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Understanding mobile payments through the lens of innovation resistance and planned behavior theories

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Despite the numerous advantages that different mobile payments can provide, their acceptance, and adoption rates are still relatively low. This study aims at investigating mobile payments and demonstrates how drivers and barriers that influence behavioral intentions to use mobile payments interact and support one another by combining the theory of planned behavior (TPB) and the innovation resistance theory (IRT). A self-administered online survey was employed to gather data from 341 users of mobile payments in the State of Kuwait. To test the proposed model and its hypotheses, responses were analyzed using a partial least square structural equation modeling approach (PLS-SEM). The results show that usage, value, risk, and tradition resistance-related factors are significant barriers towards behavioral intentions to use mobile payments, while the image barrier is insignificant. The findings also affirmed that perceived behavioral control and attitudes motivate and influence consumers' behavioral intentions; however, the subjective norm was non-significant. The study's findings have significant implications for scholars, mobile payments' service providers, marketers, policymakers, and banks.

1. Introduction

The swift advancement of technology, the emergence of innovative financial technology (FinTech) products and services (Belanche et al., 2022; Rabaa'i, in press), the widespread use of smartphones globally (Migliore et al., 2022), the impact of the COVID-19 pandemic (Upadhyay et al., 2022), the increasing reliance of today's consumers on smartphones (Rabaa'i, Al-lozi, et al., 2022; Rabaa'i & Zhu, 2021), and the integration of smartphone technologies like mobile apps and near field communication (NFC) technology (Kaur et al., 2020; Khanra et al., 2021) have collectively enabled the transition from traditional payment methods, primarily involving cash or bank card transactions, to mobile payments. This transformation has been explored in studies such as those conducted by Lara-Rubio et al. (2020), Leong et al. (2020), Liébana-Cabanillas et al. (2018, 2021), Ramos De Luna et al. (2019), and Singh et al. (2020). Singh et al. (2020, p. 191) defined a mobile payment as "any payment service carried out through a mobile device". That is, a mobile payment is used to describe the digital transfer of funds from a consumer to a seller or merchant via a mobile device (S. K. Sharma et al., 2019, p. 243).

Despite the various advantages offered by different mobile payment methods, their usage, acceptance, and adoption rates remain relatively modest, as indicated in prior research (e.g., Kalinić et al., 2019; Khanra et al., 2021; Lara-Rubio et al., 2020; Leong et al., 2020; Liébana-Cabanillas et al., 2021; Migliore et al., 2022; Rabaa'i, forthcoming; Rabaa'i & Zhu, 2021). Furthermore, existing literature on mobile payments predominantly focuses on studies conducted in developed nations such as South Korea (Choi et al., 2020), Germany (Gerpott & Meinert, 2017), the USA (Zhang & Mao, 2020), the UK (Slade, Dwivedi, et al., 2014), and France (de Kerviler et al., 2016). However, there is a notable scarcity of evidence-based studies

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examining consumers' intentions to use mobile payments in less developed and emerging markets (e.g., Kaur et al., 2021; Rabaa'i, Al-lozi, et al., 2022; Rabaa'i & Zhu, 2021). Additionally, while scholars have shown interest in exploring consumer resistance in various innovation contexts, such as mobile ticketing applications (Chen et al., 2022), eco-friendly cosmetic purchase intentions (Sadiq et al., 2021), online travel agency purchases (Talwar et al., 2020), mobile banking (Laukkanen, 2016), organic food consumption (Kushwah et al., 2019), Internet of Things (H. Lee, 2020), digital device recycling platforms (Tang & Chen, 2022), drone food delivery (Khalil et al., 2022), Internet banking services (Baklouti & Boukamcha, 2023), and non-fungible tokens (NFTs) (Rabaa'i et al., in press), research specifically addressing resistance to mobile payments is notably scarce (e.g., Kaur et al., 2021; Khanra et al., 2021; Leong et al., 2020; Migliore et al., 2022; Sivathanu, 2018). This study aimed to investigate the willingness of consumers in the State of Kuwait to use mobile payments by examining both their inclination toward and resistance to these payment methods.

This study holds relevance for Kuwait's financial services and the mobile payments industry for several reasons. Firstly, mobile payments are still in their early stages of development (Rabaa'i & Zhu, 2021). Secondly, despite its small size, Kuwait stands out with one of the highest rates of adopting new technology and generates substantial revenue per user for tech companies in the Middle East and North Africa region (Global Finance, 2020, and Rabaa'i & Abu ALMaati, 2021). Thirdly, Kuwait boasts a remarkable mobile penetration rate of 146.6%, surpassing the global average of 64.5% and exceeding that of the majority of developed countries. Nearly all households, at 99.7%, own smartphones, and Kuwait's mobile network infrastructure is robust, covering the entire land area and population of the nation (KFAS, 2019; Rabaa'i, in press c). This study employs a comprehensive model that considers both the factors that promote (referred to as drivers) and impede (referred to as barriers) the adoption of mobile payments. To construct this model, the study integrates two theoretical frameworks: the Theory of Planned Behavior (TPB) by Ajzen (1991) and the Innovation Resistance Theory (IRT) as proposed by Ram & Sheth (1989). Subsequently, through the collection of data from an online self-administered survey, the model undergoes empirical testing.

The significance of this study is four-pronged. First, it addresses a notable gap in the research landscape concerning barriers to mobile payments adoption, an area that has been relatively understudied (e.g., Leong et al., 2021; Migliore et al., 2022; Rabaa'i, in press a). By delving into consumers' resistance to technological innovations within the realm of mobile payments, this study contributes to expanding our understanding in this emerging but underexplored domain. While previous research has often focused on the positive drivers of technology adoption, it has given limited attention to consumers' resistance. This study employs the Innovation Resistance Theory (IRT) framework to investigate why consumers' intentions to use mobile payments may face obstacles, enriching this burgeoning field of research. Second, this research illustrates how both drivers and barriers affecting the inclination to use mobile payments interact and reinforce one another. Recognizing that no single model or theoretical framework can comprehensively capture all aspects of behavioral intentions toward an innovation (e.g., Leong et al., 2020, 2021; Migliore et al., 2022; Rabaa'i, in press a), this study combines the Innovation Resistance Theory (IRT) and the Theory of Planned Behavior (TPB) within the context of mobile payments. To the best of our knowledge, there have been no prior attempts to integrate IRT and TPB in the context of mobile payments. Migliore et al. (2022) argue that amalgamating diverse theories into a research model can enhance our understanding of customer behavioral intentions and increase the significance and predictability of the study's findings. Third, even though Kuwait and other developing countries and emerging markets have witnessed rapid growth and expansion in various technological innovation initiatives (Rabaa'i, in press c), there is currently a dearth of evidence-based research exploring consumer resistance, particularly within these emerging markets (Kaur et al., 2021). Finally, this study aims to provide both theoretical and practical guidance for academics and professionals interested in the field of mobile payments.

