer options namely 1) Strongly Disagree (STS), 2) Disagree (ST), 3) Neutral (N), 4) Agree (SJ), 5) Strongly Agree (SS) filled in by respondents on variables including 4 (four) independent variables such as perceived convenience (X1), perceived usefulness (X2), perceived comfort (X3), and financial literacy (X4), interest in using digital payments (Z) as an intervening variable, and QRIS payment decisions (Y) as the dependent variable.

The population in the research were Semarang State Polytechnic students; using purposive sampling techniques, 370 respondents from 500 students were given questionnaires. The statistical data processing process is carried out using SmartPLS software with SEM analysis, which involves testing validity, reliability, normality, and the influence of factors. This data analysis technique allows testing a series of relationships between independent and dependent variables simultaneously. This research also uses the AMOS data processing application for statistical data processing analysis techniques. The structural Equation Model (SEM) is used to test the effectiveness of experimental variables and allows the testing of several models in answering the research problem formulation.



**Figure 2:** Fishbone diagram research flow chart

### Discussion and Result

Research respondents had varying levels of QRIS knowledge, with 9% knowing it for over three years, 49% for 1-3 years, and 42% for less than one year. As many as 43% of respondents spent less than 100,000 in QRIS purchases, 50% spent 100,000 to 500,000, and 7% spent more than 500,000. 1.35% of respondents needed to learn how to complete transactions with QRIS, while 98.65% were familiar with it. Statistical data is processed using AMOS to analyze the application of the Technology Acceptance Model (TAM) and financial literacy in QRIS payment decisions for students of Politeknik Negeri Semarang.

**Table 1:** Validity Test

Indicator		Result	Statement	Indicator		Result	Statement
X13	Facilitate	0.879	Valid	X41	Literacy	0.838	Valid
X12	Facilitate	0.931	Valid	X42	Literacy	0.887	Valid
X11	Facilitate	0.873	Valid	X43	Literacy	0.802	Valid
X24	Usefulness	0.893	Valid	X44	Literacy	0.893	Valid
X23	Usefulness	0.833	Valid	Y11	Interest	0.793	Valid
X22	Usefulness	0.921	Valid	Y12	Interest	0.892	Valid
X21	Usefulness	0.884	Valid	Y13	Interest	0.888	Valid
X31	Comfort	0.855	Valid	Y21	Satisfaction	0.768	Valid
X32	Comfort	0.924	Valid	Y22	Satisfaction	0.926	Valid
X33	Comfort	0.888	Valid	Y23	Satisfaction	0.778	Valid
X34	Comfort	0.878	Valid	Y24	Satisfaction	0.886	Valid
				X14	Facilitate	0.914	Valid
				Y14	Interest	0.908	Valid

The test results for each indicator show that the Pearson Correlation is positive, so all indicators are declared valid.

**Table 2: Reliability Test**

Variable	Result	Require	Statement
X1	0.934	> 0.7	Reliable
X2	0.921	> 0.7	Reliable
X3	0.921	> 0.7	Reliable
X4	0.899	> 0.7	Reliable
Z	0.912	> 0.7	Reliable
Y	0.913	> 0.7	Reliable

From the processing results, the Cronbach's Alpha value was obtained, and all the values of the variables X, Y, and Z were above 0.7, so it could be concluded that all the variables used were declared reliable.

**Table 3: Fit Model Test**

Model	RMR	GFI	AGFI	PGFI
Default model	0.067	0.913	0.881	0.672
Saturated model	0.000	1.000		
Independence model	0.586	0.716	0.692	0.659
Zero model	0.602	0.000	0.000	0.000

The GFI value shows more than 0.913, so the data shows a better-fit value. Changes in the independent variable can explain changes in the dependent variable as much as 91.3%, while changes in other variables can explain 8.7%.

**Table 4: Normality Test**

(Assessment of normality (Group number 1))

Variable	min	max	skew	c.r.	kurtosis	c.r.
Y14	1.000	5.000	.157	1.231	-.294	- 1.154
X14	1.000	5.000	.020	.160	-.268	- 1.051
Y24	1.000	5.000	-.175	-1.374	-.365	- 1.431
Y23	1.000	5.000	-.253	-1.983	-.375	- 1.472
Y22	1.000	5.000	-.154	-1.208	-.491	- 1.929
Y21	1.000	5.000	-.149	-1.170	-.122	-.481
Y13	1.000	5.000	.075	.592	-.607	- 2.385
Y12	1.000	5.000	.105	.824	-.313	- 1.230
Y11	1.000	5.000	-.150	-1.180	-.423	- 1.660
X44	1.000	5.000	.299	2.350	-.330	- 1.295
X43	1.000	5.000	-.045	-.352	-.540	- 2.120
X42	1.000	5.000	.096	.751	-.408	- 1.602
X41	1.000	5.000	-.152	-1.191	-.407	- 1.599
X31	1.000	5.000	.074	.582	-.510	- 2.002
X32	1.000	5.000	.099	.776	-.365	-

