



THE EFFECTIVENESS OF USING THE QUICK RESPONSE CODE INDONESIAN STANDARD (QRIS) AS A DIGITAL TRANSACTION TOOL (CASE STUDY: TRIGUNA POLYTECHNIC, TASIKMALAYA)

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Abstract. This study aims to determine the effectiveness of the use of QRIS as a digital transaction tool among the academic community of Triguna Tasikmalaya Polytechnic. This research method uses a qualitative approach with data collection techniques using triangulation, a combination of observation, interviews, and documentation. The subjects of this study were the academic community of Triguna Tasikmalaya Polytechnic, with a total of 9 informants interviewed. The data analysis technique used was qualitative analysis with data reduction, data presentation, and conclusions. The results of this study indicate that the use of QRIS as a digital transaction tool among the academic community of Triguna Tasikmalaya Polytechnic is considered quite effective. Although the use of QRIS has been effective, there are several challenges, such as the dissemination of information and education, socialization, security, and digital infrastructure, that still need to be improved so that the benefits of this QRIS program can be felt by all age groups, not only by the younger generation.

Keywords: effectiveness; digital transactions; QRIS.

1 Introduction

Technology advances rapidly every year. Continuous innovations in technology have undoubtedly brought benefits in the form of convenience for humans in carrying out various activities (Al Asy ari & Rahman, 2020). Technological developments have also penetrated various aspects of life, including the financial sector (Amalia Ramadhani, 2023; Baghirzade Ali & B, 2020). Advances in information and communication technology have driven significant changes in transaction and financial systems in society. These significant changes in the financial sector must be effective for all, especially in daily transaction systems (Handayani & Novitasari, 2020; Mardiana et al., 2020).

The use of digital technology has integrated new technologies such as smartphones and their supporting applications (Nosova & Norkina, 2021). Smartphones are mobile phones with operating systems for the general public. Their function is not limited to SMS and calls, but users can freely add applications, expand functions, or customize them according to their preferences. However, the use of smartphones as information technology is inseparable from the internet. With the internet, people can exchange information with different applications regardless of time and place. Smartphones have now become a highly sought-after item, essential for everyone. The internet is a key element supporting the smartphone's function as information technology. Through the internet, smartphones can provide access to information, global communication, collaboration, education, entertainment, efficient navigation, and financial transactions.

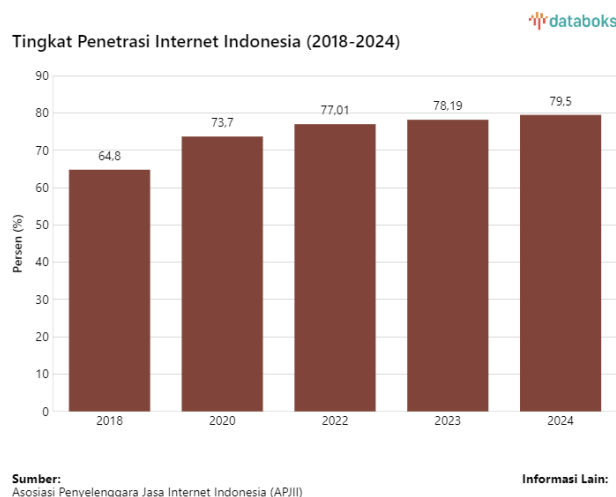


Figure 1. Indonesia's Internet Penetration Rate 2018-2024

The Indonesian Internet Service Providers Association (APJII) reported that from 2018 to 2024, there were 221,563,479 internet users, which is 79.5% of the total population of 278,696,200 in Indonesia in 2023. The 2018-2024 APJII survey data also revealed that one of the most frequently used devices to connect to the internet is the smartphone, with 95.4% of users using it daily.

The rapid development of the internet has led to the emergence of technological innovations in the business world, particularly in banking (Heshan, 2023), namely financial technology (FinTech), which is responsible for facilitating various transactions (Bwalya & Daniel Paul, 2024; NAREZ-SÁNCHEZ & BERTTOLINI-DÍAZ, 2022). Financial Technology (FinTech) is an innovation in financial services that is the result of technological developments (Gao, 2024; Jalal et al., 2020). FinTech is an investment alternative that offers options for those who want to access financial services in a practical, efficient, convenient, and economical manner (CHEMMANUR et al., 2020; Kaji et al., 2021). The existence of FinTech significantly impacts the lifestyles of the economic community (Sarvary & Zyankova, 2022). The combination of effectiveness and technology has a positive impact on society in general (sikapiuangmu.ojk.go.id, 2022).

Transaction and financial systems are inseparable from the development of money, which functions to settle transactions in various economic activities carried out by individuals and institutions in society (Karbalaii, 2025). The instruments used to settle economic transactions have changed over time in accordance with the development of civilization and information technology, originating from the barter system. According to the KBBI (Big Indonesian Dictionary), barter is a trade activity involving the exchange of goods. Another definition of barter is a transaction system involving the exchange of goods for goods, services for services, goods for services, or vice versa. Following the adoption of the barter system, the use of gold as a medium of exchange emerged before the introduction of paper money.

Currently, central banks worldwide are encouraging the use of cashless transaction tools because cash carries various risks due to its physical nature (Zargar et al., 2023). Another consideration is the advantages of digital transaction tools, namely their relatively safer use and the potential to increase the effectiveness and efficiency of

payment systems (Handayani & Novitasari, 2020; Teker et al., 2022). The current cashless transaction system is evolving with increasingly advanced technology year after year (Serval & Tranie, 2023). This trend has led users and providers of electronic money systems to continuously improve transaction systems to make them easier for consumers to use (Rahmadiyahanti et al., 2023). The emergence of a cashless society is a key factor in the development of FinTech (Meena, 2023; et al., 2020).

Bank Indonesia Regulations No. 11/12/PBI/2009 and No. 16/8/PBI/2014, which support Bank Indonesia's agenda to create a cashless society in the Republic of Indonesia, marked the beginning of the emergence of electronic money as a response to the need for a payment instrument that is fast, accessible anywhere, and can be placed on specific media that can be accessed quickly online, securely, and affordably (Hasyim et al., 2023; Triadi & Yanuarsyah, 2025).

The use of electronic money in financial transactions has grown significantly in the past three years. The latest data from Bank Indonesia (BI) shows the total value of electronic money transactions as follows:

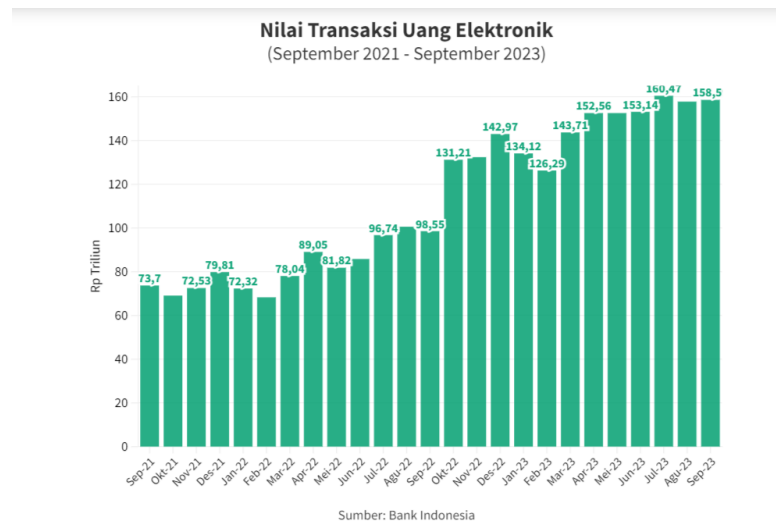


Figure 2. Electronic Money Transaction Value

Based on data on electronic money transaction values, which show an increasing trend, the high rate of electronic money usage is due to the large number of electronic money products being issued. These electronic money products include chip-based and server-based e-money cards, such as OVO, GoPay, Dana, Doku, and LinkAja. Therefore, central banks worldwide are currently encouraging the use of cashless transaction instruments. Besides being relatively safer, they can also increase the effectiveness of transaction systems due to their cheaper, faster, and easier nature, thereby further boosting national economic productivity.

The diversity of electronic money products issued means that users, especially merchants, must provide multiple QR code services, as many as there are digital wallet applications available, for each to scan. Meanwhile, the numerous QR codes provided by merchants create a hassle for consumers, resulting in a lack of effectiveness and efficiency when scanning different QR codes due to the varying terms and conditions of each QR code. This makes using QR codes by scanning multiple digital wallet applications less effective for transactions.

The effectiveness of the transaction system is an attractive factor for users or customers (Li, 2024). Effectiveness is a fundamental element in achieving the goals or objectives set within an organization (Najar, 2020b). When we achieve the goals or objectives as intended, we achieve effectiveness. The concept of effectiveness to the actual results achieved. The effectiveness of a transaction tool is determined by how well the tool or method used to conduct transactions efficiently and without interruption meets or achieves the desired goals. An effective transaction tool should enable transactions to be conducted quickly, easily, with low transaction costs and ensure security for all parties involved (S et al., 2024). Furthermore, an effective transaction tool should also be stable, flexible, and accessible and integrate and be compatible with various other systems and platforms, making it easy for users to integrate it with existing tools or systems. Based on this phenomenon, Bank Indonesia, in collaboration with ASPI (Indonesian Financial Services Authority), created a QR code standard as a technology used in transaction systems (Ruslan et al., 2019; Sofwatunnisa et al., 2023).

According to Bank Indonesia's channels and services on bi.co.id, 2020, on August 17, 2019, Bank Indonesia officially launched a standard for the use of Indonesian QR codes, called the Quick Response Code Indonesian Standard (QRIS). Coinciding with Indonesian Independence Day, the launch of QRIS aims to accelerate and simplify digital transactions throughout Indonesia. Following the launch, Bank Indonesia, in collaboration with the Indonesian Payment Systems Association (ASPI), conducted outreach and education for the public and businesses, as well as trials and evaluations regarding QRIS use. Following a series of trials and evaluations, QRIS became effective on January 1, 2020. Bank Indonesia requires all non-cash payment service providers to use the QRIS system.

QRIS is a QR code developed by BI and the Indonesian Payment Systems Association (ASPI), with the aim of streamlining the digital transaction system securely, promoting government efficiency, and accelerating financial inclusion in Indonesia. QRIS is a shared delivery channel-based payment system used to standardize transactions using QR codes. The EMVCo (Europe MasterCard Visa) international standard serves as the basic standard for developing QRIS. This standard is used to Support interconnection and interoperability between providers, instruments, and countries, ensuring transparency. QRIS is a single QR code available for all types of digital transactions. Recently, Indonesians have increasingly adopted server-based digital transaction systems. Quick Response Codes, or QR Codes, are a form of server-based payment system that has recently become widely used. The availability of smartphones, which many people already own, strongly supports the implementation of the QRIS method.

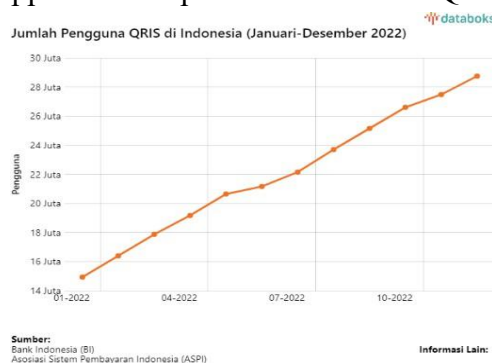


Figure 3. QRIS User Number Graph Januari - December 2022

Figure 3 shows that QRIS user growth from January 2022 to November 2022 has experienced significant growth, reaching 30 million users and still increasing. A Bank Indonesia press release reported that currently (data as of April 2024), QRIS has grown 175.44% year-on-year (yoy), with the number of users reaching 48.12 million and merchants reaching 31.61 million, the majority of whom are Micro, Small, and Medium Enterprises (MSMEs). To create a simple, secure, and efficient transaction system, Bank Indonesia continuously refines and develops the QRIS system to ensure its effectiveness. Policies, mechanisms, infrastructure, and regulations realize these improvements by reducing interbank payment risks and enhancing the efficiency of non-cash transaction services.