The paper is structured as follows. Section 2 provides an overview of related previous studies, and a description of the theoretical framework. The proposed research model and hypotheses are presented in Section 3. Section 4 describes the research method, data collection, and the questionnaire design. The analysis's results, key findings, discussion, and implications - along with the limitations and suggestions for future research - are presented in Sections 5, 6, and 7, respectively.

2. Literature Review

As per Migliore et al. (2022), mobile payment adoption is driven by two main factors: (1) the widespread integration of the technology in society, and (2) the willingness of potential users to embrace it. In this study, we employ the constructs of image, tradition, risk, and value barriers from the Innovation Resistance Theory (IRT) framework to address the first factor, while we utilize the Theory of Planned Behavior (TPB) constructs, namely attitude, subjective norm, and perceived behavioral control, to capture the individual motivations and drivers behind technology use, addressing the second factor.

Rabaa'i and Zhu (2021) categorized mobile payments into three distinct groups: (1) Person-to-Person (P2P) payments conducted using a specific mobile device (Lara-Rubio et al., 2020), (2) remote payments and in-store technologies such as mobile wallets (m-wallets) and quick response (QR) codes (Liébana-Cabanillas et al., 2015), and (3) mobile payments executed in person or contactless payments (Slade, Dwivedi, et al., 2014). This type of mobile payment relies on near field communication (NFC) technology, which establishes a wireless connection between a mobile device and a point of sale (POS) to complete the transaction (Sharma et al., 2019). In line with Migliore et al. (2022, p. 2100), mobile payments in this study is defined as "all payments carried out by consumers through an application on a mobile device (rather than using cash, checks, or bank cards)".

2.1 Previous Research on Mobile Payment Adoption and Resistance

The rise in popularity of mobile payments is a relatively recent development, as evident from recent studies (e.g., Kaur et al., 2020; Khanra et al., 2021; Rabaa'i & Zhu, 2021). This is highlighted by the increasing focus on research concerning various payment methods, especially in recent times (as observed in Khanra et al., 2021; Migliore et al., 2022). Ajzen and Fishbein's Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1977), Ajzen's Theory of Planned Behavior (TPB) (Ajzen, 1991), Moore and Benbasat's Innovation Diffusion Theory (IDT) (Moore & Benbasat, 1991), Rogers's Diffusion of Innovation Theory (DOI) (Rogers, 2003), Davis's Technology Acceptance Model (TAM) (Davis, 1989), Venkatachalam's Unified Theory of Acceptance and Use of Technology (UTAUT/(UTAUT2) (Venkatesh et al., 2003, 2012), and others have all been used by information systems (IS) researchers to investigate mobile payments use and acceptance.

The existing body of literature on mobile payments demonstrates that numerous research studies have been conducted across various countries, including Brazil (Ramos-de-Luna et al., 2016), Malaysia (Leong et al., 2020), South Korea (Choi et al., 2020), Oman (Sharma et al., 2018), Germany (Gerpott & Meinert, 2017), the USA (Zhang & Mao, 2020), China (Su et al., 2018), the UK (Slade, Dwivedi, et al., 2014), France (de Kerviler et al., 2016), India (Singh et al., 2020), South Africa (Matemba & Li, 2018), and Kuwait (Rabaa'i, in press a; Rabaa'i, Zhu, & Jayaraman, 2022; Rabaa'i & Zhu, 2021). Furthermore, several studies have investigated consumers' intentions to adopt various types of mobile payments, including NFC technology (Ramos-de-Luna et al., 2017), SMS (short message service) payments (Liébana-Cabanillas et al., 2014), P2P (peer-to-peer) payments (Kalinic et al., 2019), QR (quick-response) code payments (Liébana-Cabanillas et al., 2015), mobile wallets (Chawla & Joshi, 2019; Rabaa'i, in press a), and wearable payments (Rabaa'i & Zhu, 2021). A comprehensive review of the literature on mobile payments' adoption and acceptance can be found in Rabaa'i and Zhu (2021) and Rabaa'i (in press a).

The majority of previous research on mobile payments has primarily focused on understanding the factors influencing their usage and adoption (e.g., Kaur et al., 2020; Khanra et al., 2021; Migliore et al., 2022; Sivathanu, 2018). However, relatively little attention has been given to examining resistance towards the adoption and use of mobile payments (e.g., Kaur et al., 2020; Khanra et al., 2021; Leong et al., 2020; Liu et al., 2019). A review of past literature reveals only five empirical studies that have explored consumer resistance to mobile payments, and these findings are summarized in Table 1. Additionally, it's worth noting that researchers have consistently chosen the Innovation Resistance Theory (IRT) to investigate consumer resistance to mobile payments. Notably, all five of these research studies were conducted between 2018 and 2022, highlighting the growing scholarly interest in examining consumer resistance to mobile payments.

Table 1
Prior literature on the IRT and Mobile Payments

Author/Year	Theory	Sample	Method
Sivathanu (2018)	UTAUT2 & IRT	766 Indian respondents (58% males) aged from below 25 years to above 45 years	PLS-SEM
Kaur et al. (2020)	IRT	1256 Indian respondents (83% males) aged between 19 and 26	CMB-SEM
Leong (2020)	IRT and perceived novelty	478 Malaysian respondents (58.2% males) aged from below 20 years to above 51 years	PLS-SEM and ANN
Khanra et al. (2021)	IRT, Privacy concerns, and Visibility	308 Indian respondents (57.8% females) aged from below 25 years to above 56 years	CMB-SEM
Migliore et al. (2022)	UTAUT2 & IRT	505 Chinese and Italian respondents aged from below 18 years to above 65 years	CMB-SEM

2.2 The Innovation Resistance Theory (IRT)

The Innovation Resistance Theory (IRT), initially introduced by Ram (1987) and subsequently refined by Ram and Sheth (1989), offers insights into how consumers tend to resist innovations. As Tang and Chen (2022) point out, comprehending the psychological factors driving users' resistance to innovations can be instrumental in promoting the adoption and diffusion of such innovations. IRT perceives users' resistance to innovations as a natural response to the disruptions they bring about. According to Sadiq et al. (2021), consumer resistance to innovation is a behavior arising from their rational evaluation and examination of a novel innovation that has the potential to disrupt the established order and deviate from their current perspective. In simpler terms, a consumer's resistance to any innovation can be described as their reluctance to move away from a "satisfactory standpoint" or their aversion to any challenge that might impact their existing worldview (Ram & Sheth, 1989). Consequently, consumer resistance plays a pivotal role in determining whether an innovation ultimately gets adopted (Sadiq et al., 2021).