						1.435
X33	1.000	5.000	.117	.917	-.379	- 1.488
X34	1.000	5.000	.069	.544	-.417	- 1.638
X21	1.000	5.000	.014	.107	-.289	- 1.136
X22	1.000	5.000	.050	.392	-.575	- 2.259
X23	1.000	5.000	.064	.503	-.160	-.629
X24	1.000	5.000	.104	.820	-.146	-.572
X11	1.000	5.000	-.002	-.015	-.439	- 1.724
X12	1.000	5.000	.168	1.318	-.552	- 2.167
X13	1.000	5.000	.212	1.663	-.302	- 1.184
<b>Multivariate</b>						<b>8.961</b> <b>2.440</b>

The table above shows that none of the critical ratio (c.r.) values are outside -2,580 to 2,580, so it shows that the data is univariately normally distributed. Meanwhile, the Multivariate Value is 2,440, so it can also be concluded that the Data is Normally Distributed Multivariate.

**Table 5: Multikolinearity Test**

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	X11	.354	2.824
	X21	.326	3.066
	X31	.401	2.492
	X41	.370	2.701

All Tolerance values for each variable are more significant than 0.10, and all VIF values for each variable are smaller than 10.00. So, based on the decision taken in the multicollinearity test, it can be concluded that there are no symptoms of multicollinearity in the regression model.

**Table 6: HeteroscedastisityTest**

Model	Unstandardized Coefficients			Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.994	.298		-3.339	.001
	X13	-.005	.130	-.003	-.035	.972
	X24	.172	.123	.111	1.399	.163
	X33	.005	.136	.003	.038	.969
	X43	.153	.123	.094	1.247	.213

The significance value of the four variables is more significant than 0.05, so by the basis for decision-making in the Glejser test, it can be concluded that there are no symptoms of heteroscedasticity in the regression model.

**Table 7:** Autocorrelation Test

Mode l	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.894 <sup>a</sup>	.800	.798	1.45875	1.933

The Durbin Watson distribution value (1.933) is greater than the upper limit table value ( $d_u$ ), namely 1.765, and smaller than  $4-d_u$  ( $4-2.235 = 1.765$ ) or in short  $d_u < d < 4-d_u$ , so it can be concluded that  $H_0$  is accepted and rejecting  $H_1$ , which means there are no problems or symptoms of autocorrelation.

**Table 8:** Structural Equation Modelling (SEM) AMOS Test

	Estimate	S.E.	C.R.	P	Label
Minat ← Manfaat	0.263	0.080	3.033	0.000	par_17
Minat ← Nyaman	0.138	0.067	2.052	0.040	par_18
Minat ← Literasi	0.248	0.091	2.721	0.007	par_19
Minat ← Mudah	0.159	0.061	2.583	0.010	par_20
Keputusan ← Minat	0.759	0.082	9.229	0.000	par_21

The research results show a significant influence of four independent variables on interest in using digital payments. Perceived convenience has a positive coefficient of 0.159 with a significance of 0.010, perceived usefulness has a positive coefficient of 0.263 with a significance of 0.000, perceived convenience has a positive coefficient of 0.138 with a significance of 0.040, and financial literacy also has a positive coefficient of 0.248 with a significance of 0.007. The research results also show that interest as an intervening variable significantly influences QRIS payment decisions as a dependent variable, with a coefficient of 0.759 and a significance of 0.000. By rejecting the null hypothesis ( $H_0$ ) and accepting the alternative hypothesis ( $H_1$ ) for the four variables and intervening variables, it can be concluded that perceived convenience, perceived usefulness, perceived comfort, and financial literacy significantly influence QRIS payment decisions through interest in using digital payments as a variable intervening.

The results of this research are in line with (Iskandar et al., 2022); (Syafitri, 2020); (Davis, 1985); (Handayani & Abdillah, 2019); (Santoso, 2010); (Latifiana, 2017); (Luckandi, 2019); (Mulasiwi & Julialevi, 2020); (Ong & Nuryasman, 2022); (Saleh, 2020); and (Sihaloho et al., 2020) but contrary to research (Handayani & Abdillah, 2019); and (Tresnawati, 2019).

## Conclusions

This research shows that perceived ease of use, usefulness, enjoyment, and financial literacy influence QRIS payment decisions through interest in using digital payments. It would be best to conduct further research on the MSME customer community.

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