

The Effect of Usage Barrier, Tradition Barrier and Digital Literacy on QRIS Adoption Resistance in Market Traders August 17

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ABSTRACT

This study aims to analyze the influence of use barrier, tradition barrier, and digital literacy on the resistance to the adoption of the Quick Response Code Indonesian Standard (QRIS) in traders at the 17 August Pamekasan Market. The study uses an explanatory quantitative approach with a cross-sectional survey of 100 traders who have not adopted QRIS. Data was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the help of SmartPLS 4.0 through bootstrapping 5,000 subsamples. The results showed that the tradition barrier had a positive and significant effect on the resistance of QRIS adoption ($\beta = 0.440$; $p < 0.001$), while digital literacy had a negative and significant effect on the resistance of QRIS adoption ($\beta = -0.500$; $p < 0.001$; $f^2 = 0.768$). Meanwhile, the usage barrier had no significant effect on QRIS adoption resistance ($\beta = 0.130$; $p = 0.094$). The research model explained the 74.1% variability of QRIS adoption resistance ($R^2 = 0.741$). The findings showed that attachment to transaction habits was a significant source of resistance, while better digital capabilities were associated with lower resistance levels. The implications of the study emphasize the importance of community-based digital education, simulation, and mentoring that considers the characteristics and habits of traditional market traders.

Keywords: Adoption Resistance; Digital Literacy; QRIS; Tradition Barrier; Traditional Market; Usage Barrier.

INTRODUCTION

Digital transformation in the payment system has changed the transaction patterns of the Indonesian people, one of which is through the implementation of Quick Response Code Indonesian Standard (QRIS) as a QR code-based payment standard[1]. The presence of QRIS allows transactions to be carried out more practically through various payment applications connected to the QRIS system[2]. These developments show that digital payments are increasingly becoming part of people's economic activities, including in the micro-scale trade sector. However, the increase in the availability and use of digital payment technology does not necessarily indicate that all business actors accept these innovations[3]. At the user level, the process of switching from cash to digital transactions can bring changes to the way transactions are made, manage receipts, and interact with technology[4].

This condition shows that the problem of payment digitalization is not only related to the ability of technology to provide payment services, but also to the readiness of users to accept changes.

This problem is becoming increasingly relevant to traditional market traders whose transaction activities still take place directly and use cash. Traditional markets have transaction characteristics that are different from the trading environment that from the beginning is more accustomed to using digital technology, not only dealing with changes in payment instruments, but also needs to adjust transaction habits, payment acceptance procedures, and the ability to use digital devices[5]. Therefore, the decision to accept or reject QRIS cannot always be explained solely based on the benefits offered by the technology[6]. The existence of inconvenience, the need to learn how to use it, and attachment to existing transaction patterns can shape different responses to innovation[7]. In these conditions, resistance is an important aspect to be studied because rejection or reluctance to use innovation can be one of the obstacles to the payment digitization process in the traditional trade sector.

The Pamekasan August 17 Market is one of the relevant contexts to look at these issues at the micro level. As a traditional trading center, transaction activities in this market take place in direct interaction between traders and buyers with payment patterns that have been formed in daily trading activities. This condition creates its own challenges in the transition process to digital payments[8]. Thus, resistance to QRIS in the traders of the 17 August Pamekasan Market needs to be understood not only as a question of whether technology is available or not, but as a response of users to the changes brought about by the innovation. A perspective that is able to explain the source of the barriers to the acceptance of innovation is needed to understand the phenomenon more systematically[9].

One of the relevant perspectives to explain the resistance is Innovation Resistance Theory (IRT)[10]. This theory explains that individuals can reject or delay the acceptance of innovation when the innovation introduced is perceived to cause obstacles to existing conditions. Obstacles in IRT can be in the form of functional or psychological barriers. In this study, two relevant forms of barriers are usage barrier and tradition barrier. Usage barrier is a functional obstacle that arises when the use of innovation is perceived as difficult, complex, requires learning, or requires certain adjustments. Meanwhile, tradition barrier is a psychological obstacle that arises when innovation is perceived as not in accordance with the habits, values, or behavior patterns that have been formed[11]. The framework provides a theoretical basis for understanding that traders' resistance to QRIS can arise both due to the demands of the use of technology and due to changes to transaction habits that have taken place.