Ram (1989) proposed that consumers' resistance to innovation arises from various challenges or obstacles they encounter during the initial stages of adopting an innovation. It is crucial to eliminate these barriers for consumers to effectively accept and utilize the innovation (Ram, 1987). These obstacles were categorized by Ram and Sheth (1989) into functional and psychological barriers. The functional barrier was further divided by these researchers into usage, value, and risk barriers. Conversely, the psychological barrier was subcategorized into tradition and image. The functional barriers can be seen as an active form of resistance linked to the characteristics and features of the innovation itself (Heidenreich & Handrich, 2015). In

contrast, the psychological barriers can be regarded as a passive form of resistance associated with consumers' existing perspectives and beliefs (Khanra et al., 2021). Leong et al.'s (2021) meta-analysis of 26 research studies found that these five resistance-related barriers - namely usage, value, risk, tradition, and image - had a substantial capacity to elucidate why individuals exhibited resistance to innovation.

The Innovation Resistance Theory (IRT) has found extensive application in various contexts of innovation, including mobile ticketing applications (Chen et al., 2022), eco-friendly cosmetic purchase intentions (Sadiq et al., 2021), intentions to purchase from online travel agencies (Talwar et al., 2020), mobile banking (Laukkanen, 2016), organic food consumption (Kushwah et al., 2019), the Internet of Things (Lee, 2020), digital device recycling platforms (Tang & Chen, 2022), drone food delivery (Khalil et al., 2022), Internet banking services (Baklouti & Boukamcha, 2023), mobile payments (Kaur et al., 2020; Khanra et al., 2021; Leong et al., 2020; Migliore et al., 2022; Sivathanu, 2018), non-fungible tokens (Rabaa'i et al., in press), and various other contexts.

The application of the Innovation Resistance Theory (IRT) within the realm of mobile payments has yielded diverse and conflicting outcomes. Sivathanu (2018) identified that the five resistance-related barriers, namely usage, value, risk, tradition, and image, have a detrimental impact on users' intentions to use mobile payments. In contrast, Migliore et al. (2022) reported that only the tradition barrier has a discernible influence on the adoption of mobile payments. Furthermore, the findings from Kaur et al. (2020) indicated that usage, risk, and value barriers exhibit negative associations with intentions to use mobile payments, whereas tradition and image barriers showed no significant connection with users' behavioral intentions. Moreover, Leong et al. (2020) determined that usage, risk, value, and tradition barriers all significantly hinder behavioral intentions regarding mobile payments, whereas the image barrier was deemed insignificant. Lastly, Khanra et al.'s (2021) study uncovered that only usage and image barriers are negatively correlated with behavioral intentions to use mobile payments, while value, risk, and tradition barriers did not exhibit any significant associations.

2.3 The Theory of Planned Behavior (TPB)

Derived from the Theory of Reasoned Action (TRA) and developed by Ajzen and Fishbein in 1977, the Theory of Planned Behavior (TPB) introduced by Ajzen in 1991 stands out as one of the most influential and widely employed models for comprehending and forecasting human behavioral intentions (Ajzen, 2011; Ng, 2022). The TPB posits that human behavior is shaped by three central sets of beliefs, namely behavioral beliefs, normative beliefs, and control beliefs (Ajzen, 1985). As elucidated by Ajzen (1991), behavioral beliefs pertain to the beliefs regarding the expected outcomes or other attributes associated with the behavior. These behavioral beliefs generate either a favorable or unfavorable attitude toward the behavior. Normative beliefs revolve around the expectations people hold about the opinions of others, subsequently influencing the perceived social pressure or subjective norm. Lastly, control beliefs involve beliefs concerning the factors that might ease or impede the execution of the behavior, leading to the perception of behavioral control, which signifies the perceived ease or difficulty in performing the behavior. When these three categories of beliefs are amalgamated, they give rise to the formation of a behavioral intention, which is considered the immediate precursor to actual behavior (Ajzen, 2011).

Despite its simplicity, the Theory of Planned Behavior (TPB) has found extensive application in various contexts of innovation. These contexts include organic food purchase intentions (Teixeira et al., 2022), the adoption of e-library services (Rahmat et al., 2022), intentions to use promo codes (Hammouri et al., 2022), Green Hotel practices (Kim, 2023), the tourism industry (Özel & Çoban, 2022), hospitality (Al Rousan et al., 2022), health-related matters (Shanka & Gebremariam Kotecho, 2023), energy-related decisions (Tan et al., 2023), financial considerations (Sobaih & Elshaer, 2023), mobile payments (Belanche et al., 2022; Sun et al., 2020, 2022), and various other domains.

In their two studies, Sun et al. (2020, 2022) delved into the utilization of mobile payments in the context of hotel reservations and purchase intentions. Their research results affirmed that the inclination to use mobile payments is shaped by one's attitude, subjective norms, and perceived behavioral control. Belanche et al. (2022) expanded upon the Theory of Planned Behavior (TPB) by incorporating perceived risk into their examination of the factors influencing users' intentions to utilize and endorse a Peer-to-Peer (P2P) mobile payment system known as Bizum. Their study findings highlighted the favorable impact of attitude and perceived control on both behavioral intentions and recommendations, whereas subjective norms and perceived risk did not exhibit significant associations.

