Acceptance Factors Affecting the Intention to Use Mobile Payments: QR Code Applications

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Abstract: This study explores the intentional use of QR code applications in Malaysia through the lens of the Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2), focusing on five key constructs: which is performance expectancy (PE), effort expectancy (EE), hedonic motivation (HM), habit (H), and trust (TR). An online survey was constructed and disseminated to a random sample of 215 respondents located in the Southeast region. The primary objective of this survey was to collect data regarding their intentions to utilize QR code applications. The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS), aiming to understand the relationship between the UTAUT 2 factors and behavioral intention towards QR code usage. The analysis revealed that all the UTAUT 2 factors which are performance expectancy, effort expectancy, hedonic motivation, habit, and trust have a positive significant relationship with the behavioral intention to use QR codes application. Among these, trust emerged as the most influential factor, underscoring its critical role in the adoption of QR code technology. This finding highlights the importance of addressing security and privacy concerns to foster trust among users, which is pivotal for the wider acceptance and use of QR codes in Malaysia. The study provides valuable insights for developers, marketers, and policymakers looking to enhance the adoption of QR code technology, emphasizing the need to build a trustworthy and user-friendly QR code ecosystem.

Keywords*: Acceptance, Behavioral Intention, UTAUT2, Expectancy, Trust.*

1. Introduction

Mobile payments are used for a wide range of financial transactions, providing a convenient and efficient alternative to traditional payment methods like cash or physical credit/debit cards. This method is becoming more and more popular because it is convenient—you can pay with just a few taps on your phone—more secure than traditional ones because it can safeguard your financial information, and best of all, because it involves contactless transactions, which can lessen physical contact in this age of pandemics. Mobile payments are a form of payment where the user credits or stores their money in an electronic wallet that functions similarly to a wallet but in a digital mode. This allows users to pay for purchases instantly rather than having to look for a physical wallet and hand over cash to the merchant (Lim, 2020). Mobile payment services, often described as a mobile wallet, mobile money transfer, contactless payment, or proximity payment are the rapidest growth segments of mobile marketing (Jung et al., 2020). The market for cards and payments in Malaysia is estimated to be worth $62.4 billion in 2022 and grow at a Compound Annual Growth Rate (CAGR) of more than 11% from 2022 to 2026 (GlobalData, 2022). The Malaysian payments market is still heavily dependent on cash, but it has significant growth potential as it transitions to digital payments. The ongoing digital transformation of the industry has been facilitated by government efforts such as the adoption of an interchange fee cap, the migration of payment cards to support contactless payments, fees for ATM transactions, and the construction of payment infrastructure.

There are several types of mobile payments which are Near Field Communications (NFC) payments such as Apple Pay, Google Pay, and Samsung Pay, quick response code (QR code) payments for instance Alipay, MAE, DuitNow QR, and various banking apps, carrier billing that often used for buying digital content like apps, games, and media, mobile banking apps, in-app payments for example food delivery apps, and digital wallets. QR code payment is a method of making transactions by scanning a QR code using a mobile device, typically a smartphone or tablet. This revolutionized technology has gained popularity due to its convenience, versatility, and secure alternative to traditional payment methods. Masahiro Hara created QR Codes in 1994 while playing the Go game, which consists of a 19 x 19 grid with black and white stones scattered throughout (Microsoft, 2023). He worked for the Japanese corporation Denso Wave, a branch of Denso, a wholly owned subsidiary of the automaker Toyota Motor Corporation, to track vehicle components as they were put together (Gregersen, 2023). Sharp exposed the first mobile with a QR scanner in 2002, and other mobile manufacturers quickly

followed (Microsoft, 2023). According to a survey conducted in 2021, 25 percent of Malaysian respondents claimed to have utilized rapid response (QR) code payment, down from 50 percent the year before. The use of digital payment systems is rising in Malaysia despite a decline in the use of QR codes (Statista, 2023).

QR codes offer a versatile tool for various applications, including mobile payments, marketing, information sharing, and authentication purposes. In the context of mobile payments, QR codes are increasingly recognized for their potential to facilitate convenient, fast, and secure transactions. However, despite these advantages, the adoption rate among Malaysian consumers and businesses has been somewhat sluggish. Several factors contribute to the current state of QR code application use in Malaysia. Firstly, there is a lack of awareness and understanding of the technology among both consumers and merchants. This knowledge gap can lead to hesitancy in adoption due to concerns over security and privacy. Trust in the technology is paramount, especially for financial transactions, and establishing this trust is a crucial step toward broader acceptance. Furthermore, the infrastructure for QR code payments is still developing. While major cities may have a higher level of readiness and acceptance, smaller towns and rural areas might not have the necessary technology or network connectivity to support the widespread use of QR code applications. Given that QR codes are now widely applied in interactive e-commerce applications, sellers may advertise their products while also making payments easier for customers to complete purchases at their fingertips. Educating the public about QR code payments is one of the difficulties that must be overcome throughout implementation. Amarullah et al. (2021) mentioned that digital payments need reliable internet access, and the adoption of QR code payments may be limited in places with poor signals.

Then, the device benefits from everyone's unique abilities some people have cell phones with excellent code-scanning features, though others have subpar smartphones. Using QR code mobile payment can indeed expedite transactions. This technology enables users to complete payments swiftly by simply scanning a QR code. This method eliminates the need for manual data entry or the use of physical payment cards, streamlining the process and potentially reducing wait times at checkout. This efficiency can be particularly beneficial in situations where speed and convenience are valued, such as in retail stores, restaurants, and other points of sale. The Unified Theory of Acceptance and Use of Technology (UTAUT) is a theoretical model developed to understand and predict individual acceptance and use of technology. It was introduced by Venkatesh et al. (2003) aiming to consolidate the various theories and models of technology acceptance that had been proposed in the literature up to that point. UTAUT model incorporates and renames key constructs from the Technology Acceptance Model (TAM) to provide a broader and more integrated framework for understanding technology acceptance. In the UTAUT model, key concepts from TAM are redefined with new titles. What TAM refers to as Perceived Usefulness (PU) is termed Performance Expectancy (PE) in UTAUT, and Perceived Ease of Use (PEU) is relabelled as Effort Expectancy (EE). Additionally, the concept of Social Norms (SN) in TAM has been updated to Social Influence (SI) in the UTAUT framework (Amani & Arvanitis, 2011).