Bank Indonesia continues to refine and develop transaction tools. The development of the QRIS system has resulted in a new feature called QRIS Tuntas. QRIS Tuntas is the latest feature of QRIS, launched and officially launched on August 17, 2023. Bank Indonesia launched a national standard for the new QRIS feature for cash withdrawals, transfers, and deposits. The launch, which coincided with the commemoration of the 78th Indonesian Independence Day, represents Bank Indonesia's contribution to the nation. This initiative shows that Bank Indonesia is dedicated to constantly improving QRIS features as part of the 2025 Payment System Blueprint (BSPI) to speed up digital economic growth and ensure financial access for everyone while also promoting stable and sustainable economic development. The digital era, moving faster than ever before—especially due to the COVID-19 pandemic—requires all institutions, including higher education, to prepare and innovate for greater competitiveness through digital transformation. Digital transformation has become a global trend that is changing

This shift affects how people live and work in various sectors, including universities. In today's industry, particularly in the education and public service sectors, digitizing transactions has become an urgent need. QRIS offers a practical solution and supports government programs to reduce cash transactions and increase financial inclusion (Sendjaja et al., 2023). QRIS implementation in Indonesia is not only applicable to merchants and large companies; students with small businesses can also use it as a payment method because it is affordable and requires only a single QR code, which can accept payments from all Payment System Service Providers (PJSP) applications. Furthermore, buyers or consumers simply need a smartphone and a reliable internet connection to make payments using QRIS, eliminating the hassle of carrying a wallet (Susanti, 2024; Susanti & Reza, 2020).

Triguna Tasikmalaya Polytechnic, as a vocational higher education institution, continues to strive to adapt to rapid technological developments, including its transaction systems within its academic community. The emergence of digital transactions has become a global trend, offering efficiency, convenience, and security. Furthermore, the use of cash is not in line with the growing trend of a cashless society. Researchers identified the practical reasons for some QRIS users by conducting a direct pre-research survey. The survey consisted of interviews with members of the Triguna Tasikmalaya Polytechnic academic community to determine the effectiveness of QRIS use in driving economic development in the digital era on the Triguna Tasikmalaya Polytechnic campus.

Fahmi, a final-semester student at Triguna Tasikmalaya Polytechnic and one of the informants interviewed by the researchers during the pre-research interview, stated that he has been using QRIS since around 2021 while running a mobile phone credit top-up and e-wallet top-up agency. Fahmi has experienced positive impacts from using QRIS,

including simplicity and speeding up payment transactions for consumers buying mobile phone credit and e-wallet top-ups. Furthermore, Satria, who has been a QRIS user since entering college and frequently uses it, stated that QRIS is a technology that speeds up transactions. Transactions using QRIS are very effective and efficient, especially when making transactions at offline stores, such as purchasing cinema tickets or shopping at Alfamart.

2 Literature Review and Hypothesis

2.1 Effectiveness

Effectiveness is the utilization of infrastructure and resources in a predetermined quantity to produce a specific number of goods or services carried out by an individual or company. Effectiveness is a measure of the extent to which targets (quantity, quality, and time) have been achieved (Najar, 2020a). The greater the percentage of targets achieved, the higher the effectiveness. Effectiveness is the extent to which a program, as a system, utilizes specific resources and means to achieve its goals and objectives without crippling those resources and without placing unreasonable pressure on its implementation. Effectiveness is the use of resources and activities to achieve results. This is commonly referred to as effectiveness theory, which involves using all activities to achieve results in accordance with the activities used. To put it another way, it involves maximizing yield through efficient utilization. Mahmudi, in his book "Public Sector Performance Management," defines effectiveness as follows: "Effectiveness is the relationship between output and objectives. The greater the contribution of output to achieving objectives, the more effective the organization, program, or activity." Based on this opinion, effectiveness has a reciprocal relationship between output and objectives. The greater the contribution of output, the more effective a program or activity. Operational capabilities can achieve program effectiveness by executing multiple work programs that align with predetermined objectives. Comprehensively, effectiveness can be defined as the level of ability of an institution or organization to carry out all its main tasks or achieve predetermined targets (Campbell, (1970). According to the various definitions put forward by experts, it can be concluded that effectiveness is a measure that indicates the extent to which targets (quality, quantity, and time) have been achieved by an organization or program. We have predetermined these targets. Therefore, an activity or program is considered effective if it is implemented correctly and produces beneficial results.

According to Campbell J.P. (1970) the most common and prominent measures of effectiveness are as follows: 1) Program success, 2) Achieving target success is crucial, 3) Program Satisfaction, 4) Input and output levels, 5) Achievement of overall objectives.

2.2 Digital Transactions

As social beings, humans are almost inseparable from transactions. Since ancient times, transactions have been conducted to exchange goods or services. Transactions have existed from the barter system, through conventional transactions, to the currently popular digital transactions. In the digital era, increasingly sophisticated technology has impacted almost all aspects of life, including transactions. According to the Big Indonesian Dictionary (KBBI), a transaction is an agreement to buy and sell (in commerce) between two parties, and digitized transactions are referred to as digital transactions (cring.id).

By definition, digital transactions are a form of technological development that makes it easier for people to conduct transactions through devices such as the internet and

are facilitated through applications, both available on smartphones and websites. With the support and protection of the government and official financial institutions, many transactions have become digital over time. One very popular form of digital transaction today is e-wallets, or digital wallets, which can be conducted simply by using a barcode, mobile phone number, or through a bank (bpkn.go.id).

According to investopedia.com, a digital transaction is a borderless system involving one or more participants, where transactions are conducted without the need for cash. Digital transactions involve an ever-evolving way of doing things, where financial technology (FinTech) companies collaborate with various economic sectors to meet the increasingly sophisticated demands of a growing number of tech-savvy users.

Based on the definitions above, it can be concluded that a digital transaction is an exchange of value that occurs through an electronic or digital platform. This includes the purchase, sale, or transfer of assets and services conducted online, using various tools and technologies, such as internet banking, e-wallets, credit/debit cards, and mobile payment applications. Digital transactions offer convenience, speed, and security in conducting financial activities without the need for physical interaction or the use of cash. Digital transactions are transforming payment methods, from traditional cash to cashless payments, from direct payments to transfers, and from traditional wallets to digital wallets.

2.3 Quick Response Code Indonesian Standard (QRIS)

According to Bank Indonesia's channels and services on bi.go.id, the Quick Response Code Indonesian Standard, or QRIS (pronounced KRIS), unifies different QR codes from multiple Payment System Service Providers (PJSPs). The payment system industry, in collaboration with Bank Indonesia, developed QRIS to enhance the ease, speed, and security of QR code transactions. All Payment System Service Providers (PJSPs) that use QR codes are required to implement QRIS. QRIS is the QR code standard for Indonesian payment systems, developed by Bank Indonesia and the Indonesian Payment System Association (ASPI). A National QR Code Standard is needed to anticipate technological innovations and the development of QR code-based payment channels, which could potentially create new fragmentation in the payment system industry and expand national non-cash payment acceptance more efficiently. With a single QR code, merchants eliminate the need to have multiple QR codes from various issuers. According to Bank Indonesia's channels and services on bi.go.id, the Quick Response Code Indonesian Standard, or QRIS (pronounced KRIS), is a unification of various QR codes from various Payment System Service Providers (PJSPs) using QR codes. QRIS was developed by the payment system industry in collaboration with Bank Indonesia to facilitate easier, faster, and more secure transaction processes using QR codes. All Payment System Service Providers (PJSPs) that use QR codes are required to implement QRIS. QRIS is the QR code payment standard for the Indonesian payment system, developed by Bank Indonesia and the Indonesian Payment System Association (ASPI). A National QR Code Standard is needed to anticipate technological innovations and the development of QR code payment channels that This could potentially create new fragmentation in the payment system industry and expand the national acceptance of non-cash payments more efficiently. With a single QR code, goods and service providers (merchants) no longer need to have multiple QR codes from various issuers.

2.4 Hypotesis

The hypothesis of this research regarding the effectiveness of the use of the Quick Response Code Indonesian Standard (QRIS) among the academic community of Triguna Tasikmalaya Polytechnic is: "We suspect that the use of the Quick Response Code Indonesian Standard (QRIS) among the academic community of Triguna Tasikmalaya Polytechnic is ineffective because its users are limited."

3 Method

The method used by the researcher in this study was a qualitative approach. The researcher used a non-probability sampling technique, specifically purposive sampling, to collect the necessary data. Purposive sampling is a data source sampling technique with certain considerations. Considerations in this study include informants who meet the following criteria:

1. The academic community, namely staff, lecturers, and active students at Triguna Polytechnic, Tasikmalaya.
2. Have used QRIS as a transaction tool, both online and offline.
3. Understand and comprehend QRIS. At a minimum, they should know what QRIS is, its functions, and its benefits.

The informants interviewed in this study to obtain accurate data were:

1. Administrative staff at Triguna Polytechnic Tasikmalaya
2. Lecturers in the Finance and Banking Department (PAK)
3. Lecturers in the Corporate Management Department (PAT)
4. Lecturers in the Computerized Accounting Department (PAKA)
5. Approximately 5 (five) Triguna Polytechnic Tasikmalaya students who use QRIS.

The analytical technique used in this study was qualitative analysis. Miles and Huberman asserted that interactive and continuous activities in qualitative analysis lead to data saturation. The researchers followed the steps listed below to analyze the data (Sugiyono, 2022:133).

1. Data Reduction
2. Data Display
3. Conclusion (Verification)

Data validity techniques require examination based on several specific criteria. This procedure is done to ensure that the collected data is valid and credible. In this study, the researcher tested the validity of data obtained in the field using source triangulation techniques. Source triangulation is an approach to analyzing data by comparing and checking it. In data collect Triangulation is defined as a data collection technique that combines multiple methods of data collection.

4 Result and Discussion

4.1 Data Presentation and Analysis

Before the researcher presents the research results, in this case the researcher briefly explains the profile of the informants in the interviews conducted over a period of approximately August-September 2024. The following is the profile of the informants that the author interviewed:

Table 1. Validity Test Financial Literacy an Online Loans

No	Informan	Age	Gender	Jabatan/Pekerjaan
1	Winda Aryanti	29 tahun	Female	Educational Staff
2	Rizal Faizal, S.IP., MM	52 tahun	Male	Lecture
3	Didin Syahidin, S.Kom., M.Kom	33 tahun	Male	Lecture
4	Dr. Hasan Fahmi Kusnandar, S.Sos, MM	40 tahun	Male	Lecture
5	Ergin Hergiana	22 tahun	Male	Student
6	Abdul Matin A	21 tahun	Male	Student
7	Maya Tsulistiani R	22 tahun	Female	Student
8	Novi Marwah	19 tahun	Female	Student
9	Reyman Agustin	23 tahun	Male	Student

4.2 Result

In this section, the researcher will present the research results and discussion on the use of QRIS, in accordance with the formulated problem regarding the effectiveness of the use of the Indonesian Standard Quick Response Code (QRIS) as a digital transaction tool among the academic community of Triguna Tasikmalaya Polytechnic. The researcher obtained data from interviews, observations, and documentation to analyze QRIS usage among the academic community of Triguna Tasikmalaya Polytechnic. The data obtained are in the form of arguments and documentation. The arguments include information obtained from the academic community of Triguna Tasikmalaya Polytechnic, including staff, lecturers, and students, as well as data obtained from field observations. For documentation, the researcher obtained data based on field observations, including documented photographs.

To conduct this research, the researcher will measure the effectiveness of QRIS as a popular digital transaction tool. The researcher will measure effectiveness using Campbell J.P. Campbell's effectiveness theory. This study measures effectiveness using five key indicators:

1. Program Success
2. Target Achievement
3. Program Satisfaction
4. Input and Output Levels
5. Overall Goal Achievement

Based on interviews conducted with several academics at Triguna Polytechnic Tasikmalaya, the following is an excerpt from interviews with nine informants regarding their knowledge and experience using QRIS as a digital transaction tool. To ensure a focused presentation, the effectiveness measurement indicators are adjusted to reflect the research focus, as follows:

4.3 Discuss

4.3.1 Program Satisfaction

QRIS is a cashless transaction tool that simplifies transactions. It's a program that helps make cashless transactions easy, fast, affordable, and secure. People even enjoy using QRIS for everyday transactions, eliminating the hassle of withdrawing cash and

allowing them to make transactions without having to carry a wallet or cash; they simply need their mobile phone. QRIS greatly simplifies transactions because there's no minimum transaction requirement, as even just 1 rupiah can be used. Nine interviewees found that the QRIS program has been successful in facilitating transactions. For example, when making transactions, users don't need to withdraw cash from an ATM; they can simply scan their mobile phone and make the transaction immediately. This benefit is considered by users as a measure of the QRIS program's success in meeting their expectations of simplifying transactions.

4.3.2 Target Success

QRIS has been a successful digital payment system, expanding financial inclusion and supporting transaction efficiency. However, there is still room for improvement, particularly in education, digital infrastructure, and security, so that the benefits of QRIS can be felt more evenly across society. In this study, the use of QRIS by all informants, from informants 1 to 9, in the QRIS program, has been perceived as having a significant impact in terms of financial inclusion, ease of transactions, and economic efficiency. However, to achieve a broader impact, challenges related to infrastructure, digital education, and security still need to be addressed. Overall, QRIS output has made a positive contribution to the economy and financial inclusion in Indonesia, especially for communities that previously lacked access to financial services, and public awareness in remote areas needs to be continuously addressed.

4.3.3 Satisfaction with the Program

In this study, all informants, from 1 to 9, were satisfied with the program. The program's perceived usefulness stems from its ease of use, accessibility for small businesses, cost efficiency, and transaction security. Many parties, including consumers and merchants, perceive the QRIS program as beneficial due to these factors. In addition to the convenience, the benefits of using QRIS also serve as a measure of user satisfaction with the program. One such benefit is that QRIS allows payments in very precise amounts, including small denominations that are difficult to make with cash. With QRIS, there's no need to worry about incorrect change or running out of small change, as everything can be paid accurately through digital payments. This is very helpful in maintaining transparency and convenience in transactions for both sellers and buyers. Users have deemed the QRIS program quite successful in satisfying their daily needs with the most frequently used payment facilities.

4.3.4 Input and Output Levels

According to nine interviewees, the QRIS program was found to be more efficient than traditional transaction methods. The QRIS program makes financial transactions more efficient in various aspects, including time, cost, security, and operational convenience. For example, in terms of time efficiency, it can be faster, especially for large transactions. Using cash requires counting the money first, which can be time-consuming. However, with QRIS, simply scan your card from your phone, and you can make payments immediately without the hassle of time-consuming transactions.

4.3.5 Achieving Overall Goals

In this study, the use of QRIS by all informants, from informants 1 to 9, showed that the QRIS program has achieved its objectives comprehensively, measured by the perceived benefits felt by the community and its usability by all groups. This program has succeeded in simplifying transactions, increasing financial inclusion, and reducing transaction costs and times, making transactions faster, safer, and more flexible. However, there are several challenges, such as information dissemination and education, that still need to be improved so that the benefits of QRIS are felt by various segments of society.

5 Conclusion

Based on this research, the conclusion is that the use of QRIS as a digital transaction tool among the academic community of Triguna Tasikmalaya Polytechnic is considered quite effective. This is demonstrated by the experiences of users who experience the ease, speed, and security of transactions using QRIS. This program makes it easier for users to make payments in the correct amount, reducing dependence on cash and addressing issues related to damaged or unfit currency. Although QRIS has been effective, several challenges remain, such as the dissemination of information and education, outreach, security, and digital infrastructure that still need to be improved. This ensures that the benefits of the QRIS program can be felt by all age groups, not just the younger generation.

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