3. Research Model and Hypotheses Development

IRT and the TPB are integrated in the research model of this study. The proposed research model of this study assumes that factors that influence adoption of mobile payments (drivers) and factors that hinder it (barriers) interact and support one another. Reasons to combine the two model are: using broader theoretical models as opposed to just one adoption model can help us learn more about consumer adoption behavior (Rabaa'i, in press a; Rabaa'i et al., 2022; Rabaa'i & Zhu, 2021), no one model or theoretical framework can adequately capture all facets of new innovation adoption behavior (Leong et al., 2020, 2021), and greater importance and predictability of findings are ensured by an integrated model (Migliore et al., 2022). Studies related mobile payments adoption barriers are scarce (e.g., Leong et al., 2021; Migliore et al., 2022; Rabaa'i, in press a) and to the best of the author's knowledge there has been no previous attempts to integrate the IRT and the TPB in the mobile payments' context.

In this study, the research model combines the Innovation Resistance Theory (IRT) and the Theory of Planned Behavior (TPB). The underlying assumption of this research model is that the factors influencing the adoption of mobile payments (referred to as drivers) and the factors hindering it (referred to as barriers) interact with and complement each other. Several reasons support the amalgamation of these two models:

1. Utilizing broader theoretical models, as opposed to relying solely on a single adoption model, allows for a deeper understanding of consumer adoption behavior (Rabaa'i, forthcoming a; Rabaa'i et al., 2022; Rabaa'i & Zhu, 2021).
2. Recognizing that no single model or theoretical framework can comprehensively encompass all aspects of the behavior related to the adoption of new innovations (Leong et al., 2020, 2021).
3. Ensuring greater significance and predictability of research findings through the integration of these two models, as advocated by Migliore et al. (2022).

It's worth noting that research on barriers to the adoption of mobile payments is limited (e.g., Leong et al., 2021; Migliore et al., 2022; Rabaa'i, forthcoming a), and to the best of the authors' knowledge, there have been no previous attempts to integrate the Innovation Resistance Theory (IRT) and the Theory of Planned Behavior (TPB) in the context of mobile payments.

In the proposed research model, the Innovation Resistance Theory (IRT) and Theory of Planned Behavior (TPB) are utilized to evaluate, respectively, the barriers and drivers for the adoption of mobile payments. The barriers suggested by IRT encompass the usage barrier (UB), value barrier (VB), risk barrier (RB), tradition barrier (TB), and image barrier (IB). Among these barriers, the first three (UB, VB, RB) are categorized as functional barriers, while the latter two (TB, IB) fall under the psychological category. On the other hand, the proposed drivers align with TPB and include attitude (ATT), subjective norm (SN), and perceived behavioral control (PBC). In the research model, each construct is defined as either a positive or negative predictor of the behavioral intention to use mobile payments (IU). The initial five hypotheses, rooted in IRT, center on the barriers related to the intention to use mobile payments. Following these, the subsequent three hypotheses, based on TPB, address the drivers that are expected to promote the intention to use mobile payments. For a visual representation of this research model, please refer to Fig. 1.

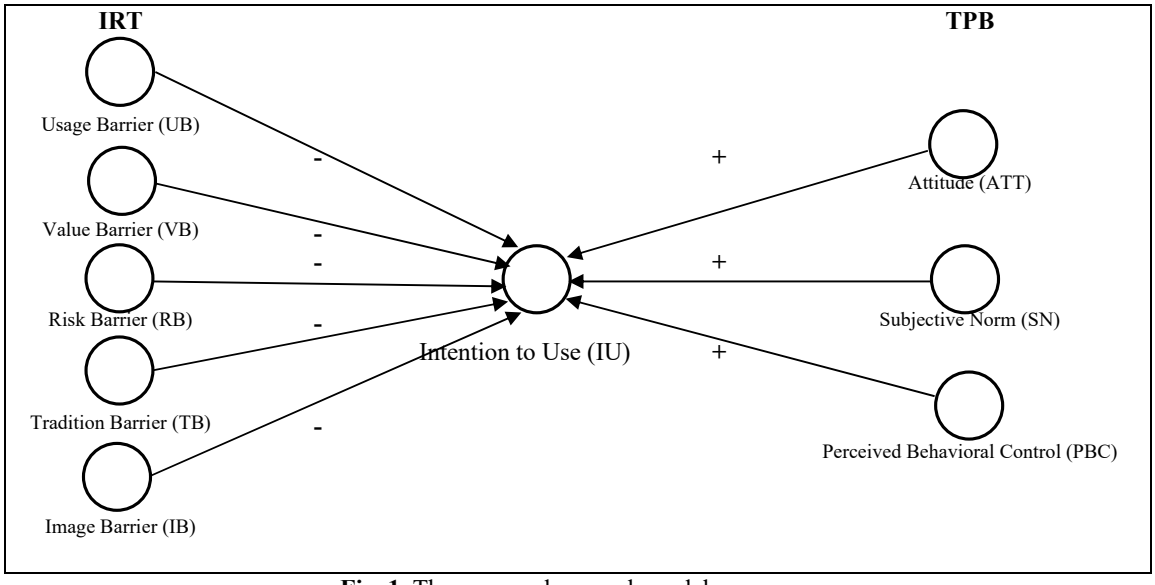

Fig. 1. The proposed research model

3.1 Usage Barrier (UB)

As noted by Joachim et al. (2018), the adoption of an innovation often involves disrupting the established routines, processes, and habits of current users. When an innovation is at odds with the existing work procedures, experiences, or habits of consumers, it gives rise to a usage barrier (UB) (Chen et al., 2022; Migliore et al., 2022), which can potentially disrupt the status quo (Ram & Sheth, 1989). In essence, customers tend to react negatively to new innovations that disrupt their sense of equilibrium and stability (Ram, 1989). The term UB signifies the effort required to adapt to the new system, acquire the necessary skills for its use, and adjust one's daily routines and habits (Kaur et al., 2020). Numerous previous studies within the framework of the Innovation Resistance Theory (IRT) have consistently demonstrated a significant negative association between UB and behavioral intentions across various innovative contexts (e.g., Chen et al., 2022; Kushwah et al., 2019; Laukkanen, 2016; Sadiq et al., 2021; Tandon et al., 2021). Similarly, it has been reported that UBs exhibit a negative correlation with the intention to use mobile payments (e.g., Kaur et al., 2020; Khanra et al., 2021; Sivathanu, 2018). Consequently, this study postulates that consumers who possess limited technical skills or limited familiarity with such payment methods may encounter usage barriers due to the intricacy of mobile payments. As a result, the following hypothesis is put forth in this study:

H_1: *Usage barrier negatively impacts consumers' intention to use mobile payments.*

