

## Digitalization of the Quick Response Indonesian Standard (QRIS) Payment System for MSME Development

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### ABSTRACT

Digitalization of payment systems in the business world is a certainty at this time. This paper is an initial literature review that will discuss the use of server-based e-commerce, the discussion will present QRIS (Quick Response Code Indonesian Standard), the readiness of MSMEs in using information technology, the application of QRIS on MSMEs, QRIS constraints on MSMEs. This paper is important because the need to use server-based e-commerce is already one of the most popular cashless payment systems. Server-based e-commerce format is e-wallet or digital wallet. This paper is important because it examines the role of regulators and standards in the use of QRIS (QR Code Indonesian Standard). The use of QRIS helps to standardize QR code systems. This research attempts to examine the application of QRIS to MSMEs in terms of the role, limitations, and income of MSMEs with QRIS. The research method used is by tracing literature that uses QRIS as a payment method for the character. This study shows that QRIS offers benefits for MSME traders.

**Keywords:** Electronic Money, Literature Study, MSMEs, QR Code, QRIS, Server-Based

**JEL Classification:** F60, G10, M20

## **INTRODUCTION**

The purpose of writing this scientific paper is to provide an initial picture of the impact of digitalization of MSMEs as one of the government's steps in improving the efficiency of payment systems. This paper is written as a form of observation of the development of digital payment system technology, so that the money supply can be comprehensively controlled and accelerate financial inclusion. The emergence of digital financial innovation is a change in the payment system resulting from the adjustment of technological advances that are increasingly developed or commonly referred to as fintech. One form of implementing information technology with the growth of the digital economy is the payment of non-cash transactions. Forms of innovation in cashless payment systems such as debit cards, credit cards, ATMs, money orders, checks, and electronic money.

QRIS (QR Code Indonesia Standard) is a payment system based on shared delivery channels used to standardize payment transactions using QR Codes. This payment system was developed by Bank Indonesia and the Indonesian Payment System Association (ASPI). According to Bank Indonesia Governor Perry Warijyo, QRIS is a form of synergy of digitalization innovation that is real for the progress of the country and encourages the acceleration of national economic recovery. This initiative can be a means of digitalization landscape reform for Indonesia Tangguh and Indonesia Maju. The implementation of QRIS use is focused on traditional markets, transportation, and tourist attractions.

The main subjects in the implementation of the use of QRIS are MSME actors. Bank Indonesia noted that as of November 1, 2021, the number of QRIS merchants has broken through the 12 million marks. This achievement is certainly inseparable from the support and synergy of various parties, especially the central and regional governments that continue to provide socialization about QRIS, the Indonesian Payment System Association (ASPI), Payment System Service Providers (PJSP), and all elements of society to realize the Indonesian Payment System (SPI) 2025.

The role of QRIS helps MSME traders not to be deceived by the circulation of counterfeit money, reduce the risk of money theft, and support the government to develop the digital economy. The QRIS payment system also helps merchants to record daily revenue and view products sold in stores. In addition, MSME revenue also increased by 5-10% for traders who use QRIS. This increase in revenue will increase the financial inclusion of MSMEs and Indonesia's digital economy.

However, in practice QRIS experienced some obstacles among MSMEs. Such obstacles such as the lack of digital literacy of MSMEs to understand the payment system. MSMEs also feel less satisfied with the merchant discount rate (Mdr) fee of 0.6% because it will cause the merchant's daily income to decrease. Another obstacle in the use of this payment system is on the strength of the internet network that is not good in some places so that the transaction process becomes hampered.

To overcome this, both the government and Bank Indonesia can provide education and socialization of digital literacy for MSMEs. This is the main challenge that must be faced to encourage MSMEs to accelerate financial inclusion. In addition, the government can also strengthen the internet network in some dominant regions using server-based payment systems so that transactions are not hampered. With QRIS is expected to encourage economic efficiency, accelerate inclusive finance and advance digital-based Indonesian MSMEs.

## **LITERATURE REVIEW**

### **Digital Payment**

Digital payment or better known as electronic money has two basic forms. Computer networks and digital systems. Payment Digital is the way of payment through digital mode (Dorothy Sagayarani, 2017). Deep payment transactions, payers and recipients use digital mode to send and Receive money. All digital payment transactions Done online.

### **QR Code Payment**

QR code payment (Quick Response) is a mechanism for transferring payments without cash, users only need to scan the seller's QR code and make a payment (Dorothy Sagayarani, 2017; Arianti et al., 2019). This code can be scanned from any direction, either horizontally or vertically. Based on the circulation of this payment system is widely issued by financial institutions and non-banks. QR code usage implementation has been implemented by merchants who partner to enable a cloud server-based noncash payment system that can be accessed with internet availability.

The implementation of QR codes used for payment systems can make it easier for MSMEs who are registered as merchants who are interested in transacting (Mumtazah, A., Muslimah, A. Y., Rahmawati, D.F., Lea, E., Ayda, N. 2019). Based on cooperation between MSMEs and electronic money organizers will increase financial inclusion and advance the payment system in Indonesia. The number of electronic money products that are directly proportional to the rapid development of MSMEs will provide convenience between MSMEs and consumers in completing each transaction, because this system is considered safe and efficient.

Electronic money products can be used to transact if the money product is already available in MSME stores. If the customer uses chip-based electronic money, then the merchant must provide an EDC machine. Whereas if customers use server-based electronic money, then they must install payment applications on their devices. The use of electronic money like this makes it easier for MSMEs because they have no trouble finding return to customers, and customers also do not need to bring a lot of money when shopping or traveling.

### **QRIS (QR Code Indonesian Standard)**

QRIS (QR Code Indonesian Standard) is a payment system based on shared delivery channels (Pratama, 2015). The system was developed by Bank Indonesia and the Indonesian Payment Systems Association (ASPI) and uses the EMV Co International Standard (Europe MasterCard Visa) as the basic standard for creating QRIS. QRIS is needed to expand the acceptance of national non-cash payments more efficiently (Bank Indonesia, 2019) QRIS (QR Code Indonesian Standard). For the initial stage, QRIS uses the Merchant Presented Mode (MPM) method and is supported by the organizer interconnection specification. In the future, QRIS will also be developed for the Customer Presented Mode (CPM) method. The obligation to use QRIS applies to all types of QR Code based transactions, including payment transactions in Indonesia facilitated by QR Codes that use sources of funds from abroad. This standard is used to support connectivity and interoperability between vendors, device-to-device, and between countries and will be open / open source (Adibah, et al. 2019).

Types of transaction mechanisms using QRIS:

1. Mode is presented by the dealer by working the presentation mode of the customer QR code dealer scanning the QR code provided by the dealer. There are two formats for QR code merchant presentation modes, namely:

### **Static Features**

- a. EDC devices print receipts with QR codes printed on them.
- b. Each transaction is printed with a different QR code.
- c. The payment amount is listed on the QR code.

### **Dynamic Features**

- a. EDC devices print receipts with QR codes printed on them, and monitors print them. Shows the amount of payment.
  - b. Each transaction is printed with a different QR code.
  - c. The payment amount is listed on the QR code.
2. Customer presentation mode, where anyone can use this QR code mechanism. Consumers can select and download payment apps installed on their devices to secure transaction balances. The merchant will scan the QR code displayed on the customer's smartphone according to the transaction made.

### **MSMEs**

MSMEs are companies owned by individuals or groups and are assessed based on income and number of employees in the company. Law No. 20 of 2008 states that MSMEs must have appropriate business cycles, principles, objectives, coordinated authority and administrative sanctions (Urfa, V.H., Handayani, S.R., Hidayat, R.R., 2013). Law No. 20 of 2008 examines not only the industrial sector, but also many fields such as agriculture, trade, services and transportation (Urfa, V. H., Handayani, S. R., Hidayat, R. R., Administrasi, F. I., & Brawijaya, U. 1997). Understanding MSMEs in MSME Law Number 20 is an economic activity carried out by individuals / companies and not owned by subsidiaries or branches with a net worth of up to Rp50 million. Not land and business 500 million rupiah, or annual revenue of 300 million to 2.5 billion rupiah (Vellayati et al., 2013).

## **RESEARCH METHOD**

Based on the type of research, this research is research with a descriptive qualitative model. According to Sugiyono (2016: 9) qualitative research methods are research methods used to examine the natural object conditions in which the researcher is a key instrument. This research uses a qualitative research approach where qualitative research as a scientific method is often used and implemented by a group of researchers in the field of social sciences, including educational sciences. Qualitative research is carried out to build knowledge through understanding and discovery (Noor, J. 2017). Research on the Implementation of Indonesian Standard Quick Response Payment System (QRIS) for the Development of MSMEs Accelerates Digitization is relevant by using qualitative research because it meets the characteristics of qualitative research, especially in terms of in-depth disclosure of data through interviews, observations, and document studies on what informants do, how they do activities, what activities are carried out and why they do that policy.

## **RESULTS AND DISCUSSION**

### **The Development of Internet Access in Indonesia**

**Figure 1.1.** Percentage of Households That Own / Master a Computer and Access the Internet in Indonesia in 2016 - 2020 Source: BPS, National Socioeconomic Survey



Sumber/Source: BPS, Survei Sosial Ekonomi Nasional/BPS-Statistics Indonesia, National Socio-Economic Survey

Based on BPS data can be seen that from 2016 to 2020, the growth of households that own / master computers is different from households that access the internet. From 2016 to 2020, households accessing the internet continued to experience a fairly high increase of 74.55 million people compared to the increase in households that own / master computers (APJII, 2019). This is due to the increasingly easy internet access through various media such as wireless fidelity technology (Wi-Fi, otherwise known as hotspot), facilities in the office / school, even though gadgets.

With the development of internet use through gadgets, non-cash payment instruments based on cloud servers are more widely used in the community. Partnered merchants must provide QR Codes that can be used for server-based payment systems such as e-wallets. In this case, Bank Indonesia as a monetary authority has rights and authority in the development of payment systems in Indonesia. To realize the vision of Indonesia Payment System 2025, innovation support is needed for the development of the digital economy and finance. One of the innovations that developed and began to be widely used is QR code-based digital payment services.

### Payment System

Payment system is a mechanism that provides an alternative in resolving or transferring funds between buyers and sellers (BI, 2019). This is a crucial part of the economy and financial infrastructure, where every day there are many transactions made to meet the needs of life. A payment system that can work safely and efficiently is a very essential supporting component to optimally improve the economy. Based on Article 1 number 6 of Law No.23 of 1999 concerning Bank Indonesia as amended by Law No.6 of 2009, the payment system can be defined as "A system that includes a set of rules, institutions, and mechanisms used to carry out the transfer of funds to fulfill an obligation arising from an economic activity".

Based on its implementation, payment systems are complex procedures to ensure the rapid, secure, and efficient delivery of funds (Laudon, & Carol, 2014). The implementation of cheap transfer of funds with moderate risk so as to facilitate a good payment system, comprehensively relevant components are needed (Juhro, 2020). This is due to one form of Joint responsibility between participants and payment system authorities in order to achieve stability, security, and consumer protection. It can be said that the payment system is a major milestone of the economy and the main infrastructure of trade.

### **Use of Cloud Server-based Electronic Money**

Research conducted has applied cashless payments to MSME merchants. In addition, MSMEs have implemented the use of cashless transaction payments using rapid development and tracking of technology. The cashless payment methods offered by MSME dealers are chip-based and server-based. The use of server-based payments is widely used by MSME merchants. The server-based payment method format is represented by an e-wallet. In the literature search, MSME merchants prefer cash payments rather than using cashless. However, some of them consider that these payment transactions need to be implemented in the evolution of the digital age. These MSME merchants choose cashless payments using the e-wallet application for their characters by providing QR codes. Some electronic wallet products with QR code systems offered by merchants include OVO QR code, Go-Pay QR code, LinkAja QR code (Puspita,Y.C, 2019)

### **Readiness of MSMEs in Using Information Technology**

MSMEs are one of the pillars of national economic development that proved resilient to crisis shocks and made a major contribution to national GDP (Achjari, D., Abdillah, W., Suryaningsum, S., & Suratman, S., 2011). However, due to the low competitiveness of MSMEs due to low information technology literacy, the development of MSME scale is still limited to domestic and regional markets. If MSMEs get literacy, mentoring and supervision about information technology, this will facilitate the implementation of digital payment systems. For this reason, the government can consider providing socialization to MSME actors such as information technology development and understanding activities. In addition, service providers and service products should also consider the ease of use of information technology in accordance with the needs in order to help MSMEs use a program needed.

### **Application of QRIS in MSMEs**

Bank Indonesia has introduced a payment channel/system to standardize all server based cashless payments that use QR code media as transactions (Bank Indonesia, 2019). The payment system is Quick Response Indonesian Standard (QRIS). QRIS implementation took place in Indonesia on January 1, 2020 (Kemenkop & UKM, 2020). QRIS implementation is a priority for MSME dealers. With the era of technology and information, the speed of activity in our lives will increase. Therefore, QRIS helps these MSME traders use QR codes to speed up transactions.

The QRIS format available for dealer numbers is a static format (stickers or other formats). QRIS stickers will be taped to character walls, cashier tables, and glass mounts that customers can scan. Customers who pay with QRIS need an e-wallet app on their device. The existence of QRIS is very useful in the transaction process because merchants do not need to have many QR code products to sign. Simply by providing QRIS that can accept all transactions from various server-based payment methods. The role of QRIS is very helpful for MSME traders not to be deceived by the circulation of counterfeit money, reduce the risk of money theft, and help the government build a digital economy in certain regions. QRIS payment system not only simplifies transactions, but also helps merchants track their daily earnings and see which products are selling quickly on their websites.

The presence of QRIS actually supports the merchant's trading process and secures revenue. The income of MSME traders has increased by 5 - 10% per day due to the presence of QRIS. This increase in revenue will increase the financial inclusion of MSME traders and Indonesia's digital economy.

### **QRIS constraints on MSMEs**

The use of QRIS experienced some obstacles in MSMEs. Such failures are caused by the use of payment channels and merchants who do not understand the functional system of payment channels. When using a payment system with QRIS, MSME merchants are not satisfied with the 0.6% Merchant Discount Rate (MDR) charged to them, thus reducing their daily income. The problem with using these payment channels is that the internet network is not strong enough and, in some cases, complicates the transaction process. QRIS is still difficult to apply to some merchants due to lack of system knowledge.

### **CONCLUSION**

Based on this research, the authors concluded that Quick Response Indonesia Standard (QRIS) can help MSME dealers experience development. However, MSMEs must also have readiness to accept new innovations, especially in the payment system, namely QRIS. Implementation of QRIS payment system for server-based payment methods using QR codes is carried out by MSME actors. Based on the results of the literature search, traders stated that QRIS has an impact on the development of MSMEs. The author also suggested that the government and Bank Indonesia should be able to provide education and socialization of digital literacy for MSMEs. This is the main challenge that must be faced to encourage MSMEs to accelerate financial inclusion.

In addition, the government can also strengthen the internet network in some dominant regions using server-based payment systems so that transactions are not hampered. The government can also provide socialization to MSME actors such as information technology development and understanding activities in order to keep up with digital changes. With QRIS is expected to encourage economic efficiency, accelerate inclusive finance and advance digital-based Indonesian MSMEs. In addition, the use of QRIS can provide good efficiency in increasing money supply and can encourage economic inclusiveness. This is based on the implementation of the development of technology 4.0 Industry, where one of the drivers of the economy is to comprehensively use telecommunication technology in order to maximize the sales performance of MSMEs and several other industries without having to incur other production costs.

### **LIMITATION**

It needs to be tested based on the Indonesian standard quick response payment system (QRIS) implementation data for MSMEs. Empirical data testing is expected to find techniques to accelerate digitization.

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### **DECLARATION OF CONFLICTING INTERESTS**

The author declares that there is no conflict of interest.

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