In the context of QRIS, usage barrier can arise when traders perceive that digital transactions require different capabilities and processes than cash transactions. Traders need to understand payment mechanisms, ensure the success of transactions, check the receipt of funds, and adjust to digital devices and applications. These demands can be perceived as obstacles if users feel that they do not have sufficient experience or capabilities. Findings Rahmadaniah et al. (2025) Traders at Pasar 16 Ilir Palembang show that although QRIS is considered to

provide benefits in improving transaction efficiency, recording automation, and security, traders still face various obstacles, including consumer preferences for cash payments, application operational constraints, signal interference, and limited technical support. The findings show that the benefits of an innovation do not always eliminate the obstacles felt by users. Thus, usage barrier Theoretically, it can be one of the sources of resistance to the adoption of QRIS, although the magnitude of the influence of these barriers still needs to be empirically proven in the context of traditional market traders.

Unlike barriers related to the process of use, the tradition barrier is related to the user's attachment to the behavior patterns that have been formed. For traditional market traders, cash transactions can be part of a trading routine that is carried out repeatedly and has been considered familiar. The switch to QRIS not only introduces new means of payment, but also demands changes to the way transactions are carried out. When such changes are perceived as not in accordance with previous habits, resistance can arise as a form of tendency to maintain familiar transaction patterns. The perspective of IRT makes tradition barriers relevant in this context because psychological barriers do not always stem from technological shortcomings, but can arise from mismatches between innovation and user habits. Therefore, the stronger the trader's attachment to previous transaction patterns, the more likely it is that resistance to changes towards digital payments will appear.

Although IRT can explain resistance through barriers related to innovation and habits, an individual's response to technology can also be influenced by the ability they have in dealing with the digital environment. In this study, digital literacy is not placed as a construct barrier in IRT, but rather as an individual factor that can complement the explanation of resistance to QRIS adoption. Digital literacy is concerned with the ability of individuals to access, understand, evaluate, and use digital information and technology effectively. These capabilities are relevant in the use of QRIS because merchants need to interact with digital devices, understand transaction information, verify payments, and handle obstacles that may arise during the transaction process. Merchants with better digital capabilities conceptually have a greater capacity to understand the mechanism of QRIS and adjust to changes in payment systems. Thus, digital literacy is estimated to have a negative relationship with QRIS adoption resistance.

The findings of previous research provide an idea that user readiness is an important aspect in the payment digitization process. Shirley (2024) shows that the use of QRIS by micro traders requires user capacity support, including financial literacy, so that technology can be used effectively in business activities. Meanwhile, the research Maria et al. (2025) on traders Pasar Segiri showed that socialization, training, and simulation of the use of QRIS can increase the willingness to adopt from 40% to 90%. The findings show that the ability and readiness of users can play a role in the process of accepting digital payment technology. In the book of works Kawengian et al. (2025) explained that digital and financial literacy and demographic characteristics need to be considered in understanding the acceptance of technology contextually. Overall, these studies show that the digital payment adoption process is not only influenced by technological characteristics, but also by the conditions and ability of users to cope with change.

While research on QRIS and digital payments is expanding, there is still room to further explore adoption resistance among traditional market merchants. Previous studies have largely focused on the acceptance, intention, or decision to use QRIS, whereas the reasons behind user reluctance or resistance to change have received less attention. Yet, the mere availability of digital payment technology does not guarantee adoption if merchants find the technology difficult to use or remain strongly attached to established transaction patterns. Understanding the sources of resistance is crucial; without such insight, the digitalization of payments in the traditional trade sector may fail to achieve its intended objectives. Furthermore, digital literacy has not consistently been examined as a factor explaining how varying user capabilities shape responses to technological change. Research simultaneously investigating usage barriers, tradition barriers, and digital literacy to explain QRIS adoption resistance among traditional market merchants in Madura remains limited. Consequently, this study is essential to identify the sources of resistance and examine the relationship between merchants' digital capabilities and their responses to QRIS, specifically at the 17 Agustus Market in Pamekasan.

Based on these gaps, this study offers novelty by placing Innovation Resistance Theory as the main foundation for explaining resistance through usage barriers and tradition barriers, as well as integrating digital literacy as an individual factor that has the potential to mitigate resistance to digital payment innovation. This position allows the research not to impose digital literacy as part of the IRT construct, but to use it as a factor that complements the explanation of how user abilities relate to responses to innovation. The context of Pamekasan August 17 Market traders also makes an empirical contribution by presenting the perspective of traditional market traders in the study of QRIS adoption resistance.