3.2 Value Barrier (VB)

The value barrier (VB) arises when an innovation is perceived to be inferior to its alternative or predecessor in terms of performance and financial value, often referred to as relative advantage (Ram & Sheth, 1989). In the case of mobile payments, they must outperform traditional payment methods like cash and bank cards and offer benefits that these older methods do not provide in order to convince consumers to embrace them (Khanra et al., 2021, 2021). Consequently, unless mobile payments offer superior value compared to the currently available solutions, consumers lack the incentive to switch (Migliore et al., 2022). Hence, customers will opt for mobile payments only if they offer advantages over alternatives such as cash or bank cards. Existing research across various contexts consistently indicates that VBs are negatively associated with users' behavioral intentions (e.g., Baklouti & Boukamcha, 2023; Joachim et al., 2018; Laukkanen, 2016; C. Lee et al., 2019; Sadiq et al., 2021; Soh et al., 2020; Talwar et al., 2020). This adverse relationship between VBs and users' behavioral intentions has also been affirmed in the context of mobile payments (e.g., Kaur et al., 2020; Migliore et al., 2022; Rabaa'i, in press a; Rabaa'i & Zhu, 2021; Sivathanu, 2018). Consequently, the study posits the following hypothesis:

H_2: *Value barrier negatively impacts consumers' intention to use mobile payments.*

3.3 Risk Barrier (RB)

Risk barriers (RB) pertain to the resistance stemming from uncertainties associated with an innovation, which are an inherent aspect of any new technology (Baklouti & Boukamcha, 2023). Put simply, the presence of risk acts as a deterrent, and its magnitude is directly proportional to the level of uncertainty surrounding an innovation (Sadiq et al., 2021). Thus, the extent of risk and ambiguity introduced by an innovation plays a decisive role in its acceptance (Kaur et al., 2020). Ram and Sheth (1989) identified four types of risks associated with innovation: physical, economic, functional, and social. Users engaging in mobile payments may encounter risks such as fraud, financial losses, poor internet connectivity, or limited smartphone battery life (Laukkanen, 2016). Other potential risks encompass the mishandling of sensitive data (Migliore et al., 2022), lack of awareness regarding privacy and security issues (Kaur et al., 2020), and inadvertent security breaches (Khanra et al., 2021). In various innovation contexts, the literature on Innovation Resistance Theory (IRT) consistently demonstrates a negative correlation between RB and behavioral intentions (e.g., Baklouti & Boukamcha, 2023; Rabaa'i, in press b; Rabaa'i, Al-lozi, et al., 2022; Rabaa'i & Abu ALMaati, 2021; Sadiq et al., 2021; Talwar et al., 2020), including the domain of mobile payments (e.g., Kaur et al., 2020; Rabaa'i, in press a; Rabaa'i & Zhu, 2021; Sivathanu, 2018). Consequently, this study posits that customers are less inclined to use mobile payments as they perceive them to be riskier. Therefore, the following hypothesis is presented:

H_3: *Risk barrier negatively impacts consumers' intention to use mobile payments.*

3.4 Tradition Barrier (TB)

Customers have well-established routines, habits, societal norms, and personal beliefs. Any alteration to these aspects tends to generate resistance towards an innovation (Laukkanen, 2016). In contrast to the actual adoption and experiences associated with an innovation, the tradition barrier (TB) can arise from a conflict between consumers' long-standing traditions, conventions, and beliefs (Ram & Sheth, 1989). In essence, TB measures the extent to which an innovation deviates from consumers' traditions, routines, norms, and expectations (Chen et al., 2022). Insufficient public awareness and a lack of information may contribute to the emergence of TB in the context of mobile payments (Khanra et al., 2021). Additionally, the introduction of mobile payments has brought significant changes to the payment landscape in Kuwait, the focus of this study. Historically, payments in Kuwait were predominantly made in cash or via bank cards (Rabaa'i, in press b). However, mobile payments utilize mobile devices for cashless transactions. According to the literature, TBs have consistently exhibited a negative association with behavioral intentions to adopt new innovations (e.g., Kaur et al., 2020; Khanra et al., 2021). For example, TBs have been found to negatively impact adoption intentions across various domains, including eco-friendly cosmetic products (Sadiq et al., 2021), drone food delivery (Khalil et al., 2022), internet banking services (Baklouti & Boukamcha, 2023), and mobile payments (Sivathanu, 2018). Considering the discussion, this study asserts that consumers' behavioral intentions to use mobile payments will be hindered by the tradition barrier, which conflicts with their traditional payment norms and value beliefs. This leads to the following hypothesis:

H_4: *Tradition barrier negatively impacts consumers' intention to use mobile payments.*

3.5 Image Barrier (IB)

The image barrier (IB) is closely linked to the concept of technology readiness, which encompasses individuals' attitudes and perceptions regarding technology in general (Migliore et al., 2022). As defined by Ram and Sheth (1989), IB pertains to customers' perceptions of new innovations in terms of the perceived complexity associated with their use or their origins. IB arises when consumers compare a new product or innovation with existing product offerings (Kaur et al., 2020; Sadiq et al., 2021). Typically, an innovation retains certain characteristics from its source (Chen et al., 2022). These characteristics can relate to the innovation's type, the manufacturer, the level of complexity, or the country of origin (Kushwah et al., 2019). In the context of mobile payments, IB may manifest due to frequent transaction failures (Khanra et al., 2021), the perceived complexity of using such payment methods (Rabaa'i, in press a), and a low acceptance rate from retailers (Liébana-Cabanillas

& Lara-Rubio, 2017). While Kaur et al. (2020) and Migliore et al. (2022) found no evidence supporting the influence of IB on intentions to use mobile payments, the effect of IB was significant concerning resistance to adopting digital payments (Sivathanu, 2018). Furthermore, the negative association between IB and behavioral intentions has been confirmed in various contexts, such as the purchase of eco-friendly cosmetic products (Sadiq et al., 2021) and the use of internet banking services (Baklouti & Boukamcha, 2023). In accordance with Sivathanu (2018), this study posits that there is a barrier to the adoption of mobile payments when individuals associate them with unfavorable images. Consequently, IB may impact a user's behavioral intention when using mobile payments. Based on this discussion, the following hypothesis is proposed:

H_5: *Image barrier negatively impacts consumers' intention to use mobile payments.*