Venkatesh et al. (2003) introduced the UTAUT model, identifying four key determinants that influence both the behavioral intention to use and the actual usage of information technology: performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). Later, Chang (2012) referenced an update by Venkatesh et al. (2012), which expanded the original UTAUT framework by incorporating three additional factors: hedonic motivation (HM), price value, and habit (H). Venkatesh et al. (2011) identified trust (TR) as a critical factor for both the initial adoption and ongoing use of e-commerce. The most recent evolution of the technology acceptance model, following UTAUT, is UTAUT2, introduced by Venkatesh et al. (2012). The main purpose of this study is to explore and present the results of research aimed at identifying the determinants that influence consumer intentions to utilize mobile payment systems, specifically those based on QR code technology. In Malaysia, enhancing the adoption of mobile payment solutions among consumers has proven to be a challenging effort. Given that QR code-based mobile payment methods are relatively new to both corporations and individuals in the country, their adoption rates remain low among the consumer base. To gain a deeper insight into this issue, the researcher has pinpointed various factors that affect the intention of consumers to adopt mobile payment technologies. Furthermore, a theoretical model has been developed to encapsulate these factors, and the validity of this model has been assessed through the analysis of data gathered from a quantitative survey.

Research Objectives:
- To determine the relationship between performance expectancy, effort expectancy, hedonic motivation, habit, and trust with behavior intention to use mobile payment based on QR codes.
- To identify the factors that influence consumers' intention to use mobile payment based on QR code technology.

2. Literature Review

To understand and predict users' intention to use technology there are some variables that researchers will use, such as mobile payments, the Unified Theory Acceptance and Use of Technology (UTAUT), performance expectancy (PE), effort expectancy (EE), hedonic motivation (HM), habit (H), and trust (TR).

Mobile Payment: A mobile payment, also known as a mobile wallet or mobile money, refers to a financial transaction that is conducted using a mobile device, such as a smartphone or tablet, to transfer money or make a payment. This technology leverages digital platforms and wireless communication networks to enable users to perform various financial activities without the need for physical cash, checks, or traditional banking methods. Dahlberg et al. (2008) defined mobile payment as payments for goods, services, and bills with a mobile device by taking advantage of wireless and other communication technologies. Raina (2019) defined mobile payment as the transaction of money that is conducted through a mobile network through various mobile devices, such as smartphones or PDAs, and mobile terminals. Meantime, Mohd Ariffin et al. (2020) stated that mobile payment refers to the processing of payment transactions in which the payer initiates, authorizes, or completes the transaction through mobile communication channels and mobile devices. Using a mobile terminal to pay for products or services is known as mobile payment. Mobile payment users can utilize their mobile devices or proximity-sensing devices to send payment instructions directly or indirectly to a bank financial enterprise, enabling currency payments and cash transfers (Yong et al., 2021).

Mobile payments have become increasingly popular and diverse, providing various ways for individuals to make transactions using their mobile devices. According to a survey conducted in 2021 by Statista (2023), 25 percent of Malaysian respondents claimed to have implemented quick response (QR) code payment, down from 50 percent the year before. The use of digital payment systems is rising in Malaysia despite a decline in the use of QR codes. Commission Factory (2023) in their report stated that with the emergence of e-wallets and cashless transactions, preferred payment methods in Malaysia are shifting more and more towards digital solutions. Credit and debit cards, for instance, continue to be widely used conventional payment methods. Traditional payment methods are also being updated, such as "cashless" cash on delivery and virtual credit cards. According to projections by Statista (2023), Malaysia's e-commerce sales would reach $11.65 billion in July 2023. Malaysia has experienced a steady increase in internet penetration over the years. As more people gain access to the internet, it becomes easier for them to explore online shopping platforms and make purchases conveniently from their devices. QR codes have played a pivotal role in the growth of e-commerce by providing a user-friendly, convenient, and secure way for customers to make digital payments. QR codes provide a simple and efficient way to facilitate digital payments. Customers can scan QR codes using their smartphones to initiate transactions without the need for physical cards or cash.

A two-dimensional scannable code called a QR code serves a similar purpose as the conventional barcodes that may be found on numerous products (Rasyidah & Ahd. Moess, 2023). Short message service (SMS), near-field communication (NFC), and QR codes are the three primary types of mobile payment tools. To exchange simple text messages between two mobile devices, SMS mobile payments are remote systems that need a communication protocol (Valcourt et al., 2005). NFC and QR codes are both proximity technologies. Without utilizing mobile networks, NFC payments use radio frequency channels to connect payment terminals and vending machines (Coskun et al., 2012). Tu et al. (2022) in their study on QR code adoption stated that a QR code is a data storage technology that uses a two-dimensional bar code or dot matrix that may be printed on paper or displayed on a screen to deliver information and is read by specialized equipment. Rasyidah & Ahd.Moess (2023) mentioned the main benefit of QR codes is the low cost for customers and retailers. Customers only need to open their mobile banking app or electronic wallet, scan the QR code to verify the purchase's total, and then submit payment to complete the transaction. Contrasting QR mobile payment, other mobile payment systems need consumers to browse through the payment website, sign in with user

credentials, enter the account information of the seller, and obtain a security PIN before completing the payment which takes an additional number of stages (Ibrahim et al., 2019).

As for retailers, they can take electronic payments in this way by simply applying a sticker with a QR code and the payment will automatically be credited to the account (Rasyidah & Ahd. Moess, 2023). In 2020, 11 million US households alone were predicted to have scanned a QR Code, according to a recent Statista survey and the number of scans would have increased from the expected 9.76 million in 2018 (Garg, 2018). These days, QR Codes are widely used. In part because more people worldwide are using smartphones. From 3.2 billion in 2016 to an expected 6.8 billion in 2023, it has grown dramatically. This equals an increase of 4.2% yearly (Garg, 2023). In recent years, Malaysia has embraced QR code-based mobile payment. Some of the most well-known services are Maybank QR Pay, Boost, Touch & Go Mobile Wallet, DuitNow QR, and so on. Even though it took some time for consumers to adopt it in the beginning, it is now very popular, especially among younger generations (Rosli et al., 2020). Therefore, it is more appropriate for the study to concentrate on a single payment method when analyzing the behavioral intention of mobile payment (Uzairi et al., 2021). As a result, this study decides to concentrate primarily on the QR mobile payment system, as this technology is present in most of the mobile payment systems that are widely utilized in Malaysia.

Unified Theory of Acceptance and Use of Technology (UTAUT): Unified Theory of Acceptance and Use of Technology (UTAUT) is a theoretical framework that aims to explain and predict how individuals adopt and use technology, such as information systems and digital tools, in various contexts. Chang et al. (2021) mentioned that Venkatesh et al. (2003) proposed the Unified Theory of Acceptance and Use of Technology (UTAUT) based on eight Technology Acceptance theories or Behavior Intention theories, including the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975), the Technology Acceptance Model (TAM) by Davis (1989), the Motivational Model (MM) by Davis et al. (1992), the Theory of Planned Behavior (TPB) by Ajzen (1991), a model combining TAM and TPB (C-TAM-TPB) by Taylor and Todd in 1995 (Peng & Jiang, 2022), the model of PC utilization by Thompson et al. in 1991 (Alomary & Woollard, 2015), the Innovation Diffusion Theory (IDT) by Roger (1995), and the Social Cognitive Theory (SCT) developed by Albert Bandura in 1986.TAM has been one of the most influential models of technology acceptance, with two primary factors influencing an individual's intention to use new technologies which are perceived ease of use (PEU) and, perceived usefulness (PU) (Davis, 1989). A central factor in TPB is the individual's intention to perform a given behavior. Intentions are assumed to capture the motivational factors that influence behavior; they are indications of how hard people are willing to try, of how much effort they are planning to exert, to perform the behavior (Ajzen, 1991).

The two most essential concepts from TAM have been retitled in the UTAUT model. Perceived Usefulness in TAM has become Performance Expectancy in UTAUT while Perceived Ease of Use become Effort Expectancy in UTAUT, and Social Norms have become Social Influence (Amani & Arvanitis, 2011). Venkatesh et al. (2003) stated that UTAUT proposed four primary factors that affect behavioral intention and actual usage of information technology which are performance expectancy (PE), effort expectancy (EE), facilitating conditions (FC), and social influence (SI). Chang (2012) mentioned Venkatesh et al. (2012) stated that three additional constructs were added to the original UTAUT model which are hedonic motivation (HM), price value, and habit (H). These new constructs likely contribute to a more comprehensive understanding of technology adoption and use. Ventakesh et al. (2012) designed this model with a focus on the individual rather than organizational consumers. Rosli et al. (2020) in their paper stated that comparing the UTAUT2 to earlier technology acceptance models, the UTAUT2 includes most external elements that directly influence the behavioral intention to use technology, which increases its ability to explain the behavior. Alalwan et al. (2017) in their research on mobile banking adoption have endorsed trust (TR) as a key element in determining how customers perceive and intend to use this technology based on their research from the previous researcher.

Yong et al., 2021 found that people's attitudes toward mobile payment services are proven to be influenced by customer trust, and numerous studies have shown that consumer trust is positively associated with consumers' electronic commerce behavior, including mobile payment and mobile banking. It is important to add this new construct since it may be related to the user's intention to utilize QR Code mobile payment due to the fact the study is about payments and money (Rosli et al., 2020). Thus, to widen the theoretical scope of UTAUT2, trust has been added as an external element as an extension to UTAUT2 in the same conceptual model, as strongly

suggested by Venkatesh et al. (2012) (Alalwan et al., 2017). Anggraini & Rachmawati (2019) chose the UTAUT2 model as their framework because UTAUT2 is the latest model to study the acceptance and use of technology, especially in the consumer context. UTAUT2 is a widely recognized model for understanding user acceptance of technology and predicting their behavioral intentions. The aspects that are acceptable for our study include performance expectancy (PE), effort expectancy (EE), hedonic motivation (HM), habit (H), and trust (TR). The researchers seek to investigate the factors influencing the behavioral intention to use QR code payments in the South Malaysia region.

Behavioral Intention (BI): Behavioral intention is defined as the intention to perform a behavior that stems from conscious decision-making (Davis, 1989). Fishbein & Ajzen, 1975 defined intention as to perform a behavior resulting from conscious decision-making. Ali et al. (2021) in their study stated that intention refers to the extent individuals are willing to go and how much willpower they intend to put into the effort to carry out a specific behavior while behavioral intention refers to the faster that it for a person to accept new technology, the stronger their intention to do so. This intention refers to an individual's willingness to engage in a specific action and the four constructs are performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003). A person who recognizes that the consequence of performing a behavior is positive will have a positive attitude, belief, and perspective on the behavior, whereas a negative outcome will produce a negative attitude toward the motivational factors that influence a specific behavior (Rasyidah & Ahd. Moess, 2023). According to the TAM, the primary key effect on the intention to use is a person's attitude toward using a technology, which refers to the degree to which an individual places a positive or negative emphasis on the technology (Davis et al., 1989).

Amarullah et al. (2021) indicated that behavioral intention (BI) among Indonesian consumers to use QR codes for mobile payments is positively impacted by performance expectancy (PE), habit (H), and trust (TR), whereas it is not affected by effort expectancy (EE) and hedonic motivation (HM). Hedonic motivation, trust, self-efficacy, and habit were important predictors of behavioral intention, while habit and behavioral intention might be utilized to explain the adoption intention of Internet banking in Pakistan (Sharif and Raza, 2017). Anggraini & and Rachmawati (2019) in their study on OVO application among Indonesians indicated that performance expectancy and effort expectancy do not positively influence the intention of OVO payment adoption in Indonesia. Meantime, other factors like social influence, facilitating conditions, hedonic motivation, price value, trust, and behavioral intention have proven to have a positive effect on OVO payment adoption. Linck et al. (2007) found that EE, PE, facilitating conditions, and social influence, affect intention to use mobile payment systems.

Srijan (2022) found that SI, EE, PE, FC, and PS all influence the behavioral intention to use QR code payments. The results of Jung et al. (2020) showed that performance expectancy (PE), social influence (SI), compatibility, knowledge, and trust (TR) had positive and significant relationships with BI. On the other hand, EE, risk, and relative advantage were not significant predictors of BI's use of mobile payment among US consumers. The findings by Teo et al. (2015) showed that only performance expectancy (PE), effort expectancy (EE), trust (TR), and facilitating conditions (FC) are significant with the intention to adopt mobile payment, while experience has a moderating effect on the relationship between PE and mobile payment BI. PE and social influence have a positive effect on mobile payments BI, EE and facilitating conditions are not significant while risk has a negative effect on mobile payment BI (Lee, 2019). Putranto (2020) reveals that only H and PE have a significant effect on BI mobile payments in Indonesia.

Performance Expectancy (PE): Performance expectancy (PE) is the perceived usefulness of the technology in enhancing the user's performance or productivity. Davis et al. (1992) defined it as the degree to which a person believes that using the system will help him or her to attain gains in a job. Venkatesh et al. (2003) defined PE as the degree to which an individual believes that using the system will help him or her to attain gains in job performance. Once again, Venkatesh et al. (2012) stated that PE, also known as perceived usefulness (PU) in TAM, is the extent to which using technology will provide benefits to consumers in performing certain activities. In the context of this study, PE refers to the extent to which a person believes that using payments via QR code will enable them to improve their performance and help them better in daily life. PE was found in previous studies on people's adoption of mobile payments as an important variable influencing people's desire to use mobile payments (Jung et al., 2020). Rosli et al. (2020) in their study on consumers around Klang Valley's

intention to use QR code payments show that behavioral intention is positively influenced by PE. Users believe that using a QR code for mobile payment has helped them in their transactions.

