DETERMINANTS OF QUICK RESPONSE CODE INDONESIAN STANDARD USAGE AND ITS IMPACT ON IMPULSIVE BUYING BEHAVIOUR AMONG INDONESIAN CONSUMERS

RIZKA RAMAYANTI

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RIZKA RAMAYANTI

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ABSTRACT

QRIS is a new phenomenon in the payment industry in Indonesia. QRIS has increased in terms of the number of transactions and in Rupiah. However, the QRIS system does not work well in traditional markets. To examine these phenomena, this study aims to examine the determinants of QRIS usage and its impact on the impulse buying behaviour of Indonesian consumers. Using the unified theory of acceptance and use of technology (UTAUT2) model with the addition of independent variables comprising compatibility, personal innovativeness, and cost from Diffusion of Innovation (DIT) theory and dependent variable comprising impulsive buying behaviour from Stimulus-Organism-Response (SOM) theory. Using a questionnaire survey, this study sampled 781 QRIS users in Jakarta, Indonesia, as respondents. The primary data collected was analyzed using SmartPLS 4.0 software. The research findings show that social influence, price value, habit, compatibility, personal innovativeness, and cost are the main factors that influence the use of QRIS in Jakarta, Indonesia. Unlike prior research in the body of knowledge that primarily concentrated on QRIS adoption factors, this study extends a step further by exploring the effect or influence of QRIS adoption on customer behaviour, particularly impulsive buying behaviour, and has shown significant results. The results of this study can help the government in developing marketing campaigns and promotional materials that encourage customers to take advantage of QRIS. It can help future researchers understand the use of the UTAUT2 development model with additional variables of compatibility, personal innovativeness and cost in analysing the use of QR codes and their influence on impulsive buying behaviour in other developing countries with socio-economic characteristics similar to Indonesia.

Keywords: QRIS, e-payment, UTAUT2, impulsive buying behaviour

APPROVAL

This is to certify that this thesis conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, for the fulfilment of the requirements for the degree of Doctor of Philosophy

The student has been supervised by: **Dr Zubir Azhar, USM** and co-supervised by: **Dr Nik Hadiyan Nik Azman, USM**

The thesis has been examined and endorsed by:

Prof Dr Norzaidi Mohd Daud
Universiti Teknologi Mara
Examiner 1

Prof Dr Zulkiflee bin Mohamed
Universiti Tun Abdul Razak
Examiner 2

This thesis was submitted to Asia e University and is accepted as fulfilment of the requirements for the degree of Doctor of Philosophy.

Professor Dr. Siow Heng Loke
Asia e University
Chairman, Examination Committee
[16 May 2024]

DECLARATION

I hereby declare that the thesis submitted in fulfilment of the PhD degree is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

Name: Rizka Ramayanti

Signature of Candidate: **Date**: 16 May 2024

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In conclusion, completing a PhD while maintaining a full-time employment and caring for four children would not have been feasible without the assistance of my husband, parents, aunts and uncles who assumed some of my household and parenting duties, and most significantly, who offered steadfast support throughout the challenging periods of exhaustion and limited time for us to spend together.

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LIST OF ABBREVIATION

ASPI	Asosiasi Sistem Pembayaran Indonesia
AVE	Average variance extracted
BI	Behavioural Intention
C	Costs
CB-SEM	Covariance Based Structural Equation Modeling
COM	Compatibility
CR	Composite Reliability
DIT	Diffusion of Innovations theory
EE	Effort Expectancy
ENDV	Endogenous Variable
EP	Electronic Payment
EXOV	Exogenous Variable
FC	Facilitating Conditions
H	Habit
HM	Hedonic Motivation
IBB	Impulsive Buying Behaviour
PE	Performance Expectancy
PI	Personal Innovativeness
PLS-SEM	Partial Least Square-Structural equation modelling
PS	Problem Statment
PV	Price Value
QRIS	Quick Response Code Indonesian Standard
RO	Research Objectives
RQ	Research Questions

SEM	Structural equation modelling
SI	Social Influence
SOR	Stimulus-Organism-Response
UTAUT	Unified Theory of Acceptance and Use of Technology

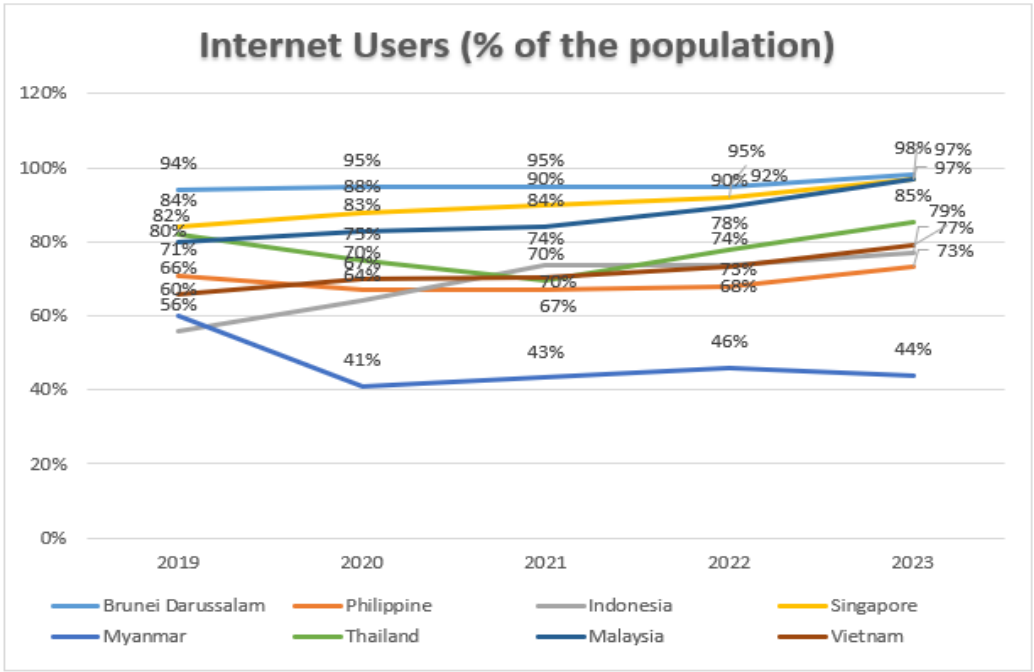
CHAPTER 1

INTRODUCTION

1.0 Background of the Study

The advancement of technology confers numerous advantages to human existence, particularly by enhancing efficacy and efficiency throughout various aspects of life. The Internet is presently demonstrated as one of the significant technologies that individuals, organisations, and nations may utilise to expedite their progress and enhance their welfare (Isaac et al., 2019). This is corroborated by the significant upsurge in the number of internet users. The growing prevalence of internet users highlights the crucial role of the internet in promoting progress and welfare, as it facilitates effortless communication, information accessibility, and innovation prospects.

Figure 1.1: Internet users (% of the population)



Source: Compilation from DataReportal (DataReportal, 2019, 2020f, 2021a, 2021f, 2021e, 2021h, 2021g, 2021d, 2021b, 2022b, 2022f, 2022e, 2020d, 2022d, 2022g, 2022a, 2022c, 2023h, 2023e, 2023g, 2023f, 2023a, 2023d, 2020b, 2023i, 2023b, 2023c, 2020g, 2020e, 2020h, 2020a, 2020c, 2021c)

Figure 1.1 illustrates a consistent upward trend in the proportion of the population utilising the Internet in ASEAN countries. Indonesia's internet penetration rate was approximately 56% in 2019, but it is projected to steadily increase yearly until it reaches 77% of the population by 2023. Brunei Darussalam is projected to achieve the most significant proportion of internet-connected users by 2023, reaching a remarkable 98%. Consequently, the Internet has evolved into a conduit for technological advancements in the financial sector, including payment systems.

The advent of advancements in the banking industry, which intermittently supplant physical currency with electronic transactions, is pivotal in this progression. In the past ten years, there has been a significant increase in Electronic Payment (EP) methods, along with developments in banking technology that have made consumers' lives more manageable. The expansion has been facilitated by transactions conducted in the digital realm, especially the growing popularity of EP (Alkhowaiter, 2022). According to Capgemini (2022), new payment methods are gaining increasing importance globally compared to existing ways. The modern payment methods encompass immediate payments, e-money, mobile payment, e-wallet, account-to-account, and Quick Response (QR) codes (In Indonesia, payments utilising QR codes are referred to as Quick Response Code Indonesian Standard (QRIS)). In 2021, standard payment methods such as cards, credit transfers, and direct debit were the main contributors to the volume of non-cash transactions, making up over 83% of the total. Conversely, alternative payment methods accounted for more than 17% of the market (Capgemini, 2022)

Indonesia has a significant growth potential for financial services, including EP. Data Reportal (2023c) indicates that the total number of mobile devices linked in

Indonesia in January 2023 was 353.8 million. Moreover, the number of internet users in Indonesia has exceeded 212.9 million. With 77 per cent of the population already connected to the internet, it is evident that a significant portion of Indonesia is actively using it (DataReportal, 2023c). This statistic highlights the stark contrast with the relatively low number of Indonesians (97.74 million people) who have access to formal financial services (unbanked) (Rizaty, 2022). Individuals lacking access to banking funding will receive support in doing financial activities via EP, including bill payments, money transfers, and other financial requirements.

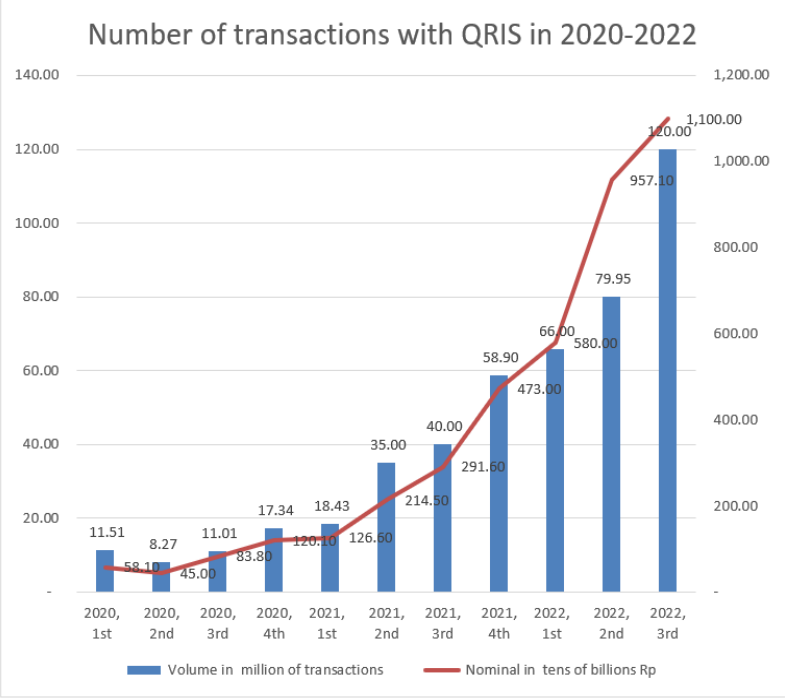
Electronic Payment (EP) offers customers numerous benefits, such as convenient one-click payment, eliminating the need to carry physical currency, effortless tracking of tiny transactions, access to discounts and rebate programmes, and, significantly, enhanced safety. EP is widely recognised as a crucial element in several industrialised countries, as it effectively saves time, effort, and financial resources (Al-Okaily et al., 2020). Moreover, it empowers consumers to make payments for goods and services acquired at any given time and place (Al-Okaily et al., 2020).

Due to the immense potential of app-based financial services, many technology businesses and banks strive to offer application-based financial products. According to iPrice Group, a metasearch site, and App Annie, a data research organisation, the development of EP (such as digital wallet applications) in Indonesia surged by about fifty per cent from Q4 2017 to Q2 2020 (Yahya, 2022).

Indonesia strives to establish a cashless environment by promoting the adoption of non-cash instruments and aiming for a cashless society. Bank Indonesia has demonstrated its commitment to achieving a cashless society by enforcing a QRIS

(quick response code Indonesian standard) policy, as required by the governor's council rule No. 21/18/PADG/2019. The goal is to achieve cost efficiency and enhanced efficacy by implementing a centralised access point while ensuring integration and oversight by Bank Indonesia (2019). One can also observe a significant growth in the use of QRIS by examining the rising number of transactions using QRIS, as depicted in Figure 1.2.

Figure 1.2: Number of QRIS transactions



Source: Compilation from ASPI (2021), Bank Indonesia (Bank Indonesia, 2021a, 2021b, 2021c, 2021d, 2022a, 2022b)

Bank Indonesia recorded QRIS transactions in Rupiah amounting to Rp. in the third quarter of 2022. The amount of 11 trillion represents a significant growth compared to the preceding two years, which amounted to Rp. A total of 2.916 trillion was recorded in the fourth quarter of 2021, together with Rp. The fourth quarter of 2020 saw a total of 838 billion. From the second quarter of 2021 to the second quarter

of 2022, there was an 80 million rise in the volume of QRIS transactions. Alternatively, increase by 200 per cent.

1.1 Problem Statement (PS)

QRIS is a mobile payment system that utilises QR code technology and can be accessed through mobile devices (QRIS.id, 2022). QRIS offers a feasible solution for individuals without access to banking services since it allows for mobile phone-based payment transactions without the need for traditional financial institutions (QRIS.id, 2022). Individuals without access to banking services may qualify for financial inclusion by utilising QRIS.

The World Bank's 2021 study revealed that approximately 48% of the Indonesian population, or 97.74 million individuals, lack access to bank accounts and are considered unbanked. According to Rizaty (2022), the percentage of Indonesians who possess credit cards is under 2%, but 35% possess debit cards. According to GSMA Intelligence, Indonesia has 370.1 million mobile connections as of the start of 2022. The population of Indonesia is less significant than this statistic, which amounts to 370.1 million. As of January 2022, Indonesia's population is at 277.7 million, as compared to other data. According to GSMA Intelligence data, mobile device usage in Indonesia reached 133.3 per cent of the population in January 2022. From the given data points, it can be inferred that individuals who utilise cell phones but lack a bank account still have the opportunity to adopt QRIS. QRIS enables individuals to conduct mobile phone-based digital transactions, regardless of their lack of a bank account. QRIS enables mobile phone transactions by utilising digital wallets or payment applications, enabling users to engage in the digital economy and conduct transactions without using physical cash.

The adoption of QRIS in Indonesia remains quite limited. The Danareksa Research Institute (DRI) survey unequivocally demonstrates these conclusions. The survey was carried out from July 1 to July 15, 2022, with 1,724 participants from six regions, namely DKI Jakarta, West Java, Central Java, East Java, North Sumatra, and South Sulawesi. Most respondents, precisely 44.01% of those surveyed, indicated that they did not engage in digital transactions, including QRIS, within the past three months. Subsequently, 30.51% of individuals reported engaging in only one or two digital transactions throughout the previous three months. Subsequently, around 18.21% of participants conducted three to five digital transactions over the specified period (Annur, 2022).

This is also corroborated by Safitri et al. (2024) study, which looks at student preferences for Qris Acceptance as a Digital Payment Technology. The results of interviews were conducted using direct data from second-semester students of the Economic Education Study Programme at the Indonesian Education University, where participants are customers who have applied QRIS (QR Code Indonesian Standard). The findings indicate that the factors that influence Economics Education Study Programme students' decision to accept and use QRIS as a digital payment technology are ease of use, many promotions and benefits, reliability, flexibility of use, the influence of others and the social environment, speed and accuracy, and simple and efficient. At the same time, there are various issues, such as those caused by internal system conditions that users frequently encounter, such as errors and bugs in the QRIS system. Internal factors from users that create barriers to using QRIS include the necessity for an online connection, network instability, running out of internet quotas, unsupported devices, limited mobile batteries, and payment problems that can hurt

users. While external circumstances pose challenges, there are still many merchants or vendors who have not used QRIS to process payments.

Warsiti, a vendor at Pulogadung Market, asserts that the QRIS system should be enhanced in local markets, as most clients are from the lower middle class rather than the millennial generation. This was communicated by providers of office supplies and school uniforms. QRIS transactions are infrequent because most consumers are unfamiliar with QRIS. Most consumers who lack understanding are typically older and have limited knowledge of technology (Mauliady, 2022). This is also consistent with Nubatonis et al. (2024) research, which found that QRIS users in traditional markets do not fully comprehend technological changes, do not fully understand the usage of QRIS, and are unaware of internet limits, resulting in a decrease in QRIS market use. Furthermore, not all consumers accept or are comfortable with new technologies; the majority of market customers prefer to use cash transactions.

Although EP offers clear benefits, it has been extensively studied due to the various challenges surrounding its limited adoption. Most scholars in this study area have focused on electronic payments (EP), including mobile payments, e-wallets, and QR codes. Specifically, they have examined EP in industrialised nations, including South Korea (R. Wu et al., 2021), the United Kingdom (Merhi et al., 2019) and countries in the Gulf Cooperation Council (GCC) (Alkhowaiter, 2020, 2022). Scholars concentrate on emerging economies such as India (Patil et al., 2020; S. Singh, 2020) and China (Pei et al., 2015). There is a significant absence of research in emerging geographies, resulting in a knowledge shortage that must be addressed. Therefore, it is imperative to comprehend the aspects that impact the adoption of QRIS among Indonesian users by identifying the variables that have influenced its usage in Indonesia. Understanding these factors can enhance the effectiveness of utilising and

integrating the QRIS in Indonesia. The utilisation of QRIS in Indonesia witnessed a surge from 2020 to 2022. However, specific sectors, such as traditional marketplaces, are still in the process of adopting QRIS. Analyse the factors that impact the adoption of QRIS by individual users to enable the government to strategise and promote QRIS usage among individuals who have not yet embraced it, especially in traditional markets. Given the importance of understanding the difficulties associated with using QRIS in Indonesia, it was essential to consider these problems throughout the organisation of the research project. This is because payment systems like QRIS can potentially contribute to a country's economic growth.

In Indonesia, it is common for people to buy products using QRIS, which is a popular method. In addition, make payments for products purchased by consumers by collecting discount coupons, rebates, and other points through a QRIS (Quick Response Code Indonesian Standard). Consumers indirectly acquire superfluous things through discounts, rebates, and other features, resulting in the phenomenon known as impulsive buying behaviour (IBB). Here are some examples of values that are contingent upon QRIS.

Figure 1.3: Example of discount using QRIS

IBB, or impulsive buying behaviour, encompasses unplanned, intentional, or anticipated purchases undertaken with minimal consideration (Akhil & Tajamul, 2022). Individuals in the current dynamic marketing environment are susceptible to impulsive decision-making; however, such behaviour varies. It is crucial to acknowledge that problems associated with impulsive decision-making and purchasing habits can result in detrimental addictions. During the shopping process, consumers encounter a wide range of products. If a specific object catches their attention, they may purchase it spontaneously.

Amidst swift technological advancements, the retail purchasing environment is undergoing rapid transformation, necessitating merchants to adjust to the fiercely competitive consumer market. The payment system's mode optimises retailers' sales volume and revenue. Electronic payment (EP) methods, including debit cards, credit cards, e-wallets, and QR code alternatives, have streamlined the payment process for consumers, facilitating their purchases. A psychological obstacle linked to spending

money is diminished, enabling faster purchasing decision-making, thereby positively impacting impulsive buying behaviour (Yadav & Chaturved, 2021). Due to the ease of internet shopping and the abundance of options and discounts readily accessible, people often engage in impulsive buying behaviour. The appeal of immediate satisfaction and urgency generated by time-limited promotions leads to impulsive purchasing inclinations (Yadav & Chaturved, 2021).

According to Ramadani (2016), businesses can boost a person's inclination to consume by providing promotions and discounts. This is because individuals perceive that they will benefit if they purchase during the promotional time. Conversely, should it be approved, individuals anticipate forfeiting the most positive pricing proposition. Ulayya and Mujiasih (2020) found that cashback promotions provided by EP services can influence individual purchase choices as consumers see them as advantageous. Advertising diminishes consumers' ability to limit their expenditures and often leads them to purchase without evaluating their requirements and intended purposes (Dewi et al., 2021).

The discount or cashback offered by the retailer for utilising QRIS can potentially lead to impulsive purchasing tendencies in this scenario. Impulsive purchasing might lead clients to ignore their financial strategies, resulting in financial instability. Furthermore, clients may encounter post-purchase remorse if they perceive that their funds were not effectively employed. Nevertheless, it is crucial to acknowledge that IBB does not consistently possess a negative meaning. Impulse buying allows clients to promptly get satisfaction from the products or services obtained, owing to the effortless convenience of making payments via QRIS. This improved payment mechanism offers instant gratification, resulting in a delightful buying experience that delivers clients happiness. Furthermore, IBB will positively