3.6 Attitude (ATT)

Attitude (ATT) pertains to an individual's perception and evaluation of a specific behavior (Belanche et al., 2022). ATT is defined as the degree of consumer appraisal of the behavior in question, whether positively or negatively (Ajzen, 1991). In essence, it represents an artificially induced emotional state toward a particular organization, issue, or technology (Rabaa'i et al., 2021). It was chosen as one of the three foundational constructs of behavioral intention in the TPB model due to its pivotal role in understanding consumers' behavioral intentions (Ajzen, 1991). According to Information Systems (IS) studies, regardless of the sophistication of the technology, a consumer's intention to use a technology is influenced by their positive attitude (Dwivedi et al., 2019, 2020; N. Upadhyay et al., 2022). While Dai et al. (2020) suggested that attitude is linked to emotions regarding technology use, Wixom and Todd (2005) asserted that ATT represents an affective reaction to behavior. However, de Luna et al. (2019) proposed that ATT encompasses behavioral (inclination toward technology use), affective (emotional response to technology), and cognitive (individual beliefs, experiences, and perceptions regarding technology) aspects. Prior research on mobile payments (e.g., Belanche et al., 2022; Liébana-Cabanillas et al., 2015; Ramos De Luna et al., 2019; N. Upadhyay et al., 2022; P. Upadhyay & Jahanyan, 2016; Wulandari, 2017) has consistently demonstrated a positive relationship between attitude and behavioral intention. Therefore, this study posits that a positive attitude toward mobile payments exerts a noticeable influence on usage behavior. Based on the preceding discussion, the following hypothesis is proposed:

H_6: *Attitude towards using mobile payments positively impacts consumers' intention to use it*.

3.7 Subjective Norm (SN)

Subjective norm (SN), akin to the "social influence" concept utilized in the UTAUT model (e.g., Rabaa'i, 2015; Rabaa'i et al., 2021; Venkatesh et al., 2012), is grounded in the notion that the views, attitudes, and opinions of other individuals significantly shape people's behavior (Ajzen, 1991; Belanche et al., 2022). Whether this influence is positive or negative, SN plays a crucial role in various aspects of individuals' lives and is expected to exert a substantial impact on technology adoption and use (Venkatesh et al., 2003). SN proves especially critical for technologies in their early stages of acceptance and adoption when consumers are unfamiliar with the technology and lack the knowledge necessary for its utilization (e.g., Beh et al., 2019; Hammouri et al., 2022). In certain situations, people might adopt technology primarily to conform to the expectations of others rather than based on their own sentiments and viewpoints (Davis, 1989). According to Park et al. (2019), the relationship between SN and behavioral intention implies that adopting a new technology may be advantageous for the reference group (such as friends, family, coworkers, etc.), even if it may not hold the same benefits for the individual user. In other words, the encouragement of those around customers can significantly influence their perception of a particular technology (Alalwan et al., 2017). Previous research has consistently demonstrated that SN precedes the adoption of mobile payments (e.g., Gupta & Arora, 2019; Kalinic et al., 2019; Liébana-Cabanillas et al., 2015, 2019; Oliveira et al., 2016; Park et al., 2019; Ramos De Luna et al., 2019; Sivathanu, 2018; Sobti, 2019). Therefore, aligning with Park et al. (2019), this study posits that SN is crucial in motivating a consumer to promptly adopt and use mobile payments to align with their reference group. Consequently, the study proposes the following hypothesis:

H_7: *Subjective norm positively impacts consumers' intention to use mobile payments.*

3.8 Perceived Behavioral Control (PBC)

Initially, perceived behavioral control (PBC) was viewed as a moderator influencing the connections between attitude-intention and subjective norm-intention in the original TPB (Ajzen, 1985; Barbera & Ajzen, 2020; La Barbera & Ajzen, 2022). However, it was later assumed an equivalent position to attitude and subjective norm as a direct determinant of behavioral intention (Ajzen, 1991, 2005, 2011; Hagger et al., 2022). PBC represents the belief that an individual possesses the necessary resources, skills, and opportunities to engage in a specific behavior (Ajzen, 1991, 2005). In simpler terms, PBC measures to what extent individuals believe they have the essential means, chances, and abilities to perform a particular action (e.g., Belanche et al., 2022; Fischer & Karl, 2022; Hammouri et al., 2022; Taylor & Todd, 1995). Consequently, the greater control individuals perceive over their behavior, the more likely they are to follow through with their intentions (Nur & Dewanto, 2022; Taylor & Todd, 1995). Previous studies on mobile payments (e.g., Belanche et al., 2022; Nguyen et al., 2016; Nur & Dewanto, 2022; Verkijika & Neneh, 2021) have consistently affirmed a positive relationship between PBC and behavioral intentions. This study argues that if individuals believe they have the requisite opportunities and resources, they will perceive greater control over their behavior and thus possess a stronger intention to use mobile payments. Based on this rationale, the following hypothesis is proposed:

H8: *Perceived behavioral control positively impacts consumers' intention to use mobile payments.*

4. Methodology

4.1 Measures

To gather data for this study, a questionnaire was created and administered to participants. The measurement scales for the constructs in the research model were derived from relevant previous studies. The questionnaire comprised three sections. The first section introduced mobile payments, outlined the study's objectives, and included instructions on how to complete the questionnaire. The second section focused on gathering demographic information, including gender, age, monthly income, education level, and familiarity with mobile payments. The third section contained the measurement items for the research model. All items were assessed using a 7-point Likert scale, ranging from "strongly disagree" to "strongly agree." It's important to note that all questions in both the second and third sections of the questionnaire required a response. You can find details about the study's constructs, measurement items, and the sources from the literature in Table 2.

