

## Determinants of QRIS Adoption Intention for MSMEs: Identification During Covid-19

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**Abstract.** *The purpose of this study is to examine the role of product knowledge, perceived benefit, and perceived ease of use on QRIS adoption intention for MSMEs in Semarang City during the Covid-19 pandemic. An associative quantitative approach was applied in this study. Population of this research are merchants in Semarang City's traditional market. Empirical data were collected through questionnaires from 100 respondents and analyzed with SmartPLS 3.0 based on the SEM-PLS method. The results of this study confirm that product knowledge, perceived benefit, and perceived ease of use have a significant impact on the intention to adopt QRIS. The findings encourage the government to continue to accelerate the formation of a cashless society and increase public awareness of the benefit of digital payments in preventing the spread of the virus, especially the use of QRIS.*

**Keywords:** *Adoption intention, QRIS, MSMEs, digital payment*

### INTRODUCTION

Currently, Indonesia is entering the era of cashless transactions, this is evidenced by technological advances which are an unavoidable phenomenon. This cashless payment has changed the habit of people who are accustomed to using cash payment instruments to switch to non-cash payments, especially in economic activities (Ming & Jais, 2022; A. K. Singh & Sharma, 2022). The change from a cash payment system to a cashless payment system brings several benefits and conveniences that will be felt by the community and it can encourage the economic growth of a country (Han & Vanomy, 2022).

The economic situation in Indonesia has decreased during the Covid-19 pandemic. This was passed when Indonesia experienced a financial crisis in 1998, which affected Micro, Small, and Medium Enterprises (MSMEs). At that time, MSMEs were able to survive and sustain the economy. Similarly, during the Covid-19 pandemic, MSMEs also difficult to survive and are required to innovate and adapt to various technological advances (Yan et al., 2021). As the fintech (financial technology) industry continues to optimize by offering various forms of financial products that facilitate user access to various financial services (Daragmeh

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et al., 2021). One of the digital payment services that MSMEs must adapt to is payment using QRIS or Quick Response Code Indonesian Standard (Anggarini, 2022).

QRIS (QR Code Indonesia Standard) is a digital payment transformation. Payment using QRIS is believed to help accelerate the development of Indonesia's digital economy and finance. The QRIS payment system creates the function and purpose of cashless transactions easily. QRIS has a standardized system carried out by Bank Indonesia. When making payments using QRIS, each company is directly connected to one, so that the payments made are available digitally. Bank Indonesia has its reasons for creating a payment system using QRIS, namely one merchant or business actor does not need to provide many more QR Codes later. Only one QR Code at each merchant can be read by all consumers in digital applications (Amalia et al., 2020). In addition, it is necessary to continue to expand the acceptance of digital payments to support the national economic recovery. One of them is by facilitating the use of QRIS in markets and shopping centers (Bank Indonesia).

This study aims to clarify the phenomenon described related to the determination of adoption intentions in the QRIS application within the scope of MSMEs in the traditional market of Semarang City during the Covid-19 pandemic. Researchers use a modification of the Technology Acceptance Model (TAM) concept in explaining the factors that affect the determinants of QRIS adoption intentions in MSMEs during Covid-19. Researchers need to know the determination of QRIS adoption intentions as an effort to improve the relationship of recent research and examine three relevant variables, specifically product knowledge, perceived benefits, and perceived ease of use directly on QRIS adoption intention of merchants in Semarang City during the Covid-19 period.

## **LITERATURE REVIEW**

### ***Technology Acceptance Model***

Based on the objectives of this study, we applied the theory developed by Davis in 1989, called the Technology Acceptance Model (TAM). Technology adoption models, such as the Technology Acceptance Model (TAM) have been used for years to assess user behavior toward technology. TAM is proposed according to the point of view of behavioral science by integrating the theory of expectations and the theory of self-efficacy to investigate the behavioral intentions of individuals in the use of technology (Fulshah et al., 2022; Hu et al., 2019; Martens et al., 2017). TAM is an effective model for evaluating the use of technology.

TAM is set to investigate the factors influencing the adoption of information technology. The concept of TAM suggests that perceived benefits and ease of use are the main factors of behavior toward its use (Altin Gumussoy et al., 2018; Muñoz-Leiva et al., 2017; Shemesh & Barnoy, 2020).

### **Product Knowledge**

So important is the role of a person's product knowledge in decision-making. Product knowledge is the type of information received by potential users regarding the use of a product or service, so the information obtained must be the first consideration before deciding to use it. Usually, when a person has a lot of knowledge about an object, they decide to use it more carefully and thoroughly (Arifiyanto & Kholidah, 2021; Sari et al., 2021). As stated by Ezeh & Nwankwo (2018), the higher a person's level of product knowledge, the higher the intention to adopt the product.

### **Perceived Benefits**

Davis (1989) defines perceived benefit as the degree to which an individual believes that using a system or technology will increase productivity and performance. Perceived benefit is one of the critical factors in influencing one's technology adoption intentions. So, someone who feels the benefits of using technology will use it, and vice versa. Some of the benefits that can be felt are simplifying and accelerating work, increasing effectiveness, increasing work efficiency, and increasing productivity (Venkatesh & Davis, 2000). As explained by Pillai et al. (2020), Kasilingam (2020), and Ming & Jais (2022) show that the greater the benefits a person perceives, the greater his intention to adopt.

### **Perceived Ease of Use**

Perceived ease of use is another factor that also affects a person's intention toward technology adoption. Perceived ease of use is defined as how far a person believes that using a certain technology will make his activity easier. The ease in question includes being easy to learn, clear and easy to understand, easy to use, easy to manage, and also easy to master (Davis, 2011; Patel & Patel, 2018). Therefore, MSMEs believe that using QRIS will be much easier than paying with cash. As has been confirmed by Gea & Al-Azhar (2021), Singh & Srivastava

(2020), To & Trinh (2021), and Chaveesuk et al. (2022), the greater the ease that a person perceives, the greater the intention of his adoption.

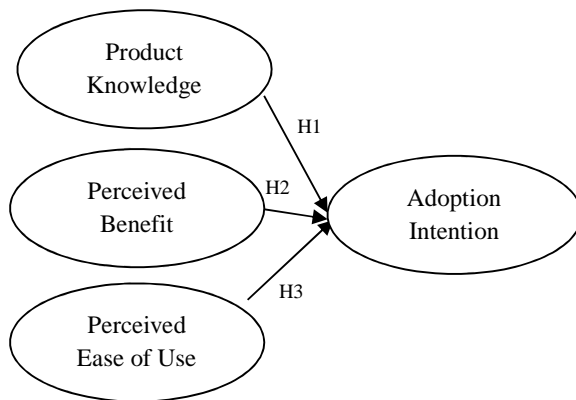
### **Hypotheses**

H1: Product Knowledge has a significant effect on QRIS adoption intentions.

H2: Perceived Benefit has a significant effect on QRIS adoption intentions.

H3: Perceived Ease of Use has a significant effect on QRIS adoption intentions.

The conceptual framework for answering the problems in this study is shown in Figure 1 below:



**Figure 1.** Conceptual Framework

### **RESEARCH METHODS**

This paper is an associative quantitative design. Population of this survey are merchants in Semarang City's traditional market, which is a total of seven (7) traditional markets. The sampling technique chosen was simple random sampling, so 100 samples were selected as respondents. The data collection method used is to distribute questionnaires to merchants using google forms. Meanwhile, the technique for analyzing the data applied is SEM-PLS. Then analyzed using SmartPLS software. As Ghozali (2014) suggests that SEM-PLS is the most suitable method for studying various complex research models related to the evaluation of multivariate structures.

## RESULTS AND DISCUSSION

After the survey results are collected from 100 respondents, it is necessary to test the validity and also reliability of the data. The validity testing is designed to evaluate the effectiveness of a questionnaire form, provided that the outer loading value  $> 0.7$  (Ghozali, 2014). Meanwhile, the reliability test serves to evaluate whether the selected instrument is able to represent actual data and obtain trustworthy information. Where the provision is an AVE value  $> 0.5$ , then Cronbach's Alpha and Composite Reliability values  $> 0.7$  (Ghozali, 2014). The results of the validity and reliability testing are presented in Table 1 below:

**Table 1.** Validity and Reliability Result

Indicator	Item	Outer Loading	Cronbach's alpha	Composite reliability	AVE
Product Knowledge	PP1	0.968	0.973	0.982	0.949
	PP2	0.982			
	PP3	0.972			
Perceived Benefit	PKF1	0.884	0.920	0.938	0.717
	PKF2	0.872			
	PKF3	0.788			
	PKF4	0.885			
	PKF5	0.854			
	PKF6	0.791			
Perceived Ease of Use	PKM1	0.908	0.940	0.954	0.806
	PKM2	0.873			
	PKM3	0.909			
	PKM5	0.911			
Adoption Intention	PKM6	0.888	0.865	0.918	0.788
	IN1	0.928			
	IN2	0.893			
	IN3	0.839			

Source: processed data (2022)

Based on the test results seen in Table 1, it is stated that all items show outer loading  $> 0.7$ , so all items are considered valid. While all configurations can be declared reliable, as Cronbach's Alpha and Composite reliability  $> 0.7$ , so does the AVE value  $> 0.5$ .

Table 2 shows the results of hypothesis tests on the effects between variables:

**Table 2.** Research Hypothesis Test

<b>Variable</b>	<b>Hypothesis</b>	<b>t-statistic</b>	<b>p-value</b>	<b>Information</b>
PP → IN	H1	3.162	0.002	Accepted
PKF → IN	H2	5.309	0.000	Accepted
PKM → IN	H3	2.113	0.035	Accepted

Source: processed data (2022)

Table 2 shows that product knowledge has a significant impact on adoption intentions, resulting in a t-statistic of 3.162 and a p-value of 0.002, so it can be stated that H1 is accepted. This shows that product knowledge has an important role in increasing adoption intentions, especially the intention of adopting MSMEs in the traditional market for QRIS. Previous research from Arifiyanto & Kholidah (2021) dan Ezeh & Nwankwo (2018) confirmed that product knowledge has a significant impact on adoption intentions. In other words, before agreeing to adopt QRIS, MSMEs typically first consider the benefits of using QRIS. The survey findings in this study suggest that MSMEs are more interested in adopting QRIS as they have a good knowledge of the characteristics, benefits, and also satisfaction factors of QRIS system. Also, when Covid-19 hit, payment transactions using QRIS are the right solution to reduce physical contact between sellers and buyers.

Furthermore, the perceived benefit has a significant effect on adoption intentions, namely generated t-statistics of 5.309 and a p-value of 0.000, therefore it can be interpreted that H2 is accepted. This shows that the higher the benefit felt in the use of QRIS among MSMEs, the higher their intention to adopt it in payment transactions. Much of the previous literature underscores the importance of perceived benefit in increasing adoption intentions, such as Pillai et al. (2020), Kasilingam (2020), Ming & Jais (2022), and also Martens et al. (2017). In general, merchants with this QRIS payment instrument hope to realize its benefits and uses in sales transactions. Therefore, MSMEs are interested in adopting QRIS because they believe in efficiency and effectiveness, as well as the benefits of using QRIS can support the settlement of consumer payment transactions. Especially during Covid-19, MSMEs feel the real benefits, namely by using QRIS physical contact can be reduced, to avoid the risk of contracting the virus.

Meanwhile, the influence of the perceived ease of use on adoption intentions produces a t-statistic of 2.113 and also a p-value of 0.035, showing a significant influence, so H3 was also accepted. This shows that the higher the level of ease for MSMEs in using QRIS, the

more it increases their adoption intentions. These findings are in line with research conducted by Gea & Al-Azhar (2021), Singh & Srivastava (2020), and To & Trinh (2021). That the perception of convenience is also a vital element in influencing the intention of QRIS adoption in MSMEs, especially during the Covid-19 pandemic. MSMEs are confident in using QRIS because it is considered that the technology is friendly to users, easy to handle, easy to manage, and not too difficult to operate. So that merchants in all circles can easily operate QRIS.

The coefficient of determination result serves as a measure of the fit of the model used, or the closeness of the relationship between the variables selected. As in this study, R-Square was produced worth 0.717 or 71.7%. This means that exogenous variables contributed 71.7% to the intention of QRIS adoption in MSMEs during the Covid-19 pandemic.

## **CONCLUSIONS AND RECOMMENDATIONS**

Based on the results of hypothesis testing carried out, it can be concluded that exogenous variables (product knowledge, perceived benefit, and perceived ease of use) can significantly affect MSMEs in adopting QRIS during the Covid-19 pandemic. The study provides statistical results to support the conceptual model by predicting a 71.7% in MSMEs' intentions to adopt QRIS during the Covid-19 pandemic. The most influential factor in the intention of QRIS adoption during the Covid-19 pandemic for MSMEs is perceived benefits, especially related to reducing physical contact between sellers and buyers in payment transactions. From the results of this study, it is confirmed that the higher the level of product knowledge, perceived benefit, and perceived ease of use felt by merchants MSMEs in Semarang City, the higher the intention of QRIS adoption, especially during the Covid-19 pandemic.

Thus, this research is consistent with the government's efforts to encourage the expansion of digital payment acceptance that has begun to be found in shopping centers, especially in traditional markets. This reflects the enthusiastic role of the community in participating in advancing national digital payments, especially among MSMEs. This study has limitations that can be corrected in later studies. Further research is expected to add other external factors that can determine the adoption of QRIS intentions, such as government support. In addition, it can also be expanded from a research area that is not only limited to Semarang City.

## REFERENCES

- Altin Gumussoy, C., Kaya, A., & Ozlu, E. (2018). 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* (pp. 225–238). Springer.
- Amalia, V., Solahudin, D., & Risdayah, E. (2020). Model Ostergaard dalam Mengkampanyekan QRCode Indonesia Standard (QRIS). *Reputation: Jurnal Hubungan Masyarakat*, 3(4), 312. <https://doi.org/10.15575/reputation.v3i>
- Anggarini, D. T. (2022). Application of Quick Response Code Indonesian as a Payment Tool in Digitizing MSMEs. *Sentralisasi*, 11(1), 1–14. <https://doi.org/10.33506/sl.v11i1.1504>
- Arifiyanto, M., & Kholidah, N. (2021). Analisis Pengaruh Pengetahuan Produk, Persepsi Manfaat dan Promosi terhadap Minat Penggunaan Uang Elektronik berbasis server. *JMBI UNSRAT (Jurnal Ilmiah Manajemen Bisnis Dan Inovasi Universitas Sam Ratulangi)*, 7(3), 697–706. <https://doi.org/10.35794/jmbi.v7i3.31390>
- Chaveesuk, S., Khalid, B., & Chaiyasoonthorn, W. (2022). Continuance intention to use digital payments in mitigating the spread of COVID-19 virus. *International Journal of Data and Network Science*, 6(2), 527–536. <https://doi.org/10.5267/j.ijdns.2021.12.001>
- Daragmeh, A., Lentner, C., & Sági, J. (2021). FinTech payments in the era of COVID-19: Factors influencing behavioral intentions of “Generation X” in Hungary to use mobile payment. *Journal of Behavioral and Experimental Finance*, 32, 100574. <https://doi.org/10.1016/j.jbef.2021.100574>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319–340.
- Davis, F. D. (2011). Perceived Usefulness, Perceived Ease to Use, and user Acceptance of Information Technology. *Management Information Systems Research Center*, 13(3), 319–340. <https://doi.org/10.5962/bhl.title.33621>
- Ezeh, P. C., & Nwankwo, N. (2018). Factors that Influence the Acceptance of Mobile Money in Nigeria. *Journal of Research in Marketing*, 8(2), 684. <https://doi.org/10.17722/jorm.v8i2.217>
- Fulshah, C., Muhamad, A., Ricardo, I., Andhika, W., & Freddy, W. (2022). Building Customer Loyalty In Digital Transaction Using QR Code: Quick Response Code Indonesian Standard (QRIS). *Journal of Distribution Science*, 20(1), 1–11.
- Gea, D., & Al-Azhar, N. I. (2021). The Analysis of Factors Affecting Using Interest of QRIS Payment Systems on E-wallet Applications in Indonesia. *2021 International Conference on Information Management and Technology (ICIMTech)*, 1, 111–115.
- Ghozali, I. (2014). *Structural Equation Modeling: Metode Alternatif dengan Partial Least Squares (PLS)*. Semarang: Universitas Diponegoro.



- Han, D., & Vanomy, A. E. (2022). Analisis faktor-faktor yang mempengaruhi intensi implementasi e-money dalam transaksi usaha pada pedagang asongan untuk meningkatkan cashless society di Batam. *Jurnal Administrasi Bisnis*, 16(2), 158–173.
- Hu, Z., Ding, S., Li, S., Chen, L., & Yang, S. (2019). Adoption intention of fintech services for bank users: An empirical examination with an extended technology acceptance model. *Symmetry*, 11(3). <https://doi.org/10.3390/sym11030340>
- Kasilingam, D. L. (2020). Understanding the attitude and intention to use smartphone chatbots for shopping. *Technology in Society*, 62(May), 101280. <https://doi.org/10.1016/j.techsoc.2020.101280>
- Martens, M., Roll, O., & Elliott, R. (2017). Testing the Technology Readiness and Acceptance Model for Mobile Payments Across Germany and South Africa. *International Journal of Innovation and Technology Management*, 14(6). <https://doi.org/10.1142/S021987701750033X>
- Ming, K. L. Y., & Jais, M. (2022). Factors Affecting the Intention to Use E-Wallets During the COVID-19 Pandemic. *Gadjah Mada International Journal of Business*, 24(1), 82–100. <https://doi.org/10.22146/gamaijb.64708>
- Muñoz-Leiva, F., Climent-Climent, S., & Liébana-Cabanillas, F. (2017). Determinantes de la intención de uso de las aplicaciones de banca para móviles: una extensión del modelo TAM clásico. *Spanish Journal of Marketing - ESIC*, 21(1), 25–38. <https://doi.org/10.1016/j.sjme.2016.12.001>
- Patel, K. J., & Patel, H. J. (2018). Adoption of internet banking services in Gujarat: An extension of TAM with perceived security and social influence. *International Journal of Bank Marketing*, 36(1), 147–169. <https://doi.org/10.1108/IJBM-08-2016-0104>
- Pillai, R., Sivathanu, B., & Dwivedi, Y. K. (2020). Shopping intention at AI-powered automated retail stores (AIPARS). *Journal of Retailing and Consumer Services*, 57(May), 102207. <https://doi.org/10.1016/j.jretconser.2020.102207>
- Sari, M. A., Aminah, I., & Redyanita, H. (2021). Preferensi Generasi Millennial Dalam Memilih Pembayaran Digital (Studi Kasus Pada Mahasiswa Politeknik Negeri Jakarta Depok). *Ekonomi & Bisnis*, 19(2), 97–106. <https://doi.org/10.32722/eb.v19i2.3601>
- Shemesh, T., & Barnoy, S. (2020). Assessment of the intention to use mobile health applications using a technology acceptance model in an Israeli adult population. *Telemedicine and E-Health*, 26(9), 1141–1149. <https://doi.org/10.1089/tmj.2019.0144>
- Singh, A. K., & Sharma, P. (2022). A study of Indian Gen X and Millennials consumers' intention to use FinTech payment services during COVID-19 pandemic. *Journal of Modelling in Management*, ahead-of-print.
- Singh, S., & Srivastava, R. K. (2020). Understanding the intention to use mobile banking by existing online banking customers: an empirical study. *Journal of Financial Services Marketing*, 25(3–4), 86–96. <https://doi.org/10.1057/s41264-020-00074-w>

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- To, A. T., & Trinh, T. H. M. (2021). Understanding behavioral intention to use mobile wallets in vietnam: Extending the tam model with trust and enjoyment. *Cogent Business and Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1891661>
- Venkatesh, V., & Davis, F. D. (2000). Theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186–204. <https://doi.org/10.1287/mnsc.46.2.186.11926>
- Yan, C., Siddik, A. B., Akter, N., & Dong, Q. (2021). Factors influencing the adoption intention of using mobile financial service during the COVID-19 pandemic: the role of FinTech. *Environmental Science and Pollution Research*, 0123456789. <https://doi.org/10.1007/s11356-021-17437-y>