According to Mohd Ariffin et al. (2020), who performed a survey on mobile payment acceptance among Section 7 retailers in Shah Alam, PE had a high impact on respondents' intention to use mobile payments. The PE variables were the most effective predictors of intention to use the target technology within each of the individual models examined (Chang, 2012). Yong et al. (2021) conducted an empirical study on mobile payment acceptance among the Klang Valley population showing that the PE of mobile payment services is an appropriate and effective payment transaction, and it has become a significant factor in persuading Malaysian customers to use such services. Rasyidah & Ahd. Moess (2023) indicated that PE was the second strongest predictor in the model, and it has a significant positive relationship with the intentions to use QR code mobile payment among Malaysian Muslim Millennials. Nur & Panggabean (2021) showed that PE has a significant positive effect on behavioral intention to use mobile payment services among Generation X. According to Amarullah et al. (2021), behavioral intention (BI) among Indonesian consumers to use QR codes for mobile payments is positively impacted by performance expectancy (PE). In contrast, Anggraini & and Rachmawati (2019) in their study on OVO application among Indonesians indicated that PE has proven to have no significant relationship with BI.

Effort Expectancy (EE): According to Davis et al. (1989), a person's intention to embrace a new system is not only predicted by how highly the system is valued but also by how little effort is required to use the system. Effort expectancy (EE) is defined as the degree of ease associated with the use of the system (Venkatesh et al. (2003) which can reduce users' efforts in their work (Yong et al., 2021). EE is perceived as easy to use with specific information systems and technology (Raza et al., 2018). Like PEOU in TAM, it describes the perceived amount of effort a user must expend to understand and use new technology (Yong et al., 2021). From the perspective of mobile payment, this factor explains where individuals are free from effort and understand the role of certain types of mobile payment (Ventakesh et al., 2012). Therefore, EE could be a key factor in deciding customers' intentions to utilize such technology given that mobile banking is unique in that it requires a certain amount of knowledge and expertise (Alalwan et al., 2016). In Wang & Yi (2012) study, EE has been determined as one of the most important indicators of an intention to utilize mobile payments. Leong et al. (2021) found that there is a direct and significant relationship between EE and mobile payment usage intention. Yong et al. (2021) in a study on mobile payment acceptance in Malaysia discovered EE as the most influential factor compared with the other UTAUT2 components. Rosli et al. (2020) revealed that EE has a significant relationship with BI of mobile payments among the people in urban area in Klang Valley, Selangor. The empirical findings have confirmed the significant relationship between EE and BI in the use of mobile banking among Jordanian bank customers (Alalwan et al., 2017).

Some of the findings are contrary to earlier results, Imani & Herlanto (2020) discovered that EE had no statistically significant impact on behavioral intentions to use the QR Code features due to Generation Z, who is the study's respondents and were technologically literate from birth, is responsible for these findings since they are so accustomed to using technology. According to Slade et al. (2015), there is no correlation between behavioral intention to utilize mobile payments among UK consumers and EE. This explains why the effect of effort expectancy on behavioral intention is more significant for non-users who are unaware of mobile payment and thus unfamiliar with its functionality and for those who are already aware of mobile payment and are likely to be familiar with how remote mobile payments work. Oliveira et al. (2016) discovered that EE is significant for PE but not for BI to use mobile payment among consumers in Portugal because the users might not be prepared to test the new technology if they do not recognize the benefits and attributes of mobile payment. Anggraini & Rachmawati (2019) in their study on OVO application among Indonesians indicated that EE has proven to have no significant relationship with BI. Amarullah et al. (2021) findings also found that EE did not have a significant effect on mobile payments BI among Jabodetabek residents. The lack of this influence can be attributed to the fact that the respondents are now accustomed to using mobile phones and the internet in both their daily lives and for business, giving them ample knowledge and expertise with these technologies.

Hedonic Motivation (HM): Hedonic motivation (HM) is a unique addition to UTAUT2 compared to the original UTAUT model. It specifically addresses the pleasure or enjoyment a user expects to derive from using the technology. Brown & Venkatesh (2005) defined hedonic motivation (HM) as the fun or pleasure derived from

using technology and it has been shown to play an important role in determining technology acceptance and use. Rosli et al. (2020) defined HM as the feeling of pleasure and satisfaction that individuals get when using existing technology. For this study context, HM focused on how the consumers feel pleasure and satisfaction once using QR code payment technology. Ventakesh et al. (2012) categorized HM as one of the concepts under intrinsic utilities. In the HM context, mobile payment makes it possible for a new way to conduct financial transactions, which encourages users to adopt it (Oliveira et al., 2016). HM is a significant determinant of behavioral intention and was found to be a more important factor than performance expectancy (PE) in non-organizational contexts (Ventakesh et al., 2012). HM has also been discovered to be a significant factor in technology acceptance and use in the consumer context (Childers et al. 2001). Rosli et al. (2020) in their study discovered that HM had a significant effect on users' behavior intentions towards the use of the QR code mobile payment. Alalwan et al. (2017) in their findings reveal that HM was empirically demonstrated to be a significant factor affecting Jordanian customers' intention to adopt mobile banking. According to Hariyanti et al. (2020), Bank Jatim Indonesia customers had the highest levels of satisfaction while using the mobile banking application, demonstrating that HM has a significant effect on BI.

Khatimah et al. (2019) assessed the effects of HM and social influence on the desire to use e-money in Indonesia and discovered that both components play a vital role in encouraging this intention. In the context of this study by Muzaldin et al. (2022) HM is discovered to be the most important and significant variable in determining the behavioral intention of the mobile wallet. Baptista & Oliveira (2015) reveal the significant relationship between HM and BI mobile payment among their respondents in Mozambique. Iskandar et al. (2020) revealed that the behavioral intention of Indonesian customers is significantly positively influenced by Anggraini & Rachmawati (2019) in their study on OVO application among Indonesians indicated that HM proven has a significant relationship with BI. In contrast, Amarullah et al. (2021) conducted a study of QR code payment that focused on people in the urban area of Jabodetabek, Indonesia showing that HM does not influence QR payments BI Hedonic motivation does not influence behavior intention because QR code payments is present in the community with outreach to merchants as an alternative payment method. Oliveira et al. (2016) also discovered that HM is not a significant predictor of the behavioral intention to adopt mobile payment among the population in Portugal.

Habit (H): In the context of UTAUT2, habit (H) refers to the established patterns of behavior that individuals develop over time through repeated interactions with technology. H is not explicitly included as a separate construct in the original UTAUT model, but it can influence an individual's acceptance and use of technology. Habit (H) refers to the tendency to perform behaviors automatically due to previous repeated actions. Limayem et al. (2007) have defined habit as the extent to which people tend to perform behaviors automatically because of learning and is measured by the degree to which a person believes a behavior is automatic. H has been defined as a pattern of individual tendencies in using existing technology (Thu Nguyen et al., 2020). When someone tends to use technology over a certain period, that person develops a particular habit of using that technology (Limayem et al., 2007). In this study, the habit refers to a user's ability to use QR code-based payments frequently enough for it to eventually become ingrained. Imani and Herlanto (2020) discovered that H is the factor that has the most impact on how people intend to behave but is found to be not significant to the actual adoption of the use of the QR Code feature. Rosli et al. (2020) in their study revealed that H has a significant relationship in determining the customer's BI in urban areas around Klang Valley towards QR code payments.

Habit has a significant impact because most people in Jabodetabek are today exposed to mobile phones and the internet almost frequently, especially generations Y and Z, who help people become accustomed to and create the habit of utilizing modern technologies like mobile banking and digital wallets (Amarullah et al., 2021). Sharif and Raza (2017) also determined that H has a positive influence on mobile banking BI among Pakistan consumers. Thu Nguyen et al. (2020) revealed a positive significant relationship between H and digital banking services in Vietnam. Mohd Ariffin et al. (2020) study found that H has a significant relationship with mobile payment BI among Malaysians. According to the findings of the study by Hariyanti et al. (2020), H significantly affects BI among users of the Bank Jatim Mobile Banking application. In contrast, Oliveira et al. (2016) study noted that the habit construct was not included in their research model since mobile payment is a relatively new technology and has not yet become widely used by consumers to produce a habit. Eren (2022) mentioned that even while it is possible that the epidemic period hastened the experience of using a QR code for mobile

payments, it's anticipated that after the pandemic, people's payment H will have stabilized, and this is the reason why the researchers choose H as one of the study variables.

Trust (TR): In new technologies and digital media, trust (TR) has been proven to be an essential element since it has a significant effect on people's acceptance, intentions to use, and attitudes toward it (Mou et al., 2017). Trust (TR) refers to the belief that a person or organization's integrity, ability, and benevolence can be trusted. Trust is a main element of adoption and continuance use of e-commerce (Venkatesh et al., 2011). Khalilzadeh et al. (2017) defined TR as an individual's belief that a supplier will perform certain activities according to the latter's expectations. TR is a sense of safety and guarantee provided by the service provider, which can lead to higher acceptance and use (Leong et al., 2021). In the technological e-commerce world, where uncertainty and a lack of one-on-one human interaction exist, trust is a crucial factor to consider (Pavlou & Gefen, 2004). Slade et al. (2015) included many academics who have adapted the idea of TR in the adoption of technology, particularly in mobile payment services, due to the uncertainty that comes with living in a VUCA (volatility, uncertainty, complexity, and ambiguity) world today. Hanafizadeh et al. (2014) in their study on mobile banking adoption found that the TR of the customers needs to be formed and preserved in the long term, and understanding the risks perceived by the customers is very useful for the banks in identifying the obstacles to adoption and removing them.

Because it involves financial transactions with electronic devices, TR is seen as being extremely relevant to the context of mobile payments (Oliveira et al., 2016). TR in the payment system will lessen the need to comprehend, control, and monitor activity, enabling users to access services quickly and effectively without expending a lot of work on the translation of online services (Muñoz et al., 2010). Kamis et al. (2022) added suppliers must be proactive in addressing consumer skepticism of electronic transactions since consumers will not use a payment system unless they feel comfortable using it. TR has been determined to have a significant influence on the acceptance of mobile payments in Malaysia (Yong et. al., 2021). Despite all the positive findings that TR has a significant influence on BI mobile payment, studies by Grayson and Ambler (1999) indicated that TR may have a good effect on short-term relationships but not on long-term relationships, which means that trust may not always have a favorable impact on service use.

Yong et al. (2021) determined that TR in mobile payment does not have any significance in influencing continuance intention because consumers are more likely to be satisfied with the service when they believe the service provider is trustworthy. According to Susanto et al. (2016), there is no statistically significant correlation between trust and continued usage intention. Without speaking to a bank employee directly, customers can conduct financial transactions using their smartphones. In comparison to offline banking in a bank branch office, users could experience more risk and uncertainty as a result. During the epidemic year, more consumers started using contactless payments. However, the outcomes showed that perceived TR is the most significant factor in determining the intention to use (Türker et al., 2022). Therefore, researchers have determined to include TR as one of the study areas to investigate the relationships of all the variables with BI mobile intention.

3. Research Framework

Figure 1: Research Framework Based on Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2)
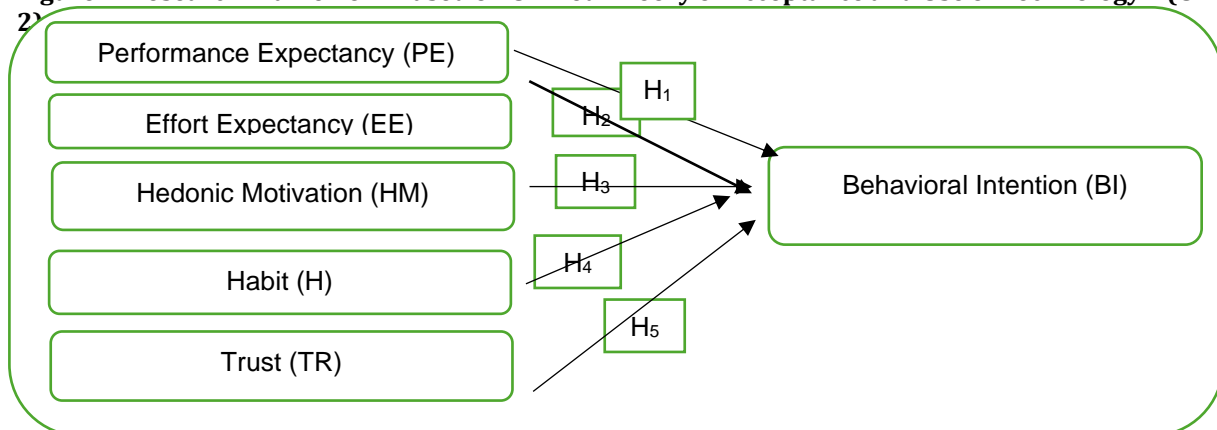
The research hypothesis based on the diagram of the UTAUT 2 model in the context of QR Code are:

H₁: Performance Expectancy (PE) is significantly affecting the Behavioral Intention (BI) to use mobile payment based on QR codes.

H₂: Effort Expectancy (EE) is significantly affecting the Behavioral Intention (BI) to use mobile payment based on QR codes.

H₃: Hedonic Motivation (HM) is significantly affecting the Behavioral Intention (BI) to use mobile payment based on QR code.

H₄: Habit (H) is significantly affecting the Behavioral Intention (BI) to use mobile payment based on QR code.

H₅: Trust (TR) is significantly affecting the Behavioral Intention (BI) to use mobile payment based on QR codes.

3. Methodology

Variables and Measurement: The research model incorporates six variables: behavioral intention (BI), performance expectancy (PE), effort expectancy (EE), hedonic motivation (HM), habit (H), and trust (TR). The foundation of this study is built upon the Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2), as introduced by Venkatesh et al. (2012). This framework significantly influenced the formation of the survey utilized in the research. Measurement items were assessed using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), to gauge the level of agreement. In the preliminary phase, thirty (30) questionnaires were disseminated to selected participants to collect their insights and recommendations. The feedback obtained was analyzed with the Statistical Package for the Social Sciences (SPSS) Statistics 26 software. Based on the feedback received, the questionnaire was refined to enhance its clarity and ease of understanding for the participants.

Reliability Test: Before gathering data, the researcher must conduct content validity checks and a pilot study on the survey items within this research framework to assess their validity for measurement. The questionnaire, inspired by Venkatesh et al. (2012) and their introduction of the UTAUT 2 theory, has been adapted to align with the specific aims of this study. To test for reliability, a pilot study was carried out with 30 participants using IBM SPSS Statistics 26. The outcomes of the internal consistency reliability are presented in Table 2 below.

Table 1: Internal Consistency Reliability

Items	Cronbach's Alpha	Number of Items
Performance Expectancy (PE)	0.976	4
Effort Expectancy (EE)	0.947	4
Hedonic Motivation (HM)	0.924	4
Habit (H)	0.876	4
Trust (TR)	0.942	4
Behavioral Intention (BI)	0.923	4

Uma Sekaran and Bougie (2020) delineate that reliability scores ranging from 0.70 to 0.80 are deemed acceptable, scores above 0.80 are viewed as good, and those under 0.60 are typically classified as poor. The Cronbach's alpha reliability scores obtained are 0.976 for PE, 0.947 for EE, 0.924 for HM, 0.876 for H, 0.942 for TR, and 0.923 for BI. These findings indicate a high level of dependability, demonstrating that each item is both reliable and valid for inclusion in the questionnaire.

Data Collection: The researcher examines the research model by distributing 215 online questionnaires through Google Forms which distributed around the southern region of Malaysia by respondents with various backgrounds. The questionnaire outcome was examined by using Statistical Package for Social Science (SPSS).

4. Results and Discussion

Demographic Profile: The demographic data for the 215 participants in this study are shown in Table 3 below. According to the survey, 170 respondents, or 79.1% of the total, were female, while 45 respondents, or 20.9%, were male. The respondents are primarily between the ages of 19 - 30 (139, or 64.7%), and 123 of the total respondents (out of 215) are students. While the average age of the other respondents is between 41-50

(18.1%), between 31-40 is 33 (15.3%), between 61 and above there are 3 (1.40%), and between 51-60, there is just one (0.50%). 207 of the respondents (96.3%) have graduated from university or are currently enrolled in a university, and for primary and high school each respondent represents 4 (1.9%). Most of the respondents were a student (123 or 57.2%), followed by government servants (46 or 21.4%), private (26 or 12.1%), self-employed (6 or 2.8%), housewife represents 12 (5.6%) and 0.90% (2 respondents) are pension. The types of QR code payment applications that they used are DuitNow (175 respondents or 81.4%), MAE (127 or 59.1%), Touch n Go (125 or 58.1%), Grabpay which are 55 (25.6%), Boost (16 or 7.50%) and the least popular application is Alipay which only 3 respondents (1.40%). 86 respondents who are 40% used QR codes as their daily payment method, 77 (35.8%) used QR code payment weekly, monthly (25 or 11.6%), and 27 (12.6%) rarely used QR code payments. QR code payments are widely used to pay for food and beverage (181 or 84.2%), physical shopping (174 or 80.9%), online shopping (165 or 76.7%), 97 of respondents (47.1%) used QR code pay for entertainment such as at cinema or karaoke and 86 (40%) for bill payments.

Table 2: Demographic Profile

Measure	Items	Frequency	Percentage
Gender	Male	45	20.9
	Female	170	79.1
Age	19-30	139	64.7
	31-40	33	15.3
	41-50	39	18.1
	51-60	1	0.50
	61 years >	3	1.40
Education Level	Primary	4	1.90
	High School	4	1.90
	University	207	96.3
Job Sector	Government	46	21.4
	Private	26	12.1
	Self-employed	6	2.80
	Student	123	57.2
	Housewife	12	5.60
	Pension	2	0.90
Types of QR Code used	Grabpay	55	25.6
	Alipay	3	1.40
	Boost	16	7.40
	Touch n Go	125	58.1
	DuitNow	175	81.4
	MAE	127	59.1
Frequency use	Daily	86	40.0
	Weekly	77	35.8
	Monthly	25	11.6
	Rarely	27	12.6
Types of Payment used	Shopping	174	80.9
	Online Shopping	165	76.7
	Bill Payments	86	40.0
	Food & Beverages	181	84.2
	Entertainment	97	45.1

Hypothesis Analysis: Table 3 below displays the results of the assessment of the objectives and hypotheses of the study. To assess the strength of a relationship between two variables and their correlation, Pearson's correlation coefficient was used. A positive relation is demonstrated by the r-value between 0 and 1, and a significant relationship is indicated by a p-value of less than 0.05. These values will be used to analyze the results. The Unified Theory of Acceptance and Use of Technology (UTAUT)'s performance expectancy (PE), effort expectancy (EE), hedonic motivation (HM), habit (H), and trust (TR) were the factors that the correlation study looked at to determine the relationship between respondents' behavioral intention (BI) QR codes mobile payment. All five parts of the UTAUT are independent variables, whereas BI is a dependent variable. The

correlation coefficient (r-value) of 0.696** indicates a positive moderate relationship between performance expectancy (PE) and behavioral intention (BI). Any changes in PE are associated with corresponding changes in BI. This implies that as users' PE of using QR code mobile payments increases, their BI to use such payments also increases. Conversely, if their perceived benefits or effectiveness decrease, their intention to use the system is likely to decrease as well. The current finding was consistent with prior research by A. Rosli et al. (2020); Mohd Ariffin et al. (2020); Rasyidah & Ahd.Moess (2023); Nur & Panggabean (2021); Amarullah et al. (2021); Anggraini & and Rachmawati (2019); Alalwan et al. (2017); Do et al. (2020); found that BI has a positive influence on PE.

The perception of usefulness and the degree to which technology meets users' needs are fundamental drivers for the adoption and continued use of technological innovations, including QR code mobile payments. This concept is also grounded in the UTAUT, where perceived usefulness is identified as one of the primary factors influencing users' acceptance and usage behavior. A technology perceived as useful is one that users believe will enhance their job performance or make their lives easier in some way. This positive relationship is driven by users recognizing the utility and benefits of QR code payments, especially in terms of time savings and convenience. The faster transaction process, as facilitated by QR code technology, enhances the user experience, making it a preferable choice for completing transactions. This ease of use and the efficiency of QR code mobile payments contribute to its value from the users' perspective, fostering a positive perception of this payment method. Therefore, the results that have been reported support the H_1 as a result. Comparing effort expectancy (EE) and behavioral intention (BI), the correlation coefficient (r-value) is 0.660**, with a p-value of 0.000. This indicates that there is a moderately positive correlation between the two variables. Users are more likely to indicate that they want to use mobile payments using QR codes if they believe that using them would require more work. On the other hand, people are less likely to indicate that they plan to utilize it if they consider it to require less work. Muzaldin et al. (2022) found a negative relationship between EE and BI.

The results of this research are consistent with those of Wang & Yi (2012); Nur & Panggabean (2021); Leong et al. (2021); Yong et al. (2021); and Rosli et al. (2020), found a significant positive correlation between EE and BI. The perception that QR code mobile payments require less effort plays a crucial role in their adoption by consumers. This aligns with several theories and models in technology adoption, most notably the UTAUT, which identifies EE as one of the key determinants of technology adoption. When users believe that a technology is easy to use and will help to reduce their effort in accomplishing a task, they are more likely to adopt and use it. However, when users recognize and appreciate the ease of learning, using, and becoming proficient with QR code mobile payments that highlight the system's user-friendly nature and the effectiveness of its instructions, they do not consider ease of use as a critical factor driving their intention to use this payment method. Hence, H_2 for this study is supported. Hedonic motivation (HM) and behavioral intention (BI) have a positive, strong relationship, as indicated by the correlation coefficient (r-value) of 0.772**. Any changes to HM are followed by related changes to BI. It is anticipated that BI will rise in response to an increase in HM and fall in response to a decrease in HM.

Amarullah et al. (2021) in their research found that BI has no influence on QR code use among Jabodetabek respondents because they already used QR codes before in the sector. Ventakesh et al. (2012) stated that when consumers gain greater knowledge, they will find it more difficult to find novelty that supports the hedonic motivation effect on technology use. Instead, they will utilize technology for more practical goals like increasing productivity or reach. The more experience one gains, the less of an impact hedonic motivation will have on their usage of technology. However, this finding is relevant to prior research conducted by Rosli et al. (2020); Alalwan et al. (2017); Anggraini & and Rachmawati (2019); Hariyanti et al. (2020); Iskandar et al. (2020) and Muzaldin et al. (2022) discovered that HM has a positive significant relationship with BI When users find a technology not only easy and efficient but also enjoyable to use, it enhances their overall satisfaction and increases their likelihood of continued use. In the context of QR code payments, factors contributing to this pleasure might include the simplicity of scanning a code, the quickness of transactions, the novelty of the method, and the perceived innovation and modernity. Additionally, personalized experiences or rewards linked to the use of QR codes can amplify these positive feelings. As a result, H_3 has been accepted for this study.

According to Ventakesh et al. (2012), habit either directly influences how much technology is used or reduces the strength of the correlation between technology use and behavioral intention. Comparing habit (H) and

behavioral intention (BI), the correlation coefficient (r-value) is 0.801**, with a p-value of 0.000. This indicates that there is a strong positive correlation between the two variables. This result is consistent with Baptista & Oliveira's (2015) research on mobile banking use behavior in African countries which stated the positive relationship of H with BI; Tiara Imani & Herlanto Anggono (2020) found that H is the most significant factor influencing BI among Gen Z in Bandung; Thu Nguyen et al. (2020) discover H is one of the significant and positive factors influence the QR codes intention use in Vietnam; Sharif & Raza (2017) showed that H and BI significantly and positively influence university students' intentions to use Internet banking in developing countries; Rosli et al. (2020) in their findings showed that H has a positive impact on user BI; and Putranto (2020) indicates that one of the factors influencing people's intents to use mobile banking is a habit. These research findings indicated that QR code payments offer several advantages that contribute to this habituation, including convenience, speed, and often enhanced security features. They eliminate the need for carrying physical wallets or entering payment information manually, making transactions smoother and faster.

This efficiency, combined with the increasing ubiquity of QR codes in various payment contexts that can be used from restaurants and retail stores to utility bills and online purchases can encourage repeated use. Therefore, H_4 is supported. Due to environmental unpredictability and a feeling of losing control, users of electronic financial transactions are more vulnerable to risk. Trust (TR), which is defined as the subjective confidence that a party will fulfill their obligations, is vital (Patil et al., 2020). The correlation coefficient (r-value) of 0.834** shows a positive, significant relationship between trust (TR) and behavioral intention (BI). Any modifications to TR are accompanied by corresponding BI changes. When consumers trust that a technology will work smoothly, accurately, and securely whenever they need it, their confidence in using the technology naturally increases. This confidence, in turn, fosters a positive attitude towards the technology, which is crucial for its adoption and continued use. Imani & Herlanto (2020) in their research among Gen-Z in Bandung reveal that TR has no significant relationship with BI to use QR codes due to the market being saturated with various mobile payment systems, users might perceive the switching costs between different platforms as low. This abundance of choice means that trust in a particular technology does not solely dictate their willingness to use it.

As they can easily switch to another option if their expectations are not met. However, this research finding is in line with the research (Nur & Panggabean, (2021); Muzaldin et al. (2022); Mangalam et al. (2022); Lim, 2020; Jung et al. (2020); Liu & Tai (2016); Alalwan et al. (2017); Amarullah et al. (2021); Anggraini & and Rachmawati (2019); Rosli et al. (2020); Sharif & Raza (2017); Slade et al. (2015); and Yong et al. (2021)). Users' perceptions of QR code mobile payments as reliable, secure, and trustworthy are central to their willingness to adopt and use this technology. When users believe that the system works consistently, protects their financial and personal information, and operates in a trustworthy manner, they are more likely to use it for transactions. The belief in the honesty and integrity of mobile payment service providers reinforces users' confidence in QR code payment systems. This confidence is crucial because it implies that users trust the providers to handle their transactions and data responsibly and to act in the users' best interests. Thus, H_5 is accepted.

Table 3: Result of Pearson Correlation Coefficient

Hypotheses	Pearson Correlation (R-value)	Significant Level (p-value)	Remarks
Performance Expectancy (PE) is significantly affecting the Behavioral Intention (BI) to use mobile payment based on QR codes.	0.696**	0.000	Supported
Effort Expectancy (EE) is significantly affecting the Behavioral Intention (BI) to use mobile payment based on QR codes.	0.660**	0.000	Supported
Hedonic Motivation (HM) is significantly affecting the Behavioral Intention (BI) to use mobile payment based on QR code.	0.772**	0.000	Supported
Habit (H) is significantly affecting the Behavioral Intention (BI) to use mobile payment based on QR code.	0.801**	0.000	Supported

Trust (TR) is significantly affecting the Behavioral Intention (BI) to use mobile payment based on QR codes.	0.834**	0.000	Supported

** Correlation is significant at the 0.01 level (2-tailed)

Table 4: Indicator for Pearson Correlation Analysis (Sekaran, 2013)

Coefficient Size	Strength of the Relationship
0.91-1.00	Very strong
0.71-0.90	Strong
0.41-0.70	Moderate
0.21-0.40	Weak
0-0.20	Very Weak

Regression Analysis: The analysis in Table 5 below provides insightful data on how different factors from the Unified Theory of Acceptance and Use of Technology (UTAUT) model influence the Behavioral Intention (BI) to use QR code applications. With an R^2 value of 0.782, it explains a significant portion (78.2%) of the variance in BI, which is a strong indicator of predictive power concerning the factors affecting the intention to use QR codes. Performance expectancy (PE), Hedonic Motivation (HM), Habit (H), and Trust (TR) were found to be significant predictors of BI using QR codes, whereas Effort Expectancy (EE) was not identified as a significant factor in this analysis. TR shows the highest beta coefficient (β = 0.408) with a p-value of 0.000 which means a 1% increase in TR results, and BI of the QR codes will increase by 40.8%. The results indicate TR is the strongest and statistically significant predictor among the factors considered. This suggests that the degree of trust users place in QR code applications greatly influences the respondent's intention to use such technology. H also shows a significant beta coefficient (β = 0.258) with a p-value of 0.008, highlighting its importance. This indicates that the more accustomed users are to using QR codes in their daily routines, the more likely they are to continue using them.

PE, with a beta coefficient of 0.254, although showing a statistically non-significant p-value (p=0.481), is suggested to have a practical influence on BI, based on the interpretation that a 1% increase in PE results in a 25.4% increase in BI toward using QR codes. This could be an indication of the perceived benefits and effectiveness of using QR code technology in enhancing transactions or activities. HM, with a beta coefficient of 0.155 and a p-value of 0.116, though not statistically significant at conventional levels, suggests that the enjoyment or pleasure derived from using QR code technology has a positive but less substantial effect on BI compared to the other factors. While all these components of the UTAUT model play roles to varying degrees, TR emerges as the most critical determinant in this context, followed by H and PE. It suggests that ensuring the reliability and security of QR code applications, along with highlighting their practical benefits and integrating their use into daily habits, could be key strategies for promoting wider adoption among users.

Table 5: Multiple Linear Regression for Behavioral Intention of QR Codes Mobile Payments

Variable	Standard Coefficients Beta (β)	t	p-value
Performance Expectancy (PE)	0.254	4.697	0.481
Effort Expectancy (EE)	-0.092	-1.576	0.000
Hedonic Motivation (HM)	0.155	2.670	0.116
Habit (H)	0.258	4.152	0.008
Trust (TR)	0.408	6.688	0.000

Note: Dependent Variable: Behavioral intention (BI), $p<0.001$, R^2=0.782, ΔR^2=0.777

5. Discussion and Conclusion

The investigation into the adoption of QR code applications has highlighted the pivotal role played by five key factors derived from the Unified Theory of Acceptance and Use of Technology (UTAUT) model. These factors namely performance expectancy (PE), effort expectancy (EE), hedonic motivation (HM), habit (H), and trust (TR) have been found to significantly influence respondents' behavioral intentions towards using QR code applications. This correlation indicates that users are more inclined to adopt and continue using QR codes if

they perceive the technology as beneficial and easy to use (performance and effort expectancy), enjoyable (hedonic motivation), trust the platform's security and reliability, and have integrated its use into their daily routines (habit). The positive correlation of these factors with behavioral intention underscores the necessity for developers and marketers to focus on enhancing the user experience, ensuring ease of use, delivering enjoyable interactions, and building a trustworthy environment. By doing so, they can effectively encourage broader acceptance and sustained use of QR code technology. This study's findings provide crucial insights for the strategic development and promotion of QR code applications, emphasizing the need to address these key user concerns and preferences to increase adoption rates. The regression analysis undertaken in this study reveals that TR emerges as the most critical determinant influencing consumers' intentions to adopt mobile payments via QR code technology.

This paramount trust surpasses the influences of other significant factors identified, including PE, EE, HM, and H. The findings reveal that for consumers, the assurance of the security, privacy, and reliability of the mobile payment system is paramount. In an era where digital transactions are fraught with concerns over data breaches and fraud, TR in the QR code payment platform's ability to protect user information and provide a secure transaction environment is crucial for adoption. While PE, EE, HM, and H undoubtedly play essential roles in shaping consumer behavior towards QR code payment adoption, they are secondary to the foundational requirement of trust. This insight is instrumental for stakeholders in the mobile payment ecosystem, highlighting the necessity to prioritize building and maintaining trust as a cornerstone for encouraging the widespread use of QR code technology for payments. Focusing efforts on enhancing security features, transparent practices, and reliable services will be key in winning consumer confidence and driving the adoption of QR code payment solutions. In summary, while QR code applications hold significant potential for diverse uses in Malaysia, their success hinges on overcoming challenges related to trust, awareness, and infrastructure. With concerted efforts from all stakeholders, QR code technology can achieve higher adoption rates, offering convenience and efficiency for users across the country.

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