Table 2
The study's constructs and measurement items

Variable Name	Items Code	Measurement Items	Adapted from
Usage Barrier (UB)	UB1	Using mobile payment is easy for me. (R)	Joachim et al. (2018); Khanra et al. (2021)
	UB2	Using mobile payment does not require learning new skills. (R)	
Value Barrier (VB)	VB1	In my opinion, mobile payment does not offer any advantage compared to handling my payments in other ways.	Joachim et al. (2018); Migliore et al. (2022)
	VB2	In my opinion, the use of mobile payment does not increase my ability to control my financial matters by myself. (R)	
	VB3	In my opinion, the use of mobile payment solves problems I cannot solve with other payment methods. (R)	
Risk Barrier (RB)	RB1	I fear that while I am using mobile payments, someone may hack my account.	Laukkanen (2016)
	RB2	I fear that while I am using mobile payments, I might type the information of the bill incorrectly.	
Tradition Barrier (TB)	TB1	It is not difficult to get some information about mobile payments use. (R)	Laukkanen (2016); Khanra et al. (2021)
	TB2	I am more comfortable to use cash or bank cards for payment purposes.	
Image Barrier (IB)	IB1	I have such an image that mobile payments are difficult to use.	Laukkanen (2016)
	IB2	In my opinion, mobile payments are often too complicated to be useful.	
Attitude (ATT)	ATT1	I like the idea of using mobile payments.	Belanche et al. (2022)
	ATT2	I have a good opinion about using mobile payments.	
	ATT3	Using mobile payments is not pleasant. (R)	
Subjective Norm (SN)	SN1	People who are important to me think that I should use mobile payments.	Taylor and Todd (1995)
	SN2	People who influence my behavior think that I should use mobile payments.	
	SN3	People whose opinions I value prefer that I use mobile payments when carrying out payment transactions.	
Perceived Behavioral Control (PBC)	PBC1	When I use mobile payments, I feel that I have control over the things I do.	Taylor and Todd (1995)
	PBC2	The use of mobile payments is under my control.	
	PBC3	I am confused when using mobile payments. (R)	
Intention to Use (IU)	IU1	I intend to use mobile payments in the future.	Kaur et al. (2020)
	IU2	I expect my use of mobile payments to increase in the future.	
	IU3	I plan to use mobile payments frequently.	

The questionnaire was subjected to a validation process involving five experts. Following this, a pilot survey was conducted with a convenient sample of 23 participants to evaluate the questionnaire's effectiveness and assess its validity and reliability. Feedback from participants indicated that the questionnaire was easy to understand and didn't require much time to complete. The validity of the scale for each construct was assessed using Cronbach's alpha, with all constructs achieving values exceeding 0.70, in line with the recommendation of Nunnally and Bernstein (1994). It's important to note that the data from the pilot survey was not included in the final data analysis.

4.2 Data Collection and Sampling

Data was gathered through an internet-based survey distributed across various online social platforms, including LinkedIn, Instagram, WhatsApp, and Facebook, targeting individuals residing in Kuwait. A snowball sampling method, as described by Migliore et al. (2022), was employed, encouraging respondents to share the survey within their social networks of Kuwaiti residents. The online survey remained accessible for a duration of 12 weeks, spanning from February 2023 to May 2023. In total, 341 responses were collected, and the respondents' demographic characteristics are summarized in Table 3.

Table 3
Respondents' Demographic Characteristics

Data	Frequency	Percentage (%)
Gender		
Male	160	47%
Female	181	53%
Total	341	100%
Age		
Less than 18 years	21	6%
18 – 30 years	128	38%
31 – 45 years	159	47%
More than 46 years	33	9%
Total	341	100%
Monthly Income		
Less than 500 KD	47	14%
500 – 1,000 KD	99	29%
1,001 – 2,000 KD	112	33%
2,001 – 3,000 KD	58	17%
More than 3,000 KD	25	7%
Total	341	100%
Education level		
School students	19	6%
University students	87	26%
Undergraduate Degree	154	44%
Postgraduate Degree	81	24%
Total	341	100%
Familiarity with mobile payments		
Not familiar	10	3%
Familiar	312	91%
Don't know, maybe	19	6%
Total	341	100%

5. Results

The data and research model of this study underwent evaluation using SPSS 23 and SmartPLS 3.2.9 (Ringle et al., 2015). To ensure an impartial response, an examination for common method bias was conducted initially. Subsequently, the model assessment followed a two-stage process in accordance with the methodology outlined by Hair et al. (2017), involving the measurement model and the structural model.

5.1 Common method bias (CMB)

To mitigate common method bias (CMB), this study employed two strategies in line with the recommendations of Podsakoff et al. (2003). Firstly, reverse-coded measurement items were integrated into the questionnaire to ensure respondents' attentiveness to the survey questions. Secondly, the data underwent Harman's single-factor test for bias using IBM SPSS 23. The results of this test indicate that a single factor accounted for only 28.74% of the total variation, which falls below the conventional threshold of 50%, as established in prior studies (e.g., Rabaa'i, 2022; Rabaa'i, Al-lozi, et al., 2022; Rabaa'i, Muhammad, et al., 2022). This outcome suggests that common method bias is not a significant concern in the collected data.

5.2 Measurement model

As presented in Table 4, the values for Cronbach's alpha (CA) and Composite reliability (CR) exceeded the 0.7 threshold, indicating strong internal consistency reliability (Hair et al., 2017, 2019; Rabaa'i, 2017, in press b; Rabaa'i et al., 2015). Furthermore, item loadings exceeded the 0.7 threshold outlined by Hair et al. (2017), and the average variance extracted (AVE) exceeded the 0.5 cutoff for all constructs, as per Hair et al. (2019). These values affirm the convergent validity of the proposed model, in line with the findings of Rabaa'i, Zhu, Jayaraman, et al. (2022) and Rabaa'i & Zhu (2021). Additionally, the outer VIF values were below the 5 threshold, indicating that collinearity was not a significant concern, as suggested by Hair et al. (2017, 2019).

Table 4
Reliability, convergent validity and descriptive statistics

Items	Loading	VIF	Mean	St. Deviation	Cronbach's Alpha (CA)	Composite Reliability (CR)	AVE
Usage Barrier (UB)							
UB1	0.851	1.828	2.754	1.257	0.856	0.913	0.777
UB2	0.902	2.475					
Value Barrier (VB)							
VB1	0.863	1.875	2.987	1.166	0.803	0.882	0.714
VB2	0.798	1.682					
VB3	0.872	1.679					
Risk Barrier (VB)							
RB1	0.894	1.596	2.695	1.241	0.758	0.892	0.805
RB2	0.901	1.596					
Tradition Barrier (VB)							
TR1	0.911	2.039	2.506	1.109	0.833	0.922	0.856
TR2	0.939	2.039					
Image Barrier (IB)							
IB1	0.913	1.668	3.252	1.123	0.775	0.899	0.816
IB2	0.894	1.668					
Attitude (ATT)							
ATT1	0.848	1.875	2.881	1.269	0.833	0.900	0.750
ATT2	0.881	2.082					
ATT3	0.868	1.868					
Subjective Norm (SN)							
SN1	0.830	1.609	2.912	1.232	0.769	0.867	0.684
SN2	0.833	1.525					
SN3	0.817	1.588					
Perceived Behavioral Control (PBC)							
PBC1	0.856	1.776	3.156	1.271	0.820	0.893	0.736
PBC2	0.820	1.762					
PBC3	0.895	2.193					
Intention to Use (IU)							
IU1	0.905	2.469	3.372	1.329	0.873	0.922	0.797
IU2	0.906	2.435					
IU3	0.867	2.174					

