

**ANALYSIS OF THE IMPACT OF QRIS DIGITAL PAYMENTS ON
MSMEs: A STUDY BASED ON THE UTAUT 2 MODEL**



Written by:

MUHAMMAD REZA ALEXANDER

18312119

**DEPARTMENT OF ACCOUNTING
INTERNATIONAL UNDERGRADUATE PROGRAM FACULTY OF
BUSINESS AND ECONOMICS
UNIVERSITAS ISLAM INDONESIA
YOGYAKARTA**

2025

**ANALYSIS OF THE IMPACT OF QRIS DIGITAL PAYMENTS ON
MSMEs: A STUDY BASED ON THE UTAUT 2 MODEL**

A THESIS

Presented as a Partial Fulfillment of the Requirements
To obtain the Bachelor Degree in Accounting Department

By:

MUHAMMAD REZA ALEXANDER

Students Number: 18312119

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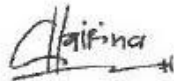
Presented by:

MUHAMMAD REZA ALEXANDER

Students Number: 18312119

Approved by:

Contents Advisor



Ayu Chairina Laksmi, S.E., M.App.Com.,
M.Res., Ph.D., Ak., CA

June 20th, 2025

Language Advisor



Ruli Hapsari., S.Pd., MA.

June 20th, 2025

BOARD EXAMINERS' APPROVAL

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A THESIS

Compiled by : MUHAMMAD REZA ALEXANDER
Student Number : 18312119

Defended before the Board of Examiners
on July 10, 2025 and Declared Acceptable

Examiner/Content Advisor : Ayu Chairina Laksmi, SE., M.AppCom., M.Res., Ak., CA., Ph.D

Examiner : Dekar Urumsah, SE., S.Si., M.Com(IS), Ph.D., CFra.

Yogyakarta, July 10, 2025
International Program
Faculty of Business and Economics
Dean



(Prof. Johan Arifin, S.E., M.Si., Ph.D.)

DECLARATION OF AUTHENTICITY

Hereby I declare the originality of the thesis; I have not presents someone else's work to obtain my university degree, nor I have presented someone else's words, ideas or expressions without any of the acknowledgments. All quotations are cited and listed in the bibliography of the thesis. If in the future this statement is proven to be false, I am willing to accept any sanction complying with the determined regulation or its consequence.

Yogyakarta, July 21th, 2025



Muhammad Reza Alexander

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ABSTRACT

This study aims to analyze the factors influencing the use of Quick Response Code Indonesian Standard (QRIS) among Micro, Small, and Medium Enterprises (MSMEs) in the Special Region of Yogyakarta, by applying the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2). The variables used include Performance Expectancy, Effort Expectancy, Social Influence, Hedonic Motivation, Price Value, Facilitating Conditions, Habit, Behavioral Intention, and Use Behavior. This research adopts a quantitative approach by distributing questionnaires to 166 MSMEs that use QRIS as a payment method. The data were analyzed using Partial Least Squares - Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The results show that Performance Expectancy, Hedonic Motivation, and Price Value have a positive effect on Behavioral Intention using QRIS. Facilitating Condition and Behavioral Intention have a positive effect on Use Behavior in using QRIS. Effort Expectancy and Social Influence do not show a strong effect on Behavioral Intention using QRIS. Habit does not show a strong effect on Use Behavior Using QRIS. These findings suggest that this research can serve as valuable input for application developers and contribute to future studies in the field of digital finance.

Keywords: QRIS, UTAUT2, MSMEs,

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CHAPTER I

INTRODUCTION

1.1 Background of the Study

Digitalization of the payment system refers to the transformation of transaction methods from conventional cash payments to digital payment mechanisms. This approach enables users to make payments via mobile phones, debit/credit cards, or digital wallet applications. One notable example of a digital payment system in Indonesia is QRIS (Quick Response Code Indonesian Standard), which facilitates payments through the simple process of scanning a QR code. To accelerate the digitalization of the national payment system, the Indonesian government, through Bank Indonesia (BI), launched QRIS with the objective of integrating various digital payment platforms under a single standardized QR code (Bank Indonesia, 2019).

QRIS enables individuals and businesses to conduct financial transactions quickly and efficiently through QR code scanning, thereby reducing reliance on cash while improving transaction efficiency and security. The adoption of QRIS has simplified the payment process for the general public and businesses. In addition, it provides greater accessibility for Micro, Small, and Medium Enterprises (MSMEs) to accept digital payments, which in turn help increase their sales potential. MSMEs play a vital role in driving the Indonesian economy, contributing more than half

of the country's total revenue. Currently, MSMEs in Indonesia contribute over 60% to the national Gross Domestic Product (GDP) and employ approximately 97% of the workforce, with a total of more than 64 million business units nationwide (Kementerian Koordinator Bidang Perekonomian Republik Indonesia, 2025). According to BAPPEDA DIY in the DATAKU APPLICATION for the Special Region of Yogyakarta (2024), the total number of MSMEs in the region is 345,980. Furthermore, based on Satu Data UMKM Sleman Regency, the number of MSMEs in Sleman alone is recorded at 110,144 units. These figures highlight the significant role of MSMEs in supporting the Indonesian economy.

The implementation of QRIS has shown positive impacts, especially in increasing financial inclusion and transaction efficiency. Moreover, QRIS has received international recognition for its significant contribution to the advancement of Indonesia's digital payment ecosystem. As a key initiative of Bank Indonesia (BI), QRIS has been recognized as a digital payment game changer, earning the prestigious Indonesia Recognition of Excellence 2023 award from OpenGov Asia (InfoPublik, 2023).

The QRIS digital payment system aims to facilitate transactions and increase financial inclusion. However, the adoption and impact of QRIS on MSMEs remain areas that require further investigation. The implementation of QRIS among MSMEs has not been evenly distributed, and several obstacles to its adoption persist, especially when examined through the lens of the UTAUT 2. The Unified Theory of Acceptance and

Use of Technology 2 (UTAUT 2) is a widely used theoretical model for analyzing the factors that influence technology the acceptance and use of technology. Guided by this framework, this study aims to examine both the impact of QRIS on MSMEs and the factors that affect its adoption and usage among MSMEs.

1.2 Research Problem

Based on the background, this research proposes several problem formulations as follows:

1. How do the factors identified in the UTAUT 2 model affect the adoption of QRIS among MSMEs?
2. What is the impact of QRIS usage on the performance of MSMEs?
3. What barriers do MSMEs encounter in adopting QRIS as a digital payment method?

1.3 Research Objectives

This research has the following objectives:

1. Analyzing the factors in the UTAUT 2 model that affect the adoption of QRIS among MSMEs.
2. Assessing the impact of QRIS usage on the performance of MSMEs.
3. Identifying barriers encountered by MSMEs in adopting QRIS.

1.4 Research Benefits

1.4.1 Theoretical Benefits

1. To contribute to the development of academic literature on the adoption of digital payment technologies, especially QRIS, in the context of MSMEs.
2. To test and extend the applicability of the UTAUT 2 model in the context of digital payment adoption in Indonesia.

1.4.2 Practical Benefits

1. For MSMEs: To encourage broader adoption by providing a clearer understanding of the benefits and challenges of using QRIS.
2. For the Government and Bank Indonesia: to offer policy recommendations aimed at increasing QRIS adoption and supporting the growth of MSMEs.
3. For Digital Payment Service Providers: to provide insights into the needs and preferences of MSMEs in using QRIS, thereby improving service design and user experience.

1.5 Systematization of Writing

The structure of this research is organized as follows:

CHAPTER I: Introduction

This chapter presents the background of the problem, problem formulation, research objectives, research benefits, and the

systematization of writing. It provides an overview of the research and serves as a guide for readers to understand the scope and direction of the research.

CHAPTER II: Theoretical Review

This chapter discusses theories and several previous studies used as references in this study as well as the hypotheses to be tested.

CHAPTER III: Research Methods

This chapter presents the sample population, data collection techniques, research methods, research variables, and data analysis methods.

CHAPTER IV: Analysis and Discussion

This chapter presents the research findings and their analysis, including a description of the research object, data analysis, and interpretation of the results based on the analytical techniques used in the study.

CHAPTER V: CONCLUSION AND SUGGESTIONS

This chapter summarizes the key findings derived from the research. It consists of conclusions, which address the previously stated problem formulations and reflect the achievement of the research objectives, as well as suggestions for further research.

CHAPTER II

THEORETICAL REVIEW

2.1 Micro, Small, and Medium Enterprises (MSMEs)

Micro, small, and medium enterprises (MSMEs) are trading businesses managed by business entities or individuals engaged in productive economic activities, in accordance with the criteria established by Law No. 20 of 2008. Article 1, paragraph 3 of this law defines MSMEs and provides a classification system based on value assets and annual turnover as determined by the government.

1. Micro enterprises are productive businesses owned by individuals and/or individual business entities with a maximum net worth of IDR 50 million (excluding land and buildings used for business activities) and an annual turnover not exceeding IDR 300 million.
2. Small enterprises are independent and productive economic businesses operated by individuals or business entities. They are characterized by a net worth of more than Rp 50 million up to Rp 500 million (excluding land and buildings used for business operations), an annual turnover of more than Rp 300 million up to a maximum of Rp 2.5 billion.
3. Medium-sized enterprises are independent and productive economic businesses that are not subsidiaries or branches of larger companies. These businesses have a net worth of more than Rp 500 million up

to a maximum of Rp 10 billion, and an annual turnover ranging from more than Rp 2.5 billion to Rp 50 billion.

MSMEs can strengthen economic fundamentals because most people's financial activities are mostly played out in economic units on the MSME scale in almost all sectors. MSMEs play a significant role in creating jobs, reducing unemployment, and increasing national economic growth.

2.2 Quick Response Indonesia Standard (QRIS)

Quick Response Indonesia Standard (QRIS) is a national standard QR code issued by Bank Indonesia (BI) and the Indonesian Payment System Association (ASPI), which is used as a digital payment facility in Indonesia (Azzahroo & Estiningrum, 2021). QRIS was launched in Indonesia on August 17, 2019, and its implementation will be effective from January 1, 2020. The launch of QRIS in 2019 is a strategic step by Bank Indonesia to encourage the digitalization of the national payment system. The launch of QRIS in 2019 is a strategic step by Bank Indonesia to encourage the digitalization of the national payment system. QRIS is simply accessed via smartphone and can be used by all digital wallet providers and banks that are members of the QRIS system. The adoption of QRIS facilitates safe and practical cashless transactions that have a direct impact on increasing operational efficiency and financial records.

This is beneficial for both buyers and sellers (merchants) because transactions take place efficiently through one QR code that can be scanned using all service operators on smartphones. The QRIS system centers on the application of the QR Code Payment Merchant Presented mode (MPM) model, where the seller (merchant) will display the payment QR Code to be scanned by the buyer (customer) when making a payment transaction. So, when you want to make a transaction, the user (user) simply scans the QR code provided by merchants (business actors) who have collaborated with *Penyelenggara Jasa Sistem Pembayaran* (PJSP).

2.3 UTAUT 2

The UTAUT model (Unified Theory of Acceptance and Use of Technology) is a framework that helps understand how people accept and use technology. This study uses the Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2) model as a theoretical framework. UTAUT 2 provides a more complete understanding of how consumers accept technology. The rapid development of technology encourages the need for growth and innovation in the UTAUT model. This model was then integrated into a new model called UTAUT2, which was developed by Venkatesh, Thong, and Xu in 2012. The UTAUT 2 model is a development of the UTAUT model designed to explain consumers' acceptance and use of technology (Venkatesh et al., 2012). The variables in the UTAUT 2 model that will be used in this study are:

1. Performance Expectancy: The extent to which users believe that using QRIS will improve their business performance. Performance expectation is how the use of a technology has an important function in enhancing performance. The performance expectation variable is if individuals get positive things and benefits from using a new technology. In the context of UTAUT2, performance expectations refer to the extent to which a person believes that using technology will improve their performance. There are several factors that influence individual beliefs about the benefits of using the system, such as Perceived Usefulness, Extrinsic Motivation, Relative Advantage, and Outcome Expectations.
2. Effort Expectancy: The level of ease perceived by users when using QRIS. Effort expectancy relates to how easily the technology can be used. The ease of using information technology in individuals will provide a sense of comfort in using it. Effort expectations make information technology users believe that information technology that is flexible and easy to understand its operation will create an intention to use the technology.
3. Social Influence: The extent users feel influenced by the social environment to use QRIS. Social influence is the perception of individuals that the influence and opinions of people around them are essential in influencing them to use a technology system. Social influence is also a benchmark for determining individual behavioral

intentions when using information technology. Social influence in UTAUT2 includes the extent to which individuals feel that people around them influence their decision to use technology. Social influence refers to the impact that the surrounding environment has on technology use. Social influence has an important role in influencing behavioral intentions, taking into several variables, subjective norms, social factors, and image as having an important role in influencing behavioral intentions. It can be concluded that the greater the influence given by the people around individuals to use technology, the greater the individual's intention to use the technology. Social influence also has an impact on the social environment that has used information technology.

4. Facilitating Conditions: Infrastructure and technical support are available for QRIS use. Facilitating conditions are the extent to which individuals believe that the available facilities and infrastructure can affect the ease and support of a technology system. Facilitating conditions include the resources and support available to use the technology, as well as the extent to which the innovation is perceived to match the user's values, needs, and experiences.
5. Hedonic Motivation: The pleasure or satisfaction users feel when using QRIS. Hedonic motivation in UTAUT2 refers to the pleasure or satisfaction gained from using technology. Hedonism motivation is related to the pleasure aspect that users feel when using

technology, which is not only limited to performance but also includes the feelings obtained from using technology to make users feel happy and provide entertainment to users when using technology. Hedonic motivation in UTAUT2 refers to the pleasure or satisfaction of using technology. Hedonism motivation is related to the pleasure aspect that users feel when using technology, which is not only limited to performance but also includes the feelings obtained from using technology to make users feel happy and provide entertainment to users when using technology. This factor is influential in determining the extent to which QRIS is adopted.

6. Price Value: Price value is related to consumer perceptions about whether the benefits obtained from technology are comparable to the costs incurred. The greater the satisfaction with the use of the system on the monetary aspects that individuals must spend, the greater the intention to use the information technology. The costs incurred to use technology, the quality of the appropriate technology, and the extent to which the technology offered has good value are examples of price value. User perception of the balance between the costs and benefits of using QRIS.
7. Habit: The extent to which the use of QRIS has become a habit for users. Habits in UTAUT2 include how often a person uses technology. Habits refer to the tendency of users of this technology in prior use, feeling addicted, and behavior to be automatic.

Technology users have a tendency to deal with dynamic and diverse environments.

8. Behavioral Intention: Interest in utilizing information technology describes the extent to which individuals have the desire or intention to use information systems, assuming that they have access to these systems. This interest arises if information technology provides significant benefits to improving performance and is supported by social influence from the environment.
9. Use Behavior: Information technology usage behavior refers to the frequency or intensity with which individuals use the technology. The level of technology utilization is highly dependent on the perception of the system used. Users are more likely to use information technology if they are interested and believe that technology provides real and significant benefits.

2.4 Previous Studies

Research on QRIS adoption and user behavior in the MSME sector has recently been widely studied.

Table 2.1 Previous Studies

No.	Name & Year	Title	Method	Similar	Difference	Result
1.	Uswatun Khasanah (2024)	Faktor-Faktor yang Dapat Mempengaruhi Minat Masyarakat Kecamatan Sangatta utara dalam Menggunakan Quick Response Code Indonesian Standard (QRIS) pada Aplikasi Mobile Banking	Kuantitatif, SmartPLS 4 (UTAUT)	UTAUT, pakai SmartPLS	Focus on mobile banking	Variable PE, SI, and FC significant BI. FC and BI significant UB. EE no significant to BI
2.	Richie & An'im (2025)	The Influence of QRIS Service Costs on Technology Adoption and MSME Performance	Kuantitatif, SmartPLS	UTAUT, UMKM, SmartPLS	fee value	All construct significant
3.	Atha Kurniawan (2025)	Analisis Penerimaan dan Penggunaan QRIS dengan Model UTAUT-3	Kuantitatif, PLS-SEM	QRIS, UTAUT+, SmartPLS	Trust	Trust & Habit significant
4.	Salsa Bila Putri (2025)	Pengaruh Persepsi Risiko terhadap Perilaku Pengguna BSI Mobile Bankung: Pendekatan Model UTAUT (Studi pada Gen Z)	Kuantitatif, SmartPLS 4	UTAUT, SmartPLS	Syariah Banking	Performance expectations, social influence, and perceived risk significant positive effect on behavioral intentions. Effort expectations and facilitating conditions do not significant on BSI mobile banking behavioral intentions.

						Behavioral intentions significant on BSI mobile banking user behavior.
5.	Akbar Z. Kusuma (2024)	Pengaruh QRIS Terhadap Pendapatan UMKM	Quantitative Descriptive	QRIS and UMKM	Doesn't use UTAUT	QRIS effect income MSMEs
6.	Aldita Amalia Heridawati (2023)	Pengaruh Pengetahuan Produk, Kemudahan, Kepercayaan, dan Manfaat Terhadap Minat Pembayaran Digitak Menggunakan QRIS	Kuantitatif, Regresi	Minat QRIS	Doesn't use UTAUT & SmartPLS	Ease of Use & Usefulness significant
7.	Fika Lathifatus Sa'adah (2023)	Faktor-Faktor Yang Memengaruhi UMKM Menggunakan QRIS di Sleman	Quantitative, PLS-SEM	Uses UTAUT2, focuses on MSMEs and QRIS	doesn't focus on Gen Z or Condongceatur	Effort expectancy & price value significantly influence intention; intention influences use behavior; others not significant
8.	Mira Gustiana Pangestu & Johni Paul K. Pasaribu (2022)	Behavior Intention Penggunaan Digital Payment QRIS pada UMKM Makanan & Minuman di Jambi	Quantitative, Multiple Regression	Uses UTAUT, focuses on MSMEs and QRIS	doesn't include 'habit' or moderating variables	Performance & effort expectancy significant; social influence & facilitating conditions not significant
9.	Tricaesar B.S. Paat et al. (2022)	Behavioral Intention of E-Wallet Usage in MSMEs F&B, Manado	Quantitative	Uses UTAUT, focuses on MSMEs and digital payment	doesn't focus on QRIS specifically, but on e-wallets	Effort & social influence positive; performance expectancy negative; risk & cost not significant

10.	Praditya Wibowo & Santi Rimadias (2022)	Perilaku Penggunaan QRIS BRI BRIMO pada Pedagang	Quantitative, SEM PLS	Uses UTAUT model with trust variable	Focuses on BRI BRIMO version of QRIS	Behavioral intention affects use behavior; facilitating condition not significant
11.	Ngakan B.P. Sudiatmika & I.A.O. Martini (2022)	Faktor-Faktor Mempengaruhi Niat UMKM Denpasar Menggunakan QRIS	Quantitative, PLS-SEM	Focuses on QRIS use intention among MSMEs	Based on TAM model, not UTAUT/UTAU T2	Usefulness, ease of use, trust & social influence significant; risk negative
12.	Wardani & Masdiantini (2022)	Pengaruh Ekspektasi Kinerja, Sosial Budaya, Motivasi Hedonis, dan Nilai Harga terhadap Minat Penggunaan QRIS	Quantitative, Multiple Regression, 80 users	Uses UTAUT2-related variables, focuses on QRIS	Adds socio-cultural & hedonic factors, not full UTAUT2	Performance expectancy, effort expectancy, price value, hedonism significant; social culture not significant
13.	Muhammad Anur Ridwan et al. (2022)	Factors Affecting Use of QRIS with UTAUT Model (Lampung)	Quantitative, PLS-SEM	Uses UTAUT, evaluates QRIS adoption	Focuses on general users, not MSMEs, no UTAUT2	Performance expectancy & FC significant; others not significant

Most previous research suggests that factors such as ease of use, performance expectations, and social influence are key determinants in driving QRIS adoption intentions and behavior. However, there are gaps in the literature, especially in context: the use of the UTAUT2 model, specific focus on MSMEs in local areas, and evaluation of actual constraints in the field.

2.5 Hypothesis Development

QRIS in MSMEs can be analyzed using the UTAUT2 model. This model explains the intention and actual behavior of technology adoption. The constructs used in the research model are Performance Expectancy, Effort Expectancy, Social Influence, Hedonic Motivation, Price Value and Habit as independent variables, which, according to the literature, influence Behavioral Intention (intention to use QRIS). Additionally, Behavioral Intention, Facilitating Conditions, and Habit is predicted to affect Use Behavior (use of QRIS).

Factors from the UTAUT2 model have several implications for the MSME adoption of QRIS. Performance Expectancy, Effort Expectancy, Social Influence, Hedonic Motivation, Price Value, and Habit are proposed to affect intention to use QRIS. Therefore, the Behavioral Intention, Facilitating Conditions, and Habit are predicted to impact the actual use of QRIS.

2.5.1 The Effect of Performance Expectations on MSME Interest in Using QRIS

Performance expectations indicate how useful technology is in completing tasks. Research suggests that the higher the performance expectations, the greater the intention of individuals to use e-commerce systems and other technologies. Overall, the higher the performance expectancy of the application, the greater the user's intention to use it. This refers to how individuals believe using a particular technology can improve performance. The first hypothesis (H1) suggests that Performance Expectancy positively influences Behavioral Intention. This is supported by several studies, such as Pangestu & Pasaribu (2022) and Wardani & Masdiantini (2022), which found that perceived usefulness and performance expectancy significantly affected the intention to use QRIS among MSME users. However, some studies, like Paat et al. (2022), observed a negative relationship between performance expectancy and behavioral intention in e-wallets, indicating that perceived performance does not always guarantee intention, depending on the user context and digital literacy.

H1: Performance Expectancy has a positive effect on Behavioral Intention using QRIS.

2.5.2 The Effect of Effort Expectancy on MSME Interest in Using QRIS.

Effort expectancy is the belief that the ease of using a technology can reduce individual effort (time) when doing a job. This variable is used in the UTAUT 2 model, which states that effort expectancy as a benchmark for individuals using a technology system will be convenient. Effort expectancy is a condition where an MSME actor believes that the QRIS payment system is easy to use in making payment transactions so that it can reduce effort (time). This follows the UTAUT2 model, which states that effort expectancy can affect the interest of MSME actors in using the system. So, if MSME actors find it easy to use QRIS, then they will be interested in using QRIS in the transaction process. Conversely, if MSME actors find it very difficult to use QRIS, it will affect MSME's interest in using QRIS. Research by Sa'adah (2023), Pangestu and Pasaribu (2022), and Wibowo and Rimadiah (2022) confirmed that ease of use plays a critical role in shaping MSME users' intentions to adopt QRIS.

H2: Effort Expectancy has a positive effect on Behavioral Intention using QRIS.

2.5.3 The Effect of Social Influence on MSME Interest in Using QRIS

Social influence (social factors) is how individuals think about using or applying a technology system to their surroundings. In the UTAUT 2 model, Social Influence is used as a benchmark for how influential the surrounding environment is in using technology systems. The third hypothesis (H3) posits that Social Influence positively influences Behavioral Intention. This means that the use of a system can be influenced by the surrounding environment. This influence makes an individual interested in using a technology system. This follows the UTAUT 2 model, which states that social influence affects a person's interest in using the system. So, if an MSME actor believes that people around him and the individual wishes that he should use QRIS, then the MSME actor will be interested in using QRIS. Conversely, if the MSME actor feels that he is not convinced by others and himself to use QRIS, it will impact the interest in using QRIS. Findings in the literature are mixed. While Paat et al. (2022) and Sudiatmika and Martini (2022) indicated a significant positive impact of social influence, other studies including Sa'adah (2023) and Pangestu and Pasaribu (2022) reported that social influence had no significant impact on QRIS usage intention among MSMEs. These contradictions may arise due to variations in digital maturity and peer influence across regions and user demographics.

H3: Social Influence has a positive effect on Behavioral Intention using QRIS.

2.5.4 The Effect of Hedonic Motivation on MSME Interest in Using QRIS

Hedonic motivation explains the attraction or pleasure of using technology (Venkatesh et al., 2012). Hedonic motivation has three sub-variables including fun, enjoyment, and entertaining. For H4, which hypothesizes that Hedonic Motivation positively influences Behavioral Intention, relevant support can be drawn from the study of Wardani and Masdiantini (2022), where hedonism was found to significantly affect users' intention to use QRIS. The pleasurable experience and satisfaction derived from digital payments appear to encourage continued use, especially among younger entrepreneurs.

H4: Hedonic Motivation has a positive effect on Behavioral Intention using QRIS.

2.5.5 The Effect of Price Value on MSME Interest in Using QRIS

Price Value is defined as the reciprocity between the costs incurred to use a technology and the benefits received (Venkatesh et al., 2012). This variable is used in UTAUT2 to measure how individuals feel because of the costs incurred in using a technology

system. Price value significantly influences behavior intention. For example, if an individual uses a mobile banking system, a fee will be charged. This is certainly a consideration regarding the reciprocity between the costs incurred using the system and the benefits received. If MSMEs feel that the costs incurred in using technology are comparable to the benefits received, they are interested in using the QRIS payment system. Conversely, if MSME players feel that the costs incurred are not accounted for by the benefits received, their interest in using the QRIS payment system will be affected. H5 proposes that Price Value positively influences Behavioral Intention, which was validated in the studies by Wardani and Masdiantini (2022) and Sa'adah (2023). Both confirmed that perceived value, in terms of cost-benefit analysis, plays a vital role in determining MSMEs' decision to adopt QRIS.

H5: Price Value has a positive effect on Behavioral Intention using QRIS.

2.5.6 The Effect of Facilitating Conditions on MSME Interest in Using QRIS

Facilitating Conditions positively influence Use Behavior. Although this is supported by the research of Ridwan et al. (2022) in the context of QRIS in Bandar Lampung, Wibowo and Rimadias (2022) reported that facilitating conditions did not significantly

influence usage behavior among merchants using BRIMO QRIS. Maulida (2022) proved that behavioral intention significantly influences usage behavior in the context of using QRIS by MSMEs. A strong intention to use QRIS was found to be directly proportional to the actual behavior of using the technology in their business activities. This highlights the need to contextualize support systems, such as infrastructure and training for local implementation.

H6: Facilitating Conditions has a positive effect on Use Behavior using QRIS.

2.5.7 The Effect of Habit on MSME Interest in Using QRIS

Habits are also proven to have a direct influence on QRIS use behavior. Maulida's research (2022) concluded that the more often and consistently MSME players use QRIS in their transactional activities, the more likely they will continue using this technology long-term. This study proposes that Habit positively influences Use Behavior, aligning with the extended constructs of UTAUT2. Previous studies particularly on the growth of QRIS usage and the transition from intention to action indirectly support this hypothesis. Users with frequent exposure and positive experiences are more likely to integrate QRIS into daily business transactions. Users with frequent exposure and repeated positive interactions are more likely to incorporate QRIS into daily business operations without

conscious deliberation. This justifies the inclusion of Habit as a construct in understanding the actual behavior of MSME users and supports the theoretical integrity of Hypothesis 7.

H7: Habit has a positive effect on Use Behavior using QRIS.

2.5.8 The Effect of Behavioral Intention on Use Behavior in Using QRIS

According to Venkatesh et al. (2012) behavioral intention (interest in using) reflects an individual's internal belief scheme in predicting the behavior performed. Behavior intention is an important calculation of the behavior of individual characteristics, system characteristics, and others that have been proven empirically (Wibowo & Rimadiah, 2022). Meanwhile, Sa'adah (2023) found strong evidence that intention significantly drives the actual use of QRIS, affirming the core proposition of UTAUT2. Thus, this study proposes the following hypothesis:

H8: Behavioral Intention has a positive effect on Use Behavior using QRIS

2.6 Research Framework

The use of the Quick Response Code Indonesian Standard (QRIS) by Micro, Small, and Medium Enterprises (MSMEs) can be explained

through the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model.

This model identifies factors influencing intention and actual behavior in adopting a technology. In this study, the constructs of Performance Expectancy, Effort Expectancy, Social Influence, Hedonic Motivation, Price Value, are assumed to affect Behavioral Intention (intention to use QRIS). Then, Facilitating Conditions, Habit, and Behavioral Intention are hypothesized to affect Use Behavior (actual use of QRIS).

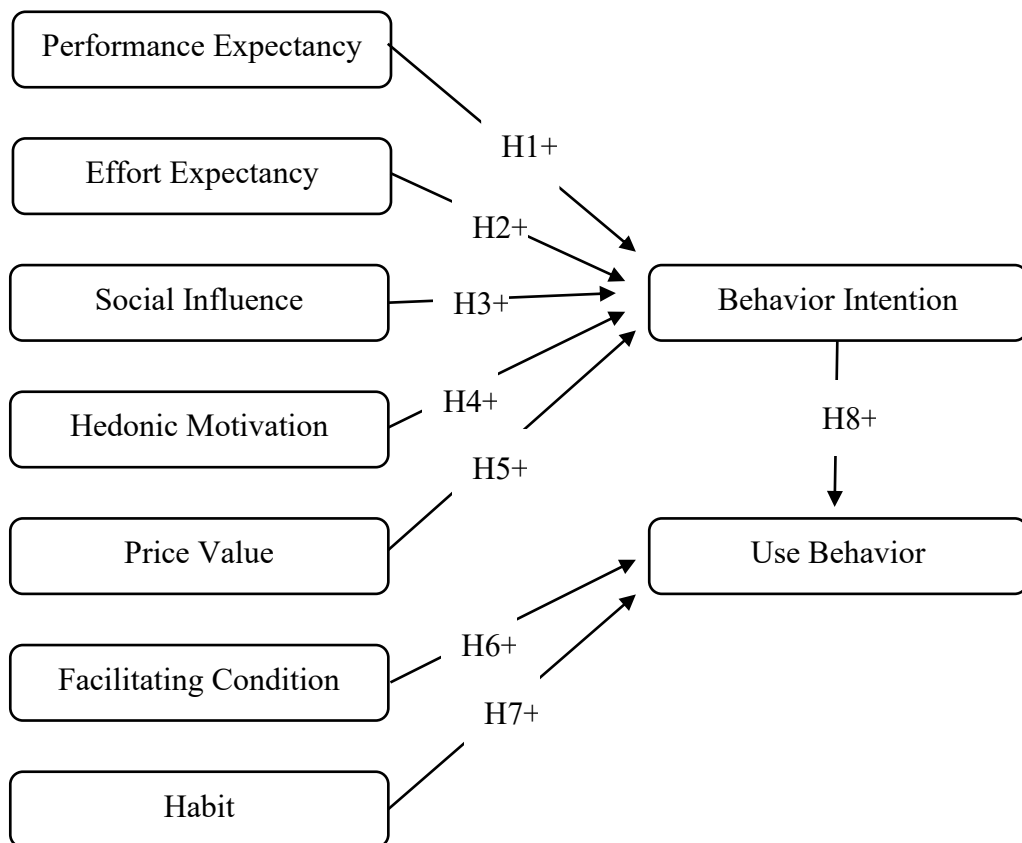


Figure 2.1 Research Framework

CHAPTER III

Research Methods

3.1 Research Type and Approach

This research used quantitative methods to analyze the use of QRIS. Data collection was conducted through surveys using a questionnaire distributed to a representative sample of respondents from the target population.

This study adopted the UTAUT 2 (Unified Theory of Acceptance and Use of Technology) model, which widely used to assess individuals' intentions and behaviors in adopting technology. To analyze the data, Structural Equation Modeling (SEM) was used with the Partial Least Square (PLS) technique applied to examine the relationship between variables in the research model.

3.2 Place or Location of Research

This research was conducted in the Special Region of Yogyakarta.

3.3 Population and Sample

3.3.1 Research Population

The population in this study are business people who have used or are using QRIS as a means of payment.

3.3.2 Research Sample

The research sample refers to a subset of the population selected for analysis and used to generalize the research findings. In this study, the sample was selected with the following criteria:

1. MSMEs
2. Located in the Special Region of Yogyakarta
3. Have experience in using QRIS as a means of payment

The sample size for this study will be determined based on statistical considerations, especially to meet the requirements of Structural Equation Modeling (SEM) analysis. This study employs Partial Least Squares Path Modeling (PLS-PM), a method that has gained widespread acceptance due to the availability of its practical analytical tools, such as the SmartPLS software, which facilitates efficient data processing.

According to Hair et al. (2022), researchers must pay attention to the structure of the theoretical model when identifying sample size. Sample size can be determined by identifying the most complex dependent construct, which receives the most significant number of paths from other constructs. This research model adopts a modified UTAUT2 (Unified Theory of Acceptance and Use of Technology 2) framework. The model includes:

1. The Behavioral Intention (BI) construct is influenced by five independent constructs, namely: Performance Expectancy

(PE), Effort Expectancy (EE), Social Influence (SI), Hedonic Motivation (HM), and Price Value (PV).

2. The Use Behavior (UB) construct is influenced by three constructs, namely: Behavioral Intention (BI), Facilitating Conditions (FC), and Habit (HB).

Based on the guidelines provided by Hair et al. (2022), the minimum sample size is determined using the Behavioral Intention construct as it contains the highest number of predictors, namely five constructs.

The calculation is done using G*Power software with the following parameters:

The screenshot shows the G*Power 3.1.9.4 software window. The 'F tests' tab is selected under 'Central and noncentral distributions'. The 'Analysis' section shows 'A priori: Compute required sample size'. The 'Input' section lists: Effect size $f^2 = 0.15$, α err prob = 0.05, Power (1- β err prob) = 0.95, and Number of predictors = 5. The 'Output' section lists: Noncentrality parameter $\lambda = 20.7000000$, Critical F = 2.2828562, Numerator df = 5, Denominator df = 132, Total sample size = 138, and Actual power = 0.9507643. Below this, the 'Test family' is set to 'F tests' and the 'Statistical test' is 'Linear multiple regression: Fixed model, R^2 deviation from zero'. The 'Type of power analysis' is 'A priori: Compute required sample size - given α , power, and effect size'. The 'Input Parameters' section has a 'Determine =>' button and fields for Effect size f^2 (0.15), α err prob (0.05), Power (1- β err prob) (0.95), and Number of predictors (5). The 'Output Parameters' section shows fields for Noncentrality parameter λ (20.7000000), Critical F (2.2828562), Numerator df (5), Denominator df (132), Total sample size (138), and Actual power (0.9507643). At the bottom, there is an 'X-Y plot for a range of values' button and a 'Calculate' button.

Figure 3.1 Sample Size

The results of these calculations show that a minimum of 138 respondents is required to ensure that the analysis achieves adequate statistical power and validity within the context of PLS modelling.

3.3.3 Sampling Determination Technique

The sampling technique used in this study is purposive sampling, a type of non-probability sampling commonly employed in qualitative and mixed-methods research involving clearly defined target populations. According to Creswell (2018), purposive sampling is appropriate when individuals are selected based on specific characteristics or expertise that make them particularly suitable for providing rich and relevant information related to the central phenomenon under investigation.

In this research, purposive sampling was employed to ensure that the respondents meet predefined eligibility criteria, which are critical to addressing the research objectives. The target population consists of MSMEs in the Special Region of Yogyakarta who have adopted and actively used QRIS as a digital payment method. By focusing only on individuals with direct experience using QRIS in business transactions, the study ensures that the data collected is valid, relevant, and aligned with the conceptual framework being examined.

3.3.4 Sampling Procedure

The sampling procedure will be carried out with the following steps:

1. Determination of Inclusion and Exclusion Criteria

Respondents are required to meet the predetermined inclusion criteria. To be eligible for participation in this study, respondents must fulfill the following conditions:

1. Being active MSMEs or business owners.
2. Have used QRIS in daily or regular business operations.
3. Located and operated their business within the Special Region of Yogyakarta.

2. Questionnaire Distribution

The questionnaires will be distributed through online platforms such as social media, email, or online survey applications to effectively reach respondents and specifically target MSMEs.

3. Data Collection

Data will be collected from respondents who meet the inclusion criteria, with the goal of reaching the predetermined sample size.

4. Data Quality Testing

After the data is collected, data quality testing will be conducted to ensure that the data used in the analysis meets the required standards.

3.4 Data Collection Techniques

In this study, the data collection method applied was a survey, which is considered an effective approach for collecting information from a large number of respondents within a relatively short period. This method involves distributing a series of written questions in a questionnaire that respondents can answer independently. The questionnaire used in this study consists of two main parts:

1. Screening Question and Respondent Data

This section aims to determine whether respondents meet the predetermined criteria to be part of the research sample. Respondents who do not meet the criteria will be prevented from completing the remainder of the questionnaire. In addition, this section also collects demographic information and personal data from the respondents, all of which will be treated with strict confidentiality.

2. Main Question

This section includes questions that are directly related to the research variables. The Likert scale is used as the measurement instrument, which is commonly applied in social research to assess individuals' attitudes, opinions, and belief regarding particular social phenomena. According to Creswell and Creswell (2018), Likert scale enables researchers to transform intangible and abstract theoretical constructs into tangible and measurable indicators. In this

study, each variable is operationalized through a set of specific indicators, which are then formulated into structured questionnaire items. The measurement employs a 5-point Likert scale, allowing respondents to express their level of agreement ranging from "strongly disagree" to "strongly agree". This scaling method, known as the summated rating scale, provides insights into the intensity of respondents' attitudes/ perceptions toward each item. One of the key advantages of using the Likert scale is its ability to collect with precision and consistency across different time periods and respondent groups. This makes it suitable for comparative analysis and ensures that the instrument can serve as a reliable measurement tool for capturing the constructs under investigation through a standardized scaling procedure.

Table 3.1 Likert Scale

Answers	Score
Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

3.5 Operational Definitions of Variables

Research variables refer to elements that are measured, observed, or manipulated in a study to test hypotheses or answer research questions. In this study, the variables used are:

1. Dependent Variable.

The dependent variable (Y) is the variable that is influenced or explained by other variables in the model. It represents the outcome or effect resulting from the influence of one or more independent variables. In this study, there are two dependent variables:

1. (Y1/X1) - Behavior Intention (BI): This variable measures the user's interest and tendency to adopt QRIS as a transaction method.
2. Y2 - Use Behavior (UB): This variable evaluates the pattern and intensity of QRIS usage in daily business transactions.

2. Independent variables.

This study uses several independent variables (X), which function as the causal variables that influence the dependent variables. The independent variables used in this study are as follows:

1. X1 - Performance Expectancy (PE): measures users' belief that QRIS can improve the efficiency of their daily transactional activities.
2. X2 - Effort Expectancy (EE): assesses the degree to which users find it easy to understand and operate the features of QRIS.
3. X3 - Social Influence (SI): measures the extent to which the social environment influences one's decision to adopt QRIS.

4. X4 - Facilitating Conditions (FC): evaluates the availability and completeness of services offered by QRIS.
5. X5 - Hedonic Motivation (HM): measures the level of pleasure and emotional satisfaction users experience when using QRIS.
6. X6 - Price Value (PV): assesses users' perception of the economic value of using QRIS.
7. X7 - Habit (H): measures users' habits in using QRIS, including frequency and habits in transactions.

3.6 Research Instruments

The research instrument used in this study is a structured questionnaire designed to collect data from respondents regarding the variables under investigation. The questionnaire is developed based on specific indicators identified for each research variable. Each indicator is translated into a series of statements, which are evaluated by respondents using a Likert scale.

3.7 Research Questionnaire

Below are this study's questionnaire items, and all the items are taken from Venkatesh et al. (2012). Prior to the distribution, the questionnaire was pilot-tested to ensure clarity, reliability, and validity of the items.

Table 3.2 Questionnaires Items

No.	Construct	English Version	Bahasa Indonesia Version
1.	Performance Expectancy	Using QRIS improves the efficiency business transactions.	Menggunakan QRIS meningkatkan efisiensi transaksi usaha.
		The use of QRIS facilitates faster processing of business transactions.	Penggunaan QRIS membuat proses transaksi usaha lebih cepat.
		QRIS beneficial in supporting the operational activities of business.	QRIS bermanfaat dalam mendukung operasional usaha.
2.	Effort Expectancy	Learning to use QRIS is easy and does not require advanced technical skills.	Mempelajari penggunaan QRIS mudah dan tidak membutuhkan keahlian teknis yang tinggi.
		QRIS easy to use, even when using it for the first time.	QRIS mudah digunakan bahkan saat pertama kali mencobanya.
		Operating QRIS with minimal assistance from others.	Mengoperasikan QRIS dengan bantuan yang minim dari orang lain.
3.	Social Influence	Important people (such as family or colleagues) encourage using QRIS.	Orang-orang yang penting (seperti keluarga atau rekan) mendorong menggunakan QRIS.
		The widespread use of QRIS among nearby MSMEs influences intention to use it.	Penggunaan QRIS yang meluas di antara pelaku UMKM sekitar memengaruhi niat untuk menggunakannya.
		Customers prefer digital payments such as QRIS, motivating	Pelanggan lebih menyukai pembayaran digital seperti QRIS, sehingga memotivasi

		MSMEs to use it.	untuk menggunakannya.
4.	Hedonic Motivation	Happy to use QRIS in business transactions.	Senang saat menggunakan QRIS dalam transaksi usaha.
		The experience of using QRIS is enjoyable and satisfying in the context of business.	Pengalaman menggunakan QRIS terasa menyenangkan dan memuaskan dalam konteks usaha.
		Use of QRIS as a fun activity that improves business operations.	Penggunaan QRIS sebagai aktivitas menyenangkan yang meningkatkan operasional usaha.
5.	Price Value	The benefits derived from using QRIS are worth the time and effort invested.	Manfaat yang diperoleh dari penggunaan QRIS sepadan dengan waktu dan usaha yang dikeluarkan.
		The use of QRIS helps reduce the operational costs of business transactions.	Penggunaan QRIS membantu mengurangi biaya operasional transaksi usaha.
		QRIS provides significant added value to businesses.	QRIS memberikan nilai tambah yang signifikan bagi usaha.
6.	Facilitating Conditions	Users have the necessary resources, such as smartphones and stable internet connections to use QRIS effectively	Pengguna memiliki sumber daya yang dibutuhkan seperti ponsel pintar dan koneksi internet untuk menggunakan QRIS secara efektif
		When experiencing problems with the QRIS, users have access to adequate technical support.	Saat mengalami masalah dengan QRIS, pengguna dapat mengakses dukungan teknis yang memadai.

		Users have access to clear information and guidance on how to use QRIS properly.	Pengguna memiliki akses terhadap informasi dan panduan yang jelas tentang cara menggunakan QRIS dengan benar.
7.	Habit	Users regularly use QRIS to conduct digital transactions in business activities.	Pengguna secara rutin menggunakan QRIS untuk melakukan transaksi digital dalam kegiatan usahanya.
		The use of QRIS has become an integral part of the users' daily business operations.	Penggunaan QRIS telah menjadi bagian tak terpisahkan dari operasional harian usaha pengguna.
		Users often use QRIS automatically without conscious thought, as it has become a habit.	Pengguna Often menggunakan QRIS secara otomatis tanpa berpikir panjang karena telah menjadi kebiasaan.
8.	Behavior Intention	Users intend to continue using QRIS as part of the payment method in business.	Pengguna berniat untuk terus menggunakan QRIS sebagai bagian dari metode pembayaran dalam usahanya.
		Users will continue to use QRIS as it aligns with their future business plans.	Pengguna akan terus menggunakan QRIS karena hal tersebut sesuai dengan rencana masa depannya.
		The use of QRIS reflects the user's personal commitment to digital-based business practices.	Penggunaan QRIS mencerminkan komitmen pribadi pengguna terhadap praktik usaha berbasis digital.

3.8 Data Analysis Methods

The data collection technique employed in this study involved the distribution of questionnaires directly to MSMEs in the Special Region of Yogyakarta. The collected data were then analyzed using a descriptive analysis approach to identify and describe the characteristics of both the research variables and the respondents. Then, hypothesis testing was carried out through quantitative analysis using the Structural Equation Model (SEM) with the Partial Least Squares (PLS) method as the measurement tool. The SEM-PLS analysis is carried out in two main stages:

1. Measurement Model Evaluation (Outer Model): This stages assesses whether the observed variables accurately represent the latent variables intended to be measured. In SEM, the measurement model is designed to determine the relationship between latent variables and their indicators. The model is used to evaluate the relevant data to determine validity and reliability of the constructs. The validity test aims to measure the accuracy of each indicator item in measuring the intended variable. According to Hair et al. (2022), the validity scale is divided into convergent and discriminant validity tests. Reliability tests are used to measure the consistency of a measuring instrument in capturing a particular concept. They also serve to evaluate the consistency of respondents' answers to items within the questionnaire or research instrument.

2. Structural Model Evaluation (Inner Model): The structural model aims to determine the effect of each latent variable. According to Hair et al. (2022), the R-squared value indicates the extent to which the independent variables can explain the dependent variables. A higher R-squared means a stronger model for the endogenous construct. The test is used to determine whether the relationship between the variables is statistically significant or not. This test can be done by comparing the t-statistic with the t-table value. If the t-statistic value is greater than 1.96 for a two-sided test at a significance of 0.05, it can be said to be significant, and the variable is accepted.

Chapter IV

Results and Discussion

4.1 Data Collection Results

This research aims to determine the factors that influence the interest of MSMEs in using the QRIS payment system. The online questionnaire was distributed via Google Forms, and targeted MSMEs in the Special Region of Yogyakarta who have used QRIS as a payment method. A total of 166 responses were collected. All responses were completed accurately by the participants and are therefore deemed suitable for further analysis.

4.2 Characteristics of Respondents

The characteristics of the respondents in this study are categorized based on age, gender, and their status as MSMEs who actively manage and operate business activities within the Special Region of Yogyakarta.

4.2.1 Characteristics of Respondents by Age

Based on the results of the distributed questionnaire, the data based on age are presented in the following table:

Table 4.1 Characteristics of Respondents by Age

Age	Total	Percentage (%)
0 < 20 years	29	17.5%
20 - 29 Years	81	48.8%
30 - 39 years	31	18.7%
≥ 40 years	25	15.1%
Total Respondent	166	100%

Source: Data processed (2025)

Based on Table 4.1, out of 166 respondents, there are 81 respondents aged 20-29 years with a percentage of 48.8% and 31 respondents aged 30 - 39 years. MSMEs actors aged 20-29 years are the majority of respondents in this research.

4.2.2 Characteristics of Respondents by Gender

Based on the results of the questionnaire that has been distributed, data based on gender can be seen in the following table:

Table 4.2 Characteristics of Respondents by Gender

Gender	Total	Percentage (%)
Male	97	58.4%
Female	69	41.6%

Source: Data processed (2025)

Table 4.2 presents the respondents grouped according to age. Out of 166 respondents, there are 97 male respondents with a percentage of 58.4% and 69 female respondents. Thus, the majority of respondents in this research are male.

4.2.3 Characteristics of Respondents by Business Operating Frequency

Based on the results of the distributed questionnaire, the data regarding the respondents' business operation frequency is presented in the following table:

Table 4.3 Characteristics of Respondents by Frequency

Frequency	Respondents	Percentage (%)
Never	0	0%
Rarely	45	27.1%
Often	51	30.7%
Very Often	70	42.2%
Total	139	100%

Source: Data processed (2025)

Based on Table 4.3, it can be concluded that out of 166 respondents, there are 70 respondents who frequently run a business, with a percentage of 42.2% and 45 respondents who rarely run a business.

4.2.4 Characteristics of Respondents by Location

In this research, all respondents who completed the questionnaire were in the Special Region of Yogyakarta.

4.3 Descriptive Statistics

The following are the descriptive statistics of the data in this study.

Table 4.4 Descriptive Statistics

Name	Mean	Median	Scale min	Scale max	Standard deviation
PE1	3.187	3.000	1.000	5.000	1.395
PE2	3.807	4.000	1.000	5.000	1.275
PE3	3.867	5.000	1.000	5.000	1.491
EE1	3.639	4.000	1.000	5.000	1.318
EE2	3.373	3.000	1.000	5.000	1.368
EE3	3.500	4.000	1.000	5.000	1.145
SI1	3.235	3.000	1.000	5.000	1.317
SI2	3.789	4.000	1.000	5.000	1.343
SI3	3.675	4.000	1.000	5.000	1.168
HM1	3.898	4.000	1.000	5.000	1.062
HM2	3.337	3.000	1.000	5.000	1.245
HM3	3.560	4.000	1.000	5.000	1.499
PV1	3.355	4.000	1.000	5.000	1.384
PV2	3.741	4.000	1.000	5.000	1.303
PV3	3.482	3.000	1.000	5.000	1.102
FC1	3.476	4.000	1.000	5.000	1.374
FC2	3.500	4.000	1.000	5.000	1.250
FC3	3.645	4.000	1.000	5.000	1.247
H1	3.410	4.000	1.000	5.000	1.294
H2	3.392	3.000	1.000	5.000	1.316
H3	3.494	4.000	1.000	5.000	1.392
BI1	3.693	4.000	1.000	5.000	1.144
BI2	3.825	4.000	1.000	5.000	1.182
BI3	3.229	3.000	1.000	5.000	1.383
UB1	3.663	4.000	1.000	5.000	1.122
UB2	3.777	4.000	1.000	5.000	1.219
UB3	3.253	4.000	1.000	5.000	1.430

Source: Data processed (2025)

Table 4.4 presents the descriptive analysis results for each research variable. The conclusions drawn from the table are as follows:

1. The construct Performance Expectancy comprises three indicators: PE1, PE2, and PE3. The mean values range from 3.867 to 3.167,

with a median value of 5.000. The standard deviation ranges from 1.275 to 1.491.

2. The construct Effort Expectancy consists of three indicators: EE1, EE2, and EE3. The mean values range from 3.373 to 3.639, with a median value of 4.000. The standard deviation ranges from 1.145 to 1.368.
3. The construct Social Influence consists of three indicators: SI1, SI2, and SI3. The mean values range from 3.235 to 3.789, with a median value of 4.000. The standard deviation ranges from 1.168 to 1.343.
4. The construct Hedonic Motivation comprises three indicators: HM1, HM2, and HM3. The mean values range from 3.337 to 3.898, with a median value of 4.000. The standard deviation ranges from 1.062 to 1.499.
5. The construct Price Value consists of three indicators: PV1, PV2, and PV3. The mean values range from 3.355 to 3.741, with a median value of 4.000. The standard deviation ranges from 1.102 to 1.384.
6. The construct Facilitating Conditions comprises three indicators: FC1, FC2, and FC3. The mean values range from 3.476 to 3.645, with a median of 4.000. The standard deviation ranges from 1.247 to 1.374.
7. The construct Habit consists of three indicators: H1, H2, and H3. The mean values range from 3.392 to 3.494, with a median value of 4.000. The standard deviation ranges from 1.294 to 1.392.

8. The construct Behavioral Intention comprises three indicators: BI1, BI2, and BI3. The mean values range from 3.229 to 3.825, with a median value of 4.000. The standard deviation ranges from 1.144 to 1.383.
9. The construct Use Behavior consists of three indicators: UB1, UB2, and UB3. The mean values range from 3.253 to 3.777, with a median value of 4.000. The standard deviation ranges from 1.122 to 1.430.

4.4 Measurement Model Evaluation (Outer Model)

The validity and reliability tests conducted in this research are important steps in evaluating the measurement model using the PLS-SEM approach. These tests aim to ensure that the indicators (questions/questionnaires) represent the latent constructs being measured. The validity and reliability measurements were carried out to confirm that the research instruments used are valid and reliable. This testing process was conducted using the SmartPLS version 4 software.

4.4.1 Convergent Validity

The convergent validity test is carried out to ensure that the indicators used in this study represent the latent constructs. According to Hair et al. (2022), convergent validity can be determined by observing outer loading and Average Variance Extracted (AVE).

Table 4.5 presents the measurement of convergent validity based on the value of outer loadings. The results of the analysis are shown in the table.

Table 4.5 Item Loadings and AVE

Variable	Variables	Outer loadings	AVE
Performance Expectancy	PE1	0.793	0.650
	PE2	0.802	
	PE3	0.823	
Effort Expectancy	EE1	0.841	0.645
	EE2	0.705	
	EE3	0.855	
Social Influence	SI1	0.839	0.639
	SI2	0.740	
	SI3	0.816	
Hedonic Motivation	HM1	0.785	0.675
	HM2	0.869	
	HM3	0.808	
Price Value	PV1	0.828	0.611
	PV2	0.778	
	PV3	0.735	
Facilitating Condition	FC1	0.881	0.667
	FC2	0.722	
	FC3	0.839	
Habit	H1	0.848	0.676
	H2	0.808	
	H3	0.810	
Behavioral Intention	BI1	0.768	0.673
	BI2	0.855	
	BI3	0.836	
Use Behavior	UB1	0.796	0.701
	UB2	0.891	
	UB3	0.822	

Source: Data processed (2025)

In Table 4.5, it is obtained that the value of each variable is more than 0.6, so that when viewed from the outer loading, the results of this study are said to be valid. In Table 4.5, the AVE value of each variable is above 0.50, thus, it can be said that the data is

valid. Based on the outer loading and AVE values, it can be concluded that all constructs in this model meet the convergent validity criteria. All indicators are declared valid and can be used for further analysis.

4.4.2 Reliability Test

According to Hair et al. (2022), reliability refers to the extent to which a construct or indicator can produce stable and consistent results when it is repeatedly measured. Cronbach's Alpha value above 0.7 indicates a good level of internal consistency, and when the Cronbach's Alpha value is between 0.6 and 0.70, it is still acceptable. The results of the reliability test are presented in the table below:

Table 4.6 Reliability Test

Variable	Cronbach's alpha	Dijkstra– Henseler's (rho_a)	Composite reliability (rho_c)
Performance Expectancy	0.733	0.740	0.848
Effort Expectancy	0.720	0.732	0.844
Social Influence	0.715	0.719	0.841
Hedonic Motivation	0.761	0.780	0.861
Price Value	0.682	0.694	0.824
Facilitating Condition	0.747	0.762	0.857
Habit	0.761	0.763	0.862
Behavioral Intention	0.756	0.764	0.860
Use Behavior	0.785	0.790	0.875

Source: Data processed (2025)

Table 4.6 shows that the test results for Composite Reliability and Cronbach's Alpha are greater than 0.70. The Price Value shows a Cronbach's Alpha value of 0.682 and Rho_a value of 0.694 below 0.70. However, the Composite Reliability value is 0.824. Rho_A is a reliability coefficient developed by Dijkstra and Henseler to assess the internal consistency of measurement to provide a more accurate estimate than Cronbach's Alpha. Table 4.6 in the convergent validity test, the AVE value price value construct is 0.611, indicating that this construct still meets the criteria for reliability and convergent validity. All indicators of the price value construct show outer loading values above 0.70, indicating that the construct meets the reliability criteria. Therefore, all indicators are declared valid and can be used for further analysis.

4.5 Structural Model Evaluation (Inner Model)

4.5.1 Multicollinearity Test

Multicollinearity Test (Variance Inflation Factor - VIF) values should be below 5 to indicate no multicollinearity issues among predictor constructs. The results of the multicollinearity test are shown in Table 4.7.

Table 4.7 Multicollinearity Test

Variables		VIF
Behavioral Intention	BI1	1.367
	BI2	1.668
	BI3	1.684
Effort Expectancy	EE1	1.650
	EE2	1.230
	EE3	1.747
Facilitating Conditions	FC1	1.913
	FC2	1.279
	FC3	1.776
Habit	H1	1.830
	H2	1.594
	H3	1.421
Hedonic Motivation	HM1	1.565
	HM2	1.681
	HM3	1.443
Performance Expectancy	PE1	1.553
	PE2	1.358
	PE3	1.489
Price Value	PV1	1.400
	PV2	1.293
	PV3	1.313
Social Influence	SI1	1.594
	SI2	1.267
	SI3	1.512
Use Behavior	UB1	1.523
	UB2	2.060
	UB3	1.691

Source: Data processed (2025)

Multicollinearity is considered problematic if the VIF exceeds 5.0, and more severe if above 10. The results show that all construct VIF values are below 2.1, indicating no multicollinearity concerns in the model. This confirms that each construct is sufficiently distinct and independent from others.

4.5.2 R-Square

The Coefficient of Determination assesses the dependent constructs' explanatory power. According to Hair et al. (2022), R^2 or R Square values are categorized as substantial ≥ 0.75 , moderate ≥ 0.50 , or weak ≥ 0.25 . The results of the Coefficient of Determination test are presented in Table 4.8 below:

Table 4.8 R-squared Test

Variable		R-square
Behavioral Intention	BI	0.828
Use Behavior	UB	0.686

Source: Data processed (2025)

From the above table, it can be concluded that the R Square for the behavioral intention constructs is 0.828 or 82.8%. If the R^2 value is ≤ 0.25 , the relationship between the independent and dependent variables is said to be weak. An R^2 value ranging from 0.26 to 0.74 indicates a moderate relationship. Meanwhile, if the R^2 value is ≥ 0.75 , the relationship is considered substantial or strong. The results indicate that behavioral intention construct demonstrates a substantial R^2 value, while the use behavior construct shows a moderate R^2 value of 0.686 or 68%.

4.5.3 Q-Square

The Q^2 value, or Stone-Geisser Q^2 is a measure of the predictive relevance of the model. A Q^2 value greater than zero ($Q^2 > 0$) indicates that the model has predictive relevance.

Table 4.9 Q-square Test

Variable		Q^2 Predict
Behavioral Intention	BI	0.795
Use Behavior	UB	0.686

Source: Data Processed (2025)

Based on the analysis results, Q^2 is 0.795, indicating that the model has strong and significant predictive relevance. This means that the model is capable of accurately predicting observations on endogenous constructs.

4.5.4 Hypothesis Test

Hypothesis testing in this study uses a significance level of 5% ($\alpha = 0.05$). Based on the results presented in Table 4.10 on the eight hypotheses proposed, five of them are statistically significant. The analysis results show that Performance Expectancy (PE), Hedonic Motivation (HM), and Price Value (PV) have a significant effect on Behavioral Intention (BI), while Facilitating Conditions (FC) and Behavioral Intention (BI) have a significant effect on Use Behavior (UB). This is evidenced by a T-statistic value greater than 1.96 and a P-value below 0.05. These findings suggest that the higher the users' performance expectations, enjoyment of use, and perceived price value, the

stronger their intention to use the QRIS. In addition, adequate facilitating conditions and strong behavioral intentions will increase actual usage behavior. Effort Expectancy (EE), Social Influence (SI), and Habit (H) in Table 4.10 do not show a significant effect since their T-statistic values are below 1.96 and their P-values are greater than 0.05. Therefore, hypotheses H2, H3, and H7 are not supported.

Table 4.10 Hypothesis Test

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Detail
PE -> BI	0.222	0.209	0.083	2.667	0.008	H1 Supported
EE -> BI	0.084	0.090	0.128	0.659	0.510	H2 Not Supported
SI -> BI	0.031	0.026	0.101	0.310	0.757	H3 Not Supported
HM -> BI	0.347	0.346	0.110	3.163	0.002	H4 Supported
PV -> BI	0.307	0.318	0.095	3.216	0.001	H5 Supported
FC -> UB	0.346	0.344	0.131	2.640	0.008	H6 Supported
H -> UB	0.079	0.086	0.088	0.898	0.369	H7 Not Supported
BI -> UB	0.448	0.446	0.108	4.125	0.000	H8 Supported

Source: Data Processed (2025)

4.6 Discussion

4.6.1 The Effect of Performance Expectancy on MSMEs' Interest in Using QRIS

The results show that performance expectancy has a positive and significant effect on behavioral intention, with a T-statistic of 2,667 and a P-value of 0.008. The results indicate that performance expectancy has a significant positive effect on behavioral intention to use QRIS. In this case, MSMEs believe that QRIS can help their transaction activities. This supports H1 and the UTAUT2 theory, which explains that people are more willing to use technology when they believe that the technology can improve their performance. This finding is also consistent with Pangestu and Pasaribu (2022) and Wardani and Masdiantini (2022), who found that performance expectancy significantly affects the intention to use QRIS. When technology is perceived as genuinely helpful, MSMEs are generally more inclined to adopt it in their daily business operations. In this context, MSMEs that perceive QRIS as a tool that simplifies and accelerates their business processes tend to demonstrate a higher motivation to utilize it.

4.6.2 The Effect of Effort Expectancy on MSMEs' Interest in Using QRIS

The results show that effort expectancy has no effect on behavioral intention to use QRIS, with a T-statistic of 0.659 and a P-value of 0.510. This means that even though QRIS is easy to use, it does not make MSMEs actors to more interested in using it. This finding does not support H2 and is also not in line with the UTAUT2 theory, which states that people will be more likely to use technology if they find it easy and does not require much effort. Previous studies, such as those conducted by Sa'adah (2023), Pangestu and Pasaribu (2022), and Wibowo and Rimadiaz (2022), found that ease of use is an important reason for MSMEs to use QRIS. However, in this study, it seems that MSMEs may already be accustomed to using digital tools, and therefore do not perceive ease of use as a significant concern. Instead, other factors - such as the perceived usefulness of the system and its adoption by customers, may play a critical role in influencing their decision to use it. This result may also be influenced by the background of the respondents in urban and rural areas. Differences in access and experience with such tools could lead to different views on how easy QRIS is to use with main focus might be on keeping their businesses running and meeting customer needs, rather than on how much effort is needed to use a digital payment system.

4.6.3 The Effect of Social Influence on MSMEs Interest in Using QRIS

The results show that social influence has no effect on behavioral intention, with a T-statistic value of 0.310 and a P-value of 0.757. This means that encouragement or opinions from people around MSMEs, such as family, friends, or colleagues, do not really affect their interest in using QRIS. This finding does not support H3 and contradicts the UTAUT2 theory, which posits that social influence plays a role in shaping an individual's intention to adopt technology. This result is consistent with the research of Sa'adah (2023) and Pangestu and Pasaribu (2022) who found social influence does not significantly affect the adoption of QRIS among MSMEs. On the other hand, it contradicts the findings by Paat et al. (2022) and Sudiatmika and Martini (2022), who reported a positive impact of social influence. This difference may be due to variations in the extent to which MSMEs rely on their social environment when making decisions regarding digital tool adoption.

In this study, it is possible that most MSMEs exhibited greater independence in their decision-making and were less influenced by others' opinions, especially if they already had a level of digital awareness or confidence in using technology. This may also be related to the characteristics of the respondents from both urban and rural areas. In urban areas, MSMEs may have more exposure to

digital payment system and digital tools, while in rural areas limited social networks or slower adoption rates may reduce the impact of social influence. MSMEs may be more focused on practical needs and personal judgment rather than relying on suggestions from others. Age may also be a contributing factor. Respondent aged 30–39 and above may be less engaged in online communities or digital trends, making them less likely to be influenced by others in their decision to use QRIS.

4.6.4 The Effect of Hedonic Motivation on MSMEs' Interest in Using QRIS.

The results show that hedonic motivation has a positive and significant effect on behavioral intention, with a T-statistic of 3.163 and a P-value of 0.002. This means that MSMEs are more likely to use QRIS as they perceive the experience of using QRIS is enjoyable and satisfying. This supports hypothesis H4, which states that hedonic motivation has a positive effect on the intention to use QRIS. According to the UTAUT2 model, hedonic motivation refers to the pleasure, or enjoyment, individuals experience when using technology. If using QRIS is perceived as enjoyable or engaging, especially among younger or more tech-savvy business owners, it can serve as a strong motivator for continued usage. This finding is also in line with previous research by Wardani and Masdiantini

(2022), which shows that a positive user experience encourages the continued use of digital payment systems such as QRIS. Overall, these results confirm that emotional enjoyment is a significant factor influencing technology adoption among MSMEs.

4.6.5 The Effect of Price Value on MSMEs' Interest in Using QRIS

The results show that price value has a significant and positive effect on behavioral intention, with a T-statistic of 3.216 and a P-value of 0.002. This means that MSMEs are more likely to use QRIS when they feel that the benefits they receive are comparable to the costs incurred. This finding supports H5 and is in line with the UTAUT2 theory, which explains that price value reflects the trade-off between the cost of using a technology and the benefits provided. When MSMEs feel that using QRIS is cost-effective, such as offering lower transaction fees or helping them manage payments more efficiently, they are more interested in adopting it. These results are supported by Wardani and Masdiantini (2022) and Sa'adah (2023), who found that positive cost-benefit perceptions significantly influence the intention to use QRIS. When MSMEs perceive that they are receiving good value for their money, they are more likely to continue using the system.

4.6.6 The Effect of Facilitating Conditions on MSMEs' Interest in Using QRIS

The results show that facilitating conditions have a significant and positive effect on use behavior, with a T-statistic of 2.640 and a P-value of 0.008. This supports H6 and is in line with the UTAUT2 theory, which states that the presence of adequate support, such as infrastructure, training, and technical assistance can directly affect how individuals use a technology. When MSMEs perceive that the necessary tools and assistance are available, they are more likely to actively use QRIS in their business operations. This finding is also supported by Ridwan et al. (2022), who found that a strong support system plays a key role in encouraging MSMEs to adopt QRIS in Bandar Lampung. However, it is important to note that other studies, such as Wibowo and Rimadiaz (2022), did not find a significant influence of facilitating conditions on QRIS usage behavior, which suggests that the impact of support systems may vary based on local context, user familiarity, or the specific platform used. These mixed findings highlight the importance of ensuring that MSMEs not only have access to QRIS infrastructure but also receive proper guidance and support to make the most of it.

4.6.7 The Effect of Habit on MSMEs' Interest in Using QRIS

The results show that habit does not have an effect on use behavior, with a T-statistic of 0.898 and a P-value of 0.369. This finding does not support H7 and contradicts the UTAUT2 theory, which states that habits formed through repeated use can greatly influence actual use behavior. This finding contrasts with Maulida (2022), who found that MSMEs that frequently and consistently use QRIS tend to continue using it automatically as part of their daily business activities. One possible reason for this discrepancy is that QRIS is still relatively new to MSMEs actors in this study, hence, the habit of using it may not have been fully formed. Without sufficient time and repeated exposure, users may still rely more on external factors, such as promotions or customer requests, rather than the habit itself. This suggests that while the habit construct is theoretically relevant, its practical influence may take longer to emerge as MSMEs gradually become more familiar and comfortable using QRIS. Furthermore, this result may also be influenced by the respondents' characteristics. Those from rural areas may face limited digital access, slowing down habit formation with QRIS, while in urban areas, greater exposure does not always lead to consistent QRIS use. Most respondents were micro and small business owners, whose daily operations may not yet rely on QRIS as part of their routine. Age could also be a factor, respondent age 30–39 and over

40, possibly making them less engaged with digital tools like QRIS compared to younger users.

4.6.8 The Effect of Behavioral Intention on Use Behavior in Using QRIS

The results show that behavioral intention has a positive and significant effect on use behavior, with a T-statistic of 4.125 and a P-value of 0.000. This finding supports H8 and aligns with the UTAUT2 theory, which emphasizes that an individual's intention to use a technology serves as a strong predictor of their actual usage behavior. It also corroborates Wibowo and Rimadiah (2022) and Sa'adah (2023), who confirmed that MSMEs with a strong interest or intention to use QRIS are more likely to adopt it in their daily business operations. In other words, when MSMEs are already convinced and motivated to use QRIS, this intention naturally translates into real usage, showing that internal motivation plays a crucial role in the success of QRIS implementation.

Chapter V

Conclusion

5.1 Conclusion

The findings of this study indicate that performance expectancy, hedonic motivation, price value, facilitating conditions, and behavioral intention have a positive and significant influence on either behavioral intention or use behavior. The findings also show that effort expectancy, social influence, and habit do not influence either behavioral intention or use behavior.

5.2 Implications

This study contributes to the existing literature on digital payment adoption by validating the UTAUT 2 model in the context of QRIS usage among MSMEs in Indonesia, especially in the Special Region of Yogyakarta. It identifies key factors influencing intention and usage behavior, thereby serving as a valuable reference for future research.

For MSMEs, the findings highlight the benefits and barriers of using QRIS. For policymakers, the results offer input for strategies to promote QRIS adoption. For service providers, it provides insights into MSMEs' needs to improve service design and support.

5.3 Limitations

This study is limited to MSMEs in the Special Region of Yogyakarta, which may restrict the generalizability of the findings to other

regions in Indonesia. Additionally, the data collection was conducted over a short period, limiting the ability to assess changes in user behavior, perceptions, or adoption patterns over time. Differences in infrastructure and adoption readiness among MSMEs from urban and rural areas, due to varying levels of digital access and technology exposure influenced the results. Furthermore, QRIS adoption is still relatively new, further research could explore behavioral changes longitudinally.

5.4 Suggestions

Based on the research findings, it is expected that the UTAUT 2 model can be further explored in future studies. Given that not all of the eight variables in this study showed a positive and significant influence on the intention of MSMEs to use QRIS as a payment system, further studies are encouraged to expand the respondent base to obtain more comprehensive and representative results.

MSMEs that have adopted the QRIS payment system are expected to continue to maintain and maximize the use of QRIS as a means of payment for more effective and efficient business management. It is suggested that QRIS providers pay particular attention to effort expectancy, social influence, and habit, as key considerations in evaluating and improving their payment system services.

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Appendices

Appendix 1 Questionnaire

Assalamu'alaikum Warahmatullahi Wabarakatuh.

Dear Sir/Madam,

My name is Muhammad Reza Alexander, a student of the Accounting Study Program - International Undergraduate Program, Faculty of Business and Economics, Universitas Islam Indonesia. Currently, I am conducting my Final Project with the title “Analysis of the Impact of Using QRIS Digital Payments on MSMEs: A Study with the UTAUT2 Model.”

In this regard, I ask for your willingness to take a moment to fill out this questionnaire please. There are no right or wrong answers in this questionnaire. Therefore, I kindly ask you to answer each question based on your actual situation or experience. This questionnaire is made for the purpose of completing the Final Project only and all data provided by respondents will be kept confidential and used only for academic purposes.

Thank you very much for your attention and participation.

Wassalamu'alaikum Warahmatullahi Wabarakatuh.

Demographic Information

Name: _____

Age:

- ☐ < 20 Year
- ☐ 20 - 29 Year
- ☐ 30 - 39 Year
- ☐ $\geq$ 40 Year

Gender:

- ☐ Male
- ☐ Female

I am currently an MSME entrepreneur who runs a business with the following frequency:

- ☐ Never
- ☐ Rarely
- ☐ Often
- ☐ Very often

Located and operating in the Special Region of Yogyakarta:

- ☐ Yes
- ☐ No

Do you use QRIS?

- ☐ Yes
- ☐ No

Mobile number for e-wallet incentive (*Optional): _____

Please answer the following questions by selecting one of the provided responses, with the scale defined as follows:

Scale description:

1 = Strongly Disagree (SD)

2 = Disagree (D)

3 = Neutral (N)

4 = Agree (A)

5 = Strongly Agree (SA)

Questionnaire Items

○ Performance Expectancy

Statements	SD	D	N	A	SA
I believe using QRIS improves the efficiency of business transactions.					
QRIS helps speed up my business transaction process.					
QRIS is beneficial in supporting my business operational activities.					

○ Effort Expectancy

Statements	SD	D	N	A	SA
I feel that learning how to use QRIS is easy.					
QRIS is easy for me to use, even the first time I tried it.					
I am able to operate QRIS with minimal assistance from others.					

○ Social Influence

Statements	SD	D	N	A	SA
People who are important to me (like family or colleagues) encourage me to use QRIS.					
The widespread use of QRIS among MSME actors around me influences my intention to use it.					
My customers prefer digital payments like QRIS, so that motivates me to use it.					

○ Hedonic Motivation

Statements	SD	D	N	A	SA
I enjoy using QRIS in my business transactions.					
Using QRIS provides an enjoyable and satisfying experience for me in running my business.					
I view the use of QRIS as an enjoyable activity that contributes to my business operations.					

○ Price Value

Statements	SD	D	N	A	SA
The benefits I receive from using QRIS are worth with the time and effort I invest.					
QRIS helps me reduce the operational costs of business transactions.					
QRIS offers substantial added value to my business.					

○ Facilitating Conditions

Statements	SD	D	N	A	SA
I have the required resources (such as a smartphone and internet connection) to use QRIS effectively.					
If I have any problems with QRIS, I can get adequate technical assistance.					
I have access to clear information and guidance on how to use QRIS.					

○ Habit

Statements	SD	D	N	A	SA
I regularly use QRIS for digital transactions in my business activities.					
The use of QRIS has become an integral part of my daily business operations.					
I often use QRIS automatically without thinking because it has become a habit.					

○ Behavioral Intention

Statements	SD	D	N	A	SA
I intend to continue using QRIS as a payment method in my business.					
I will continue to use QRIS because it is in line with my future business plans.					

Using QRIS reflects my personal commitment to digital business practices.					
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○ Use Behavior

Statements	SD	D	N	A	SA
I signed up for the QRIS feature as a payment option.					
I use QRIS as a payment method.					
I can monitor payment transaction activities through QRIS.					

Closing Statement

Thank you for taking the time to complete this questionnaire. Your participation is greatly appreciated and essential to the success of this research. Three lucky respondents will receive a balance of IDR 50,000. Please make sure that the phone number you provide is active and correct.

Appendix 2 Feedback from Pilot Study

No.	Feedback from Pilot Study Respondents
1.	There are typos in some of the words and sentences.
2.	Some sentences feel a bit too formal for MSME practitioners.
3.	Some statements are too long, making them confusing.
4.	The font size is just too small.

Appendices 3 Data Tabulation

Participant No	PE1	PE2	PE3	EE1	EE2	EE3	SI1	SI2	SI3	HM1	HM2	HM3
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1	5	1	1	5	2	5	5	5
5	3	3	3	3	2	2	2	2
4	4	4	5	4	5	5	5	5

4	4	5	5	4	4	5	5	5
5	5	3	4	5	5	5	5	5
5	1	3	3	5	5	4	4	3
4	4	3	5	3	5	3	3	3
5	4	4	5	4	5	4	5	4
5	5	4	5	4	5	5	5	5
4	5	4	5	5	5	5	5	5
5	4	3	3	5	5	5	5	5
5	4	4	5	3	5	2	2	2
1	4	4	4	5	5	4	4	4
5	5	5	4	5	5	4	5	4
4	4	4	5	4	5	4	5	4
4	4	5	5	5	5	4	4	5
5	4	4	5	5	5	1	1	1
5	4	5	4	4	5	1	1	1
5	3	3	1	4	1	1	1	1
1	1	1	1	5	2	1	1	1
4	4	4	5	4	5	4	5	4
4	4	4	5	4	5	1	1	1

BI1	BI2	BI3	UB1	UB2	UB3
5	5	4	5	4	5
5	5	4	5	5	5
3	5	4	5	5	5
4	4	4	5	5	5
5	5	5	4	4	5
4	5	3	4	5	5
3	2	1	3	2	2
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5	4	3	5	4	3
3	5	4	5	3	4
5	4	5	4	4	5
4	5	3	4	5	5
3	2	1	3	2	2
1	3	2	2	2	1

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4	5	3	4	5	4
3	2	1	3	2	1
5	4	3	5	4	3
3	5	4	5	3	4
4	3	5	4	5	3
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3	5	4	4	4	1
5	5	4	4	3	1
5	5	5	5	5	5

Appendices 4 Characteristic Respondents

Participant No.	Age (Years)	Gender	Frequency Running Business	Location	Use QRIS
1	20 - 29	Male	Very often	DIY	Yes
2	20 - 29	Female	Very often	DIY	Yes
3	20 - 29	Male	Very often	DIY	Yes
4	30 - 39	Male	Often	DIY	Yes
5	30 - 39	Female	Often	DIY	Yes
6	20 - 29	Female	Often	DIY	Yes
7	30 - 39	Female	Rarely	DIY	Yes
8	≥ 40	Female	Rarely	DIY	Yes
9	$0 < 20$	Female	Often	DIY	Yes
10	$0 < 20$	Female	Very often	DIY	Yes
11	20 - 29	Female	Rarely	DIY	Yes
12	30 - 39	Female	Often	DIY	Yes
13	$0 < 20$	Male	Very often	DIY	Yes
14	20 - 29	Female	Very often	DIY	Yes
15	20 - 29	Female	Often	DIY	Yes
16	$0 < 20$	Female	Rarely	DIY	Yes
17	20 - 29	Female	Rarely	DIY	Yes
18	≥ 40	Female	Often	DIY	Yes
19	20 - 29	Female	Very often	DIY	Yes
20	30 - 39	Female	Rarely	DIY	Yes
21	$0 < 20$	Male	Often	DIY	Yes
22	$0 < 20$	Male	Very often	DIY	Yes
23	20 - 29	Female	Often	DIY	Yes
24	≥ 40	Female	Often	DIY	Yes
25	20 - 29	Female	Rarely	DIY	Yes
26	30 - 39	Female	Rarely	DIY	Yes
27	$0 < 20$	Female	Often	DIY	Yes
28	20 - 29	Male	Very often	DIY	Yes
29	$0 < 20$	Female	Rarely	DIY	Yes
30	20 - 29	Female	Often	DIY	Yes
31	≥ 40	Male	Very often	DIY	Yes
32	20 - 29	Female	Often	DIY	Yes
33	20 - 29	Female	Rarely	DIY	Yes
34	≥ 40	Female	Often	DIY	Yes
35	30 - 39	Male	Rarely	DIY	Yes
36	$0 < 20$	Female	Often	DIY	Yes
37	≥ 40	Female	Rarely	DIY	Yes
38	20 - 29	Female	Often	DIY	Yes

39	20 - 29	Female	Very often	DIY	Yes
40	≥ 40	Female	Rarely	DIY	Yes
41	$0 < 20$	Male	Often	DIY	Yes
42	20 - 29	Female	Very often	DIY	Yes
43	≥ 40	Female	Often	DIY	Yes
44	20 - 29	Female	Rarely	DIY	Yes
45	30 - 39	Female	Often	DIY	Yes
46	≥ 40	Male	Often	DIY	Yes
47	$0 < 20$	Female	Rarely	DIY	Yes
48	20 - 29	Female	Rarely	DIY	Yes
49	30 - 39	Male	Often	DIY	Yes
50	20 - 29	Male	Very often	DIY	Yes
51	20 - 29	Female	Rarely	DIY	Yes
52	$0 < 20$	Female	Often	DIY	Yes
53	20 - 29	Female	Very often	DIY	Yes
54	$0 < 20$	Male	Often	DIY	Yes
55	20 - 29	Female	Rarely	DIY	Yes
56	20 - 29	Male	Often	DIY	Yes
57	≥ 40	Female	Rarely	DIY	Yes
58	20 - 29	Female	Rarely	DIY	Yes
59	20 - 29	Male	Often	DIY	Yes
60	$0 < 20$	Female	Very often	DIY	Yes
61	$0 < 20$	Female	Rarely	DIY	Yes
62	20 - 29	Male	Often	DIY	Yes
63	$0 < 20$	Female	Very often	DIY	Yes
64	≥ 40	Female	Very often	DIY	Yes
65	20 - 29	Female	Often	DIY	Yes
66	20 - 29	Female	Rarely	DIY	Yes
67	≥ 40	Female	Rarely	DIY	Yes
68	$0 < 20$	Male	Often	DIY	Yes
69	20 - 29	Female	Very often	DIY	Yes
70	≥ 40	Female	Rarely	DIY	Yes
71	20 - 29	Female	Often	DIY	Yes
72	30 - 39	Female	Very often	DIY	Yes
73	≥ 40	Female	Often	DIY	Yes
74	$0 < 20$	Male	Rarely	DIY	Yes
75	20 - 29	Male	Often	DIY	Yes
76	$0 < 20$	Male	Often	DIY	Yes
77	20 - 29	Male	Rarely	DIY	Yes
78	≥ 40	Male	Rarely	DIY	Yes
79	20 - 29	Male	Often	DIY	Yes
80	20 - 29	Male	Very often	DIY	Yes
81	$0 < 20$	Female	Rarely	DIY	Yes
82	20 - 29	Male	Often	DIY	Yes
83	$0 < 20$	Male	Very often	DIY	Yes
84	20 - 29	Male	Often	DIY	Yes
85	$0 < 20$	Male	Rarely	DIY	Yes
86	20 - 29	Female	Often	DIY	Yes

87	≥ 40	Female	Often	DIY	Yes
88	20 - 29	Male	Rarely	DIY	Yes
89	30 - 39	Male	Rarely	DIY	Yes
90	≥ 40	Male	Often	DIY	Yes
91	$0 < 20$	Male	Very often	DIY	Yes
92	20 - 29	Male	Rarely	DIY	Yes
93	≥ 40	Male	Often	DIY	Yes
94	20 - 29	Male	Very often	DIY	Yes
95	30 - 39	Male	Often	DIY	Yes
96	≥ 40	Male	Rarely	DIY	Yes
97	$0 < 20$	Female	Often	DIY	Yes
98	20 - 29	Male	Rarely	DIY	Yes
99	≥ 40	Male	Often	DIY	Yes
100	20 - 29	Male	Rarely	DIY	Yes
101	20 - 29	Male	Rarely	DIY	Yes
102	$0 < 20$	Male	Often	DIY	Yes
103	≥ 40	Female	Very often	DIY	Yes
104	20 - 29	Female	Rarely	DIY	Yes
105	$0 < 20$	Female	Often	DIY	Yes
106	20 - 29	Male	Very often	DIY	Yes
107	20 - 29	Male	Very often	DIY	Yes
108	20 - 29	Male	Very often	DIY	Yes
109	20 - 29	Female	Very often	DIY	Yes
110	20 - 29	Male	Very often	DIY	Yes
111	20 - 29	Male	Very often	DIY	Yes
112	30 - 39	Male	Very often	DIY	Yes
113	20 - 29	Male	Very often	DIY	Yes
114	20 - 29	Male	Very often	DIY	Yes
115	$0 < 20$	Female	Very often	DIY	Yes
116	≥ 40	Male	Rarely	DIY	Yes
117	30 - 39	Male	Very often	DIY	Yes
118	20 - 29	Male	Very often	DIY	Yes
119	20 - 29	Female	Very often	DIY	Yes
120	≥ 40	Male	Very often	DIY	Yes
121	30 - 39	Male	Very often	DIY	Yes
122	20 - 29	Male	Very often	DIY	Yes
123	30 - 39	Male	Very often	DIY	Yes
124	20 - 29	Male	Very often	DIY	Yes
125	20 - 29	Male	Very often	DIY	Yes
126	20 - 29	Male	Very often	DIY	Yes
127	$0 < 20$	Male	Very often	DIY	Yes
128	20 - 29	Male	Very often	DIY	Yes
129	20 - 29	Male	Very often	DIY	Yes
130	20 - 29	Male	Very often	DIY	Yes
131	30 - 39	Male	Very often	DIY	Yes
132	30 - 39	Male	Very often	DIY	Yes
133	30 - 39	Male	Very often	DIY	Yes
134	$0 < 20$	Male	Very often	DIY	Yes

135	30 - 39	Male	Very often	DIY	Yes
136	20 - 29	Male	Very often	DIY	Yes
137	30 - 39	Male	Very often	DIY	Yes
138	20 - 29	Male	Very often	DIY	Yes
139	20 - 29	Male	Very often	DIY	Yes
140	30 - 39	Male	Often	DIY	Yes
141	20 - 29	Male	Often	DIY	Yes
142	30 - 39	Male	Very often	DIY	Yes
143	30 - 39	Male	Often	DIY	Yes
144	20 - 29	Female	Very often	DIY	Yes
145	20 - 29	Male	Very often	DIY	Yes
146	20 - 29	Male	Very often	DIY	Yes
147	20 - 29	Male	Very often	DIY	Yes
148	30 - 39	Male	Often	DIY	Yes
149	30 - 39	Male	Very often	DIY	Yes
150	20 - 29	Female	Very often	DIY	Yes
151	20 - 29	Male	Very often	DIY	Yes
152	≥ 40	Female	Rarely	DIY	Yes
153	30 - 39	Male	Often	DIY	Yes
154	20 - 29	Male	Very often	DIY	Yes
155	20 - 29	Male	Very often	DIY	Yes
156	20 - 29	Male	Very often	DIY	Yes
157	20 - 29	Male	Rarely	DIY	Yes
158	20 - 29	Male	Often	DIY	Yes
159	20 - 29	Male	Very often	DIY	Yes
160	≥ 40	Male	Rarely	DIY	Yes
161	20 - 29	Male	Rarely	DIY	Yes
162	30 - 39	Female	Often	DIY	Yes
163	30 - 39	Male	Rarely	DIY	Yes
164	30 - 39	Male	Rarely	DIY	Yes
165	30 - 39	Male	Rarely	DIY	Yes
166	20 - 29	Male	Very often	DIY	Yes

Appendices 5 Data Output SmartPLS 4

Mean Variable

SmartPLS 4

SmartPLS Edit Themes

Back Setup Add group Generate groups Clear groups Export to Excel / CSV

ANALISIS

Indicators 27
Samples 166
Missing values 0

● Indicators
○ Correlations
○ Data groups
○ Raw data

Indicators

No.	No.	Type	Mean	Median	Scale min	Scale max	Observed min	Observed max	Standard deviation	Excess kurtosis	Skewness	Cramer-von Mises p value
PE1	1	MET	0.3187	3.000	1.000	5.000	1.000	5.000	1.395	-1.256	-0.244	0.000
PE2	2	MET	0.3807	4.000	1.000	5.000	1.000	5.000	1.275	-0.206	-0.885	0.000
PE3	3	MET	0.3867	5.000	1.000	5.000	1.000	5.000	1.491	-0.551	-0.981	0.000
EE1	4	MET	0.3639	4.000	1.000	5.000	1.000	5.000	1.318	-0.887	-0.551	0.000
EE2	5	MET	0.3773	3.000	1.000	5.000	1.000	5.000	1.368	-0.975	-0.401	0.000
EE3	6	MET	0.3500	4.000	1.000	5.000	1.000	5.000	1.145	-0.385	-0.956	0.000
SI1	7	MET	0.3235	3.000	1.000	5.000	1.000	5.000	1.317	-0.970	-0.250	0.000
SI2	8	MET	0.3789	4.000	1.000	5.000	1.000	5.000	1.343	-0.497	-0.857	0.000
SI3	9	MET	0.3675	4.000	1.000	5.000	1.000	5.000	1.168	-0.675	-0.554	0.000
HM1	10	MET	0.3898	4.000	1.000	5.000	1.000	5.000	1.062	-0.571	-0.646	0.000
HM2	11	MET	0.3337	3.000	1.000	5.000	1.000	5.000	1.245	-0.911	-0.248	0.000
HM3	12	MET	0.3560	4.000	1.000	5.000	1.000	5.000	1.499	-0.980	-0.548	0.000
PV1	13	MET	0.3355	4.000	1.000	5.000	1.000	5.000	1.384	-1.024	-0.467	0.000
PV2	14	MET	0.3741	4.000	1.000	5.000	1.000	5.000	1.303	-0.280	-0.844	0.000
PV3	15	MET	0.3482	3.000	1.000	5.000	1.000	5.000	1.102	-0.832	-0.172	0.000
FC1	16	MET	0.3476	4.000	1.000	5.000	1.000	5.000	1.374	-1.090	-0.413	0.000
FC2	17	MET	0.3500	4.000	1.000	5.000	1.000	5.000	1.220	-0.973	-0.308	0.000
FC3	18	MET	0.3443	4.000	1.000	5.000	1.000	5.000	1.247	-0.596	-0.835	0.000
H1	19	MET	0.3410	4.000	1.000	5.000	1.000	5.000	1.294	-0.962	-0.413	0.000
H2	20	MET	0.3392	3.000	1.000	5.000	1.000	5.000	1.316	-1.085	-0.258	0.000
H3	21	MET	0.3494	4.000	1.000	5.000	1.000	5.000	1.392	-1.132	-0.434	0.000
BI1	22	MET	0.3693	4.000	1.000	5.000	1.000	5.000	1.144	0.039	-0.787	0.000
BI2	23	MET	0.3825	4.000	1.000	5.000	1.000	5.000	1.182	-0.365	-0.844	0.000
BI3	24	MET	0.3229	3.000	1.000	5.000	1.000	5.000	1.383	-1.067	-0.322	0.000
UB1	25	MET	0.3663	4.000	1.000	5.000	1.000	5.000	1.122	-0.654	-0.413	0.000
UB2	26	MET	0.3777	4.000	1.000	5.000	1.000	5.000	1.219	-1.103	-0.551	0.000
UB3	27	MET	0.3253	4.000	1.000	5.000	1.000	5.000	1.430	-1.154	-0.404	0.000

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Reset 57%

Outer Loading Result

SmartPLS 4

SmartPLS Export Themes

Edit Save Excel HTML Create data file Compare

PLS-SEM algorithm

▼ Graphical
Graphical output

▼ Final results
► Path coefficients
► Indirect effects
► Total effects

▼ Outer loadings
○ Matrix
○ List
► Outer weights
► Latent variables
► Residuals
Conditional direct effects
Conditional indirect effects

▼ Quality criteria
► R-square
► f-square
► Construct reliability and validity

Outer loadings - Matrix

	BI	EE	FC	H	HM	PE	PV	SI	UB
BI1	0.768								
BI2	0.855								
BI3	0.836								
EE1		0.841							
EE2		0.705							
EE3		0.855							
FC1			0.881						
FC2			0.722						
FC3			0.839						
H1				0.848					
H2				0.808					
H3				0.810					
HM1					0.785				
HM2					0.869				
HM3					0.808				
PE1						0.793			
PE2						0.802			
PE3						0.823			
PV1							0.839		
PV2							0.778		
PV3							0.735		
SI1								0.839	
SI2								0.740	
SI3								0.816	
UB1									0.794
UB2									0.891
UB3									0.822

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Reset 57%

Validity and Reliability Test Result

SmartPLS 4

SmartPLS Export Themes

Edit Save Excel HTML Create data file Compare

PLS-SEM algorithm

- Residuals
- Conditional direct effects
- Conditional indirect effects
- Quality criteria
 - R-square
 - f-square
 - Construct reliability and validity
 - Overview
 - Cronbach's alpha - Bar chart
 - Composite reliability (rho_a) - Bar chart
 - Composite reliability (rho_c) - Bar chart
 - Average variance extracted (AVE) - Bar chart
 - Discriminant validity
 - Collinearity statistics (VIF)
 - Model fit
 - Model selection criteria
- Algorithm

Construct reliability and validity - Overview

Copy to Excel/Word Copy to R

	Cronbach's alpha	Composite reliability (r...	Composite reliability (r...	Average variance extrac...
BI	0.756	0.764	0.860	0.673
EE	0.720	0.732	0.844	0.645
FC	0.747	0.762	0.857	0.667
H	0.761	0.763	0.862	0.676
HM	0.761	0.780	0.861	0.675
PE	0.733	0.740	0.848	0.650
PV	0.682	0.694	0.824	0.611
SI	0.715	0.719	0.841	0.639
UB	0.785	0.790	0.875	0.701

Reset 100%

Path Coefficient

SmartPLS 4

SmartPLS Export Themes

Edit Save Excel HTML Create data file Compare

Bootstrapping

- Graphical
- Final results
- Path coefficients
 - Mean, STDEV, T values, p values
 - Confidence intervals
 - Confidence intervals bias corrected
- Intercepts
- Total indirect effects
- Specific indirect effects
- Total effects
- Outer loadings
- Outer weights
- Conditional direct effects
- Conditional indirect effects
- Quality criteria
 - R-square
 - R-square adjusted

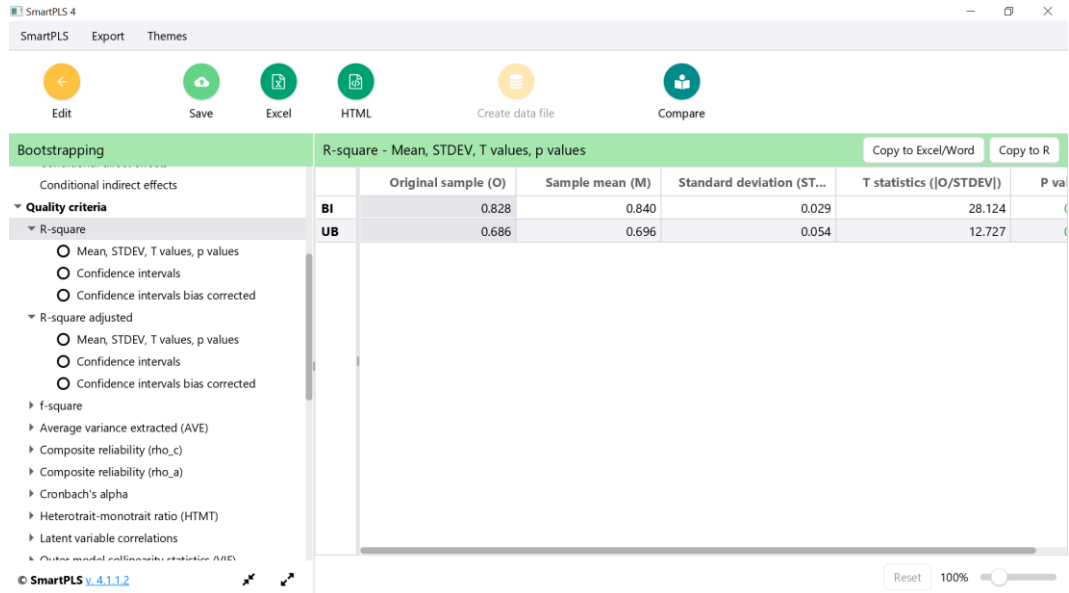
Path coefficients - Mean, STDEV, T values, p values

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	Original sample (O)	Sample mean (M)	Standard deviation (ST...	T statistics (O /STDEV)	P values
BI -> UB	0.448	0.446	0.108	4.125	0.000
EE -> BI	0.084	0.090	0.128	0.659	0.510
FC -> UB	0.346	0.344	0.131	2.640	0.008
H -> UB	0.079	0.086	0.088	0.898	0.369
HM -> BI	0.347	0.346	0.110	3.163	0.002
PE -> BI	0.222	0.209	0.083	2.667	0.008
PV -> BI	0.307	0.318	0.095	3.216	0.001
SI -> BI	0.031	0.026	0.101	0.310	0.757

Reset 90%

R-Square Result



Q-Square Result