Based on the preceding discussion, resistance to QRIS can be understood as a response influenced not only by difficulties in using the technology and attachment to established transaction habits but also by the merchants' capacity to navigate digital transformation. Accordingly, this study aims to analyze the impact of usage barriers, tradition barriers, and digital literacy on resistance to QRIS adoption among merchants at the 17 Agustus Market in Pamekasan. Usage barriers and tradition barriers are hypothesized to have a positive relationship with resistance, whereas digital literacy is expected to have a negative relationship, as higher digital proficiency can assist merchants in understanding and meeting the demands of using QRIS. Theoretically, this study seeks to broaden the application of Innovation Resistance Theory (IRT) in explaining resistance to digital payment innovations by incorporating the perspective of individual user capabilities. Empirically, the study provides insights into QRIS adoption resistance within a traditional trading environment in Madura. Furthermore, from a science and technology perspective, the findings are expected to serve as a foundation for developing payment digitalization strategies that better account for user conditions through education, outreach, training, simulations, and technological approaches tailored to the merchants' characteristics.

METHOD

This study uses a quantitative approach with an explanatory design (explanatory research) to test the influence between variables formulated in the research model [16]. Survey approach cross-sectional used to collect data at a specific time to test the influence of usage barrier, tradition barrier, and digital literacy to the resistance of QRIS adoption. The population in this study is all traders in the 17 August Pamekasan Market who have not adopted QRIS. Considering that the number of traders who have not adopted QRIS is not known for sure (unknown population), the determination of sample size is calculated using the Lemeshow formula as follows.

$$n = \frac{Z^2 \times p \times (1-p)}{d^2} = \frac{(1,96)^2 \times 0,5 \times (1-0,5)}{0,10^2} = \frac{3,8416 \times 0,25}{0,01} \quad (1)=$$

$$\frac{0,9604}{0,01} = 96,04 = 96 \text{ Responden}$$

n= minimum sample count

z= score at 95% confidence level= 1.96

p= proportion of population = 0.05

d = Precision level or *margin of error* = 0.10

Using a margin of error of 10% ($d = 0.10$), a confidence level of 95% ($Z = 1.96$), and a proportion of $p = 0.05$, a minimum sample of 96 respondents was obtained (rounded to 100 respondents). Furthermore, the sample was selected using purposive sampling techniques based on inclusion criteria: (1) active traders in the 17 August Pamekasan Market, (2) have not used QRIS in sales transactions, and (3) know the existence of QRIS as a digital payment medium.

Primary data was collected through a five-point Likert scale questionnaire whose instruments had been declared feasible through a pilot test on 30 respondents with a score of Cronbach's Alpha above 0.70 [17]. Data analysis is carried out using structural equation modeling based partial least squares (PLS-SEM) with the help of SmartPLS 4.0 through two stages of evaluation (Hair et al., 2019; Ringle & Sarstedt, 2021). Evaluation of the measurement model (outer model) was carried out to test the convergent validity (outer loading ≥ 0.70 and AVE ≥ 0.50), the discriminant validity was assessed using the Heterotrait Monotrait ratio (HTMT) with a limit of <0.90 , and the reliability of the construct (composite reliability and Cronbach's $\alpha \geq 0.70$). Furthermore, the evaluation of the structural model (inner model) was carried out through the analysis of R-square (R^2), f-square (f^2), path coefficient (*path coefficient*), and the *bootstrapping* with 5,000 sub-samples to test the significance of direct influence [18].

RESULTS AND DISCUSSION

The testing of the research model was carried out using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0 software. Refers to methodological guidelines [19] and [18], the evaluation was carried out in two main stages: the assessment of the measurement model (outer model) to ensure the validity and reliability of the instrument, and the evaluation of the structural model (inner model) to test the determination power and significance of the structural relationship between latent variables.

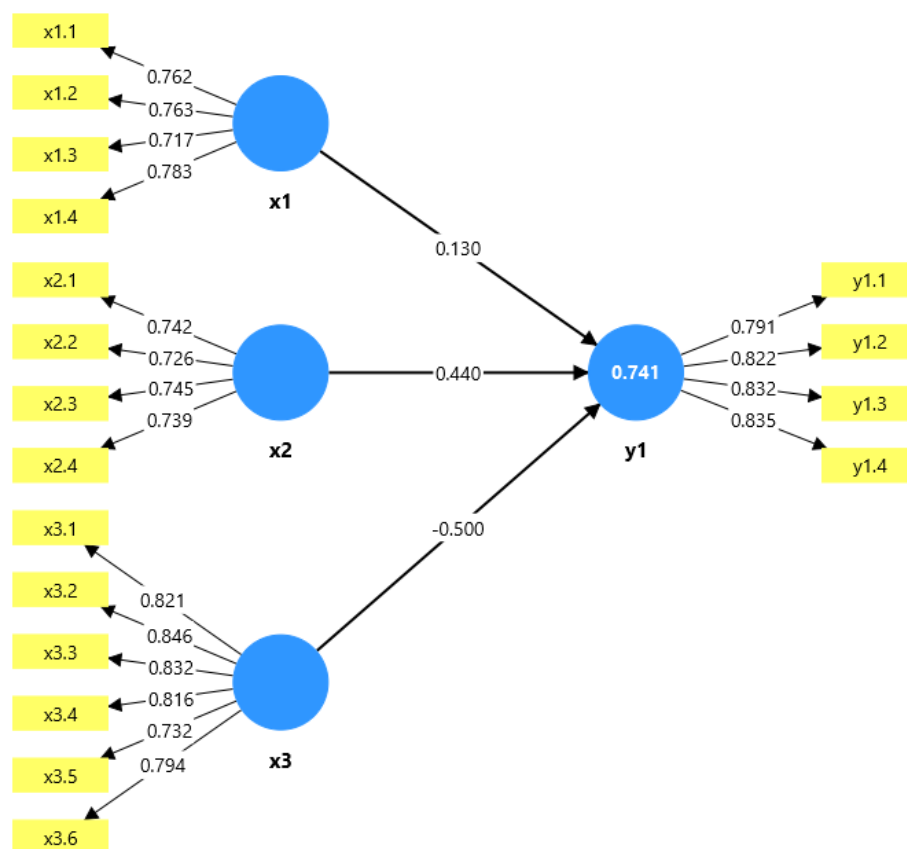


Image 1. Evaluation of Measurement Models (Outer Loading, Reliability, and Convergent Validity)

Evaluation of the measurement model proved that the entire construct had excellent convergent validity and internal consistency reliability, as presented in Table 1. All reflective indicators produced an outer loading value (λ) above the minimum limit of 0.70 (range 0.717-0.846). The fulfillment of convergent validity was strengthened by the acquisition of the Average Variance Extracted (AVE) value of the entire construct that exceeded the threshold of 0.50. In addition, the research instrument was declared to be very reliable because the values of Cronbach's Alpha ($\alpha \geq 0.722$) and Composite Reliability ($CR \geq 0.827$) were consistently above the limit criterion of 0.70 [19].

Table 1. Evaluation of Measurement Models (Outer Loading, Reliability, and Convergent Validity)

Constructs and indicators	Outer loading	AVE	Cronbach's Alpha	Composite reliability	Conclusion
Construct X1		0,573	0,752	0,843	Valid & Reliable
X1.1	0,762				Valid
X1.2	0,763				Valid
X1.3	0,717				Valid
X1.4	0,783				Valid
Construct X2					Valid & Reliable
X2.1	0,742				Valid
X2.2	0,726				Valid
X2.3	0,745				Valid
X2.4	0,739				Valid
Construct X3					Valid & Reliable
X3.1	0,821				Valid
X3.2	0,846				Valid
X3.3	0,832				Valid
X3.4	0,816				Valid
X3.5	0,732				Valid
X3.6	0,794				Valid
Construct Y1					Valid & Reliable
Y1.1	0,791				Valid
Y1.2	0,822				Valid
Y1.3	0,832				Valid
Y1.4	0,835				Valid

The discriminant validity test with the Heterotrait-Monotrait ratio (HTMT) in Table 2 The HTMT value of all construct pairs is below the limit of 0.90, with the highest value of 0.887. Thus, the discriminant validity between constructs is met. In addition, the inner model multicollinearity test ensures that there are no symptoms of multicollinearity between exogenous variables with VIF values (X1 = 1.830; X2 = 1.663; X3 = 1.256) which is well below the tolerance threshold of 3.0 [18]

Table2. Matrix Validitas Discrimination Heterotrait-Monotrait Ratio (HTMT)

Construct	X1	X2	X3	Y1
X1				
X2	0,856			
X3	0,536	0,421		
Y1	0,786	0,887	0,817	

The structural model showed strong explanatory power with a determination coefficient *value of* R^2 of 0.741 (R^2 Adjusted = 0.733), which means that 74.1% of the variability in the dependent variable Y1 was able to be explained together by the three independent variables. A summary of the hypothesis testing through the

bootstrapping procedure of 5,000 subsamples at a significance level of $\alpha = 5\%$ ($t > 1.96$, $p < 0.05$) is presented in Table 3.

Structural Model Evaluation and Hypothesis Testing

The evaluation of the structural model was carried out to determine the ability of independent variables to explain dependent variables and test the significance of the relationship between variables. The test results showed a value of the *R-square* (R^2) determination coefficient of 0.741 with an *R-square adjusted* of 0.733. This value showed that 74.1% of the variability in the dependent variable Y1 could be explained together by X1, X2, and X3, while the remaining 25.9% was explained by other factors outside the research model.

Hypothesis testing was carried out through a *bootstrapping* procedure with 5,000 *sub-samples* at a significance level of 5%. The hypothesis was declared significant if the *t-statistic* value > 1.96 and the *p-value* < 0.05 (Hair et al., 2019). The results of structural relationship testing are presented in Table 3.

Table 3. Hypothesis Testing Results

Hipotesis	Influence Path	Path coefficient	Sample average	STDEV	T statistic	P values	Effects (f2)	Verdict
H1	X1>Y1	0,130	0,131	0,077	1,676	0,094	0,036 (small)	Rejected
H2	X2>Y1	0,440	0,443	0,075	5,864	0,000	0,450 (wide)	Accepted
H3	X3>Y1	-0,500	-0,499	0,059	8,473	0,000	0,768 (large)	Accepted

Influence of X1 on Y1

The first hypothesis test (H1) showed that *the usage barrier* had no significant effect on the resistance of QRIS adoption ($\beta = 0.130$; $t = 1.676$; $p = 0.094$; $f^2 = 0.036$). These results show that the perception of the difficulty of use, the need to learn the features, and the potential operational constraints of QRIS have not been strong enough factors to explain the resistance of traders in this study. Although *the usage barrier* has a positive relationship direction according to the hypothesis, the effect is not statistically significant. In the perspective of *Innovation Resistance Theory* (IRT), *the usage barrier* is a form of functional barrier that can arise when innovation is perceived to require certain adjustments or learning. However, the existence of functional barriers does not always result in strong resistance because user responses can be influenced by user characteristics and the context of innovation. Thus, in the context of traders at the 17 August Pamekasan Market, resistance to QRIS is not primarily explained by the perception of the difficulty of use.

Influence of X2 on Y1

The second hypothesis test (H2) showed that *the tradition barrier* had a positive and significant effect on the resistance to QRIS adoption ($\beta = 0.440$; $t = 5.864$; $p < 0.001$; $f^2 = 0.450$). These findings show that the stronger the attachment of merchants to the habits of cash transactions that have taken place, the higher their tendency to maintain such transaction patterns and reject the adoption of QRIS.

These results are in line with the perspective of *Innovation Resistance Theory* (IRT), which places *the tradition barrier* as a psychological obstacle that arises when an innovation is perceived to be incompatible with the habits, values, or behavior patterns that have been formed. In the context of traders of the 17 August Pamekasan Market, cash transactions not only function as a means of payment, but have also become part of the daily transaction management and cash turnover routine. Therefore, the shift towards digital transactions through QRIS can be perceived as a change to familiar patterns. The magnitude of *the f²* effect size of 0.450 also suggests that *the tradition barrier* has a substantive contribution to the resistance to QRIS adoption. These findings reinforce the view that resistance to payment innovation is not solely due to technical issues, but can also be rooted in attachment to habits that have taken place in traditional trading environments.

Effect of X3 on Y1

The third hypothesis test (H3) showed that *digital literacy* had a negative and significant effect on the resistance to QRIS adoption ($\beta = -0.500$; $t = 8.473$; $p < 0.001$; $f^2 = 0.768$). These results show that the higher the digital literacy ability of merchants, the lower the level of resistance to QRIS adoption. These findings indicate that the ability to understand digital information, operate applications, recognize proof of transactions, and handle obstacles in the use of technology can increase merchants' readiness to face changes in the payment system. In the context of this study, *digital literacy* is positioned as an individual capability that complements the IRT perspective, rather than as the main construct in IRT. These capabilities allow individuals to deal with barriers to use more effectively so that perceptions of technological changes do not automatically develop into resistance. The magnitude of *the f²* effect size of 0.768 also suggests that *digital literacy* has a large effect size in the model to explain the resistance to QRIS adoption. Thus, increasing the digital capacity of merchants can be one of the important strategies to reduce resistance to the adoption of digital payments.

CONCLUSION

This study shows that the resistance to QRIS adoption in traders at the 17 August Pamekasan Market is more related to attachment to transaction habits and individual capabilities than to the perception of barriers to use. *Tradition barrier* has been shown to have a positive and significant effect on the resistance to QRIS adoption ($\beta = 0.440$; $p < 0.001$; $f^2 = 0.450$). These results show that the stronger the attachment of merchants to the established cash transaction patterns, the higher the tendency to resist changes towards digital payments. In contrast, *the usage barrier* had no significant effect on QRIS adoption resistance ($\beta = 0.130$; $p = 0.094$; $f^2 = 0.036$). Although the direction of the relationship is in accordance with the hypothesis, perceptions of the difficulty of use and the need for adjustment to QRIS have not been a strong enough factor in explaining resistance in the context of this study. Meanwhile, *digital literacy* has a negative and significant effect on QRIS adoption resistance ($\beta = -0.500$; $p < 0.001$; $f^2 = 0.768$). This effect size is the largest in the model, suggesting that digital capabilities have a substantive role in explaining the variation in QRIS adoption resistance.

The findings of the study strengthen the use of *Innovation Resistance Theory* (IRT) to explain resistance through *the use barrier* and *tradition barrier*, while *digital literacy* is positioned as an individual factor that complements these perspectives. In practical terms, efforts to increase the adoption of QRIS among traditional market traders are not enough only through the introduction of the benefits and technical aspects of digital payments, but also need to pay attention to the transaction habits that have been formed. Education, usage simulations, and community-based digital mentoring can be used to improve digital capabilities while helping merchants gradually adapt to changing payment patterns.

This study has limitations in the use of *cross-sectional* designs, the scope of research that is only conducted in one traditional market, and *purposive sampling techniques* that limit the generalization of results in the context of traders in other locations. Further research can expand the scope of the location and characteristics of respondents and consider other variables that have the potential to explain the resistance of QRIS adoption.

BIBLIOGRAPHY

- [1] Z. N. Pangestika, D. K. Putri, S. F. Angelica, I. Nuryana, and D. M. Nihayah, "Stematic literature review: Persepsi penggunaan QRIS sebagai peningkatan efektivitas alat pembayaran dan sistem keuangan digital," *J. Pendidik. Ekon.*, vol. 13, no. 2, pp. 103–115, 2025, doi: <https://doi.org/10.26740/jupe.v13n2.p103-1157>.
- [2] N. Azzahra, R. I. Syafitra, M. P. Cahyani, S. F. Mutia, S. A. P. Viola, and N. Habibi, "Sosialisasi QRIS Dalam Upaya Meningkatkan Produktivitas UMKM Di Desa Kemuning Kecamatan Legok Kabupaten Tangerang," *J. Pengabd. Masy. dan Ris. Pendidik.*, vol. 4, no. 3, pp. 16003–16011, 2026, doi: <https://doi.org/10.31004/jerkin.v4i3.3381>.
- [3] S. D. Afsari and M. Z. N. Hasbi, "Peran Inovasi Keuangan dalam Meningkatkan Akses ke Layanan Ekonomi di Masyarakat," *Maslahah J. Manaj. dan Ekon. Syariah*, vol. 3, no. 3, pp. 72–90, 2025, doi: <https://doi.org/10.59059/maslahah.v3i3.2419>.
- [4] T. Evi, *Transformasi Transaksi Tunai ke Digital di Indonesia*. Serang, Banten: CV. AA. Rizky, 2023. [Online]. Available: <https://books.google.co.id/books?id=gHfYEAAAQBAJ>
- [5] D. Andini, H. F. Kusnandar, and R. S. Putra, *Digitalisasi Ekonomi Lokal dan Transformasi Pasar Tradisional Indonesia*. PT Penamuda Media, 2026. [Online]. Available: <https://books.google.co.id/books?id=BQHXEQAQBAJ>
- [6] F. Saifudin, B. Satriawan, I. Amali, M. Eko, and Z. Kalla, "Pengaruh Persepsi Manfaat, Kepercayaan, dan Kemudahan Penggunaan terhadap Minat Menggunakan QRIS," *Determ. J. Ekon. Manaj. dan Akunt.*, vol. 3, no. 2, pp. 256–266, 2025, doi: <https://doi.org/10.23917/determinasi.v3i2.476>.
- [7] A. Sugiyanto, B. C. Sukmayuda, and E. Andiyana, *Perilaku Konsumen 5.0*. Pradina Pustaka, 2024. [Online]. Available: <https://books.google.co.id/books?id=dLM2EQAAQBAJ>
- [8] V. E. Purba, S. Adiwijaya, and I. B. Suryanatha, "Dinamika sosial ekonomi pedagang pakaian di pasar tradisional pada era digitalisasi perdagangan:

- Studi sosiologis di pasar kahayan kota Palangka raya," *JISA J. Ilm. Sociol. Agama*, vol. 9, no. 1, pp. 20–41, 2026, doi: <http://dx.doi.org/10.30829/jisa.v9i1.26965>.
- [9] K. Umam, U. Faruq, N. A. Azizi, and N. Z. Rahmawati, *Transformasi Digital UMKM: Adopsi QRIS dalam Transaksi Pembayaran*. Pamekasan: UIN Madura Press, 2026. [Online]. Available: <https://books.google.co.id/books?id=TRjzEQAAQBAJ>
- [10] Y. Birati and R. Tzemah-shahar, "Barriers to Digital Health Adoption in Older Adults : Scoping Review Informed by Innovation Resistance Theory," *J. Med. INTERNET Res.*, vol. 28, pp. 1–25, 2026, doi: 10.2196/75591.
- [11] A. D. Ferdiansyah and B. B. K. Utami, "Hambatan dalam Adopsi Layanan Online Perbankan pada Mahasiswa Akuntansi: Structural Equation Modeling," *Value J. Manaj. dan Akunt.*, vol. 20, no. 1, pp. 150–162, 2025, doi: 10.32534/jv.v20i1.7004.
- [12] H. Rahmadaniah, B. P. Sari, S. Arwandi, and M. Panorama, "Dampak Penggunaan QRIS terhadap AKtivitas Ekonomi Pedagang di Pasar 16 Ilir Palembang," *SOSEBI J. Penelit. Mhs. Ilmu Sos. Ekon. dan Bisnis Islam*, vol. 5, no. 1, pp. 61–74, 2025, doi: <https://doi.org/10.21274/sosebi.v5i1.10855>.
- [13] I. P. Sari, "Adopsi qris (quick response code indonesian standard) melalui strategi peningkatan literasi keuangan para pelaku umkm di kota solo," 2024, *Universitas Islam Sultan Agung (Indonesia)*.
- [14] S. Maria, A. Oktawiranti, J. Ade, and H. R. Rahmawati, "Encouraging the Use of Digital Payment Systems By QRIS Among Traditional Market Traders Mendorong Penggunaan Sistem Pembayaran Digital Melalui QRIS di Kalangan Pedagang Pasar Tradisional," vol. 2, no. February, pp. 22–29, 2025, doi: <https://doi.org/10.61220/jsipakatau.v2i2.254%20>.
- [15] Y. L. L. Kawengian, L. Judijanto, Mintarsih, A. A. Kocimaheni, and A. Rahim T, *Literasi Digital: Keterampilan Abad 21 untuk Membangun Masyarakat Berbasis Pengetahuan*. PT. Sonpedia Publishing Indonesia, 2025. [Online]. Available: <https://books.google.co.id/books?id=aBBPEQAAQBAJ>
- [16] M. Sarstedt, C. M. Ringle, and J. F. Hair, *Partial Least Squares Structural Equation Modeling*. 2017.
- [17] H. Setiabudhi, Y. A. Setiawan, Suwono, and S. Karim, *Analisis Data Kuantitatif dengan Smart PLS*. 2025.
- [18] J. F. Hair, J. J. Risher, and C. M. Ringle, "When to use and how to report the results of PLS-SEM," vol. 31, no. 1, pp. 2–24, 2019, doi: 10.1108/EBR-11-2018-0203.
- [19] C. M. Ringle and M. Sarstedt, *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*. 2021.