Discriminant validity was assessed using the Heterotrait–Monotrait (HTMT) test, which, according to Hair et al. (2019, p. 9), measures "the mean value of the measurement item correlations across variables relative to the (geometric) mean of the average correlations for the measurement items measuring the same variable." As depicted in Table 5, all values were below the recommended threshold of 0.90, indicating that there was discriminant validity among all the constructs in the model, consistent with findings from Henseler et al. (2015), Rabaa'i, Al-lozi, et al. (2022), Rabaa'i et al. (2021), and Rabaa'i & Abu ALMaati (2021).

Table 5
Hetrotrait–Monotrait (HTMT) Test

	UB	VB	RB	TB	IB	ATT	SN	PBC
Usage Barrier (UB)								
Value Barrier (VB)	0.668							
Risk Barrier (RB)	0.722	0.686						
Tradition Barrier (TB)	0.634	0.592	0.727					
Image Barrier (IB)	0.182	0.097	0.206	0.037				
Attitude (ATT)	0.741	0.615	0.685	0.545	0.196			
Subjective Norm (SN)	0.564	0.484	0.726	0.580	0.223	0.421		
Perceived Beh. Control (PBC)	0.532	0.442	0.513	0.464	0.308	0.623	0.426	
Intention to Use (IU)	0.767	0.626	0.715	0.625	0.152	0.717	0.491	0.638

5.3 Structural model

Several assessments were employed to examine the structural model of this study, including the determination of the coefficient ((R^2), path coefficient estimates (β), effect size estimates (f^2) and predictive relevance (Q^2), following established guidelines (Hair et al., 2017, 2019; Henseler et al., 2009, 2016). The structural model is illustrated in Fig. 2.

The research model accounted for 0.59 of the variance (R^2) in the intentions to use mobile payments. Following the guidelines proposed by Hair et al. (2017), a bootstrapping procedure involving 5000 samples was conducted to assess the proposed hypotheses. Path coefficients were employed to estimate the relationships within the structural model (Chin, 2010; Hair et al., 2019). As indicated in Table 6, all model hypotheses, except for H5 and H7, were supported. Notably, the usage barrier (UB) emerged as the most significant impediment (H1: β = -0.291, $p<0.000$), while perceived behavioral control (PBC) was identified as the most influential driver (H8: β = 0.206, $p<0.000$).

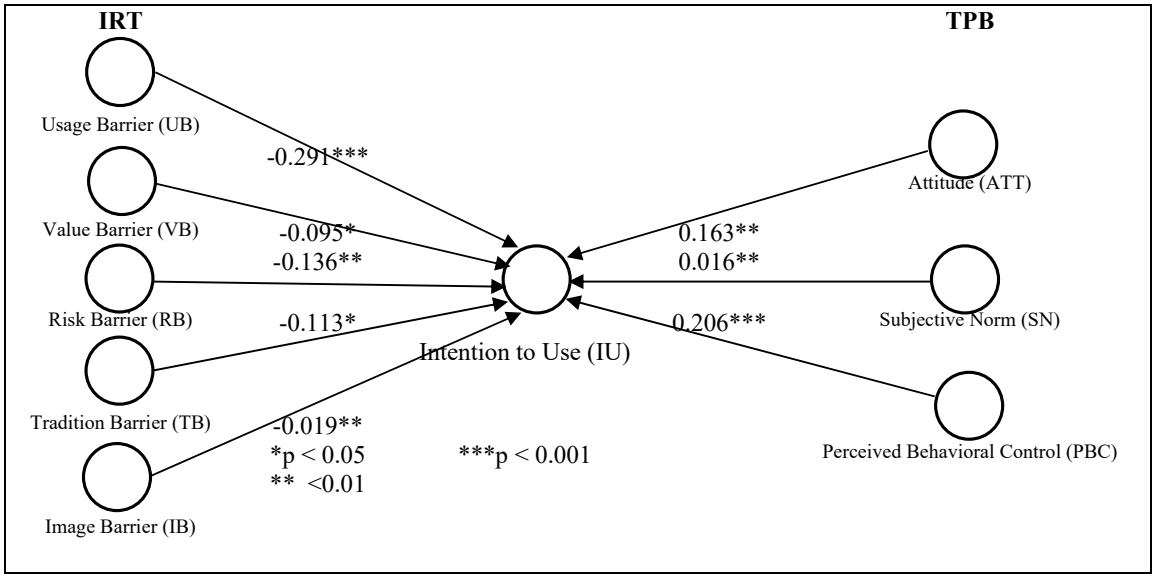

Fig. 2. The structural model

Table 6
Hypotheses test and effect sizes

Path	Hypothesis No.	Path coefficient	p-values	Sig.	f^2	Decision
UB → IU	H1	-0.291	0.000***	p<0.000	0.094	Supported
VB → IU	H2	-0.095	0.029*	p<0.05	0.012	Supported
RB → IU	H3	-0.136	0.008**	p<0.01	0.020	Supported
TB → IU	H4	-0.113	0.017*	p<0.05	0.017	Supported
IB → IU	H5	-0.019	0.585	ns	0.001	Not supported
ATT → IU	H6	0.163	0.001**	p<0.01	0.032	Supported
SN → IU	H7	0.016	0.724	ns	0.000	Not supported
PBC → IU	H8	0.206	0.000***	p<0.000	0.067	Supported

Effect size estimates (f^2) were employed to assess how independent variables influence the dependent variable, and you can find the results in Table 6. According to Kenny (2018), effect sizes of 0.005, 0.01, and 0.025 are categorized as small, medium, and large, respectively. Except for H5 and H7, the findings reveal that the f^2 values for all other hypotheses fell within the acceptable range and were deemed satisfactory. Lastly, to evaluate predictive relevance (Q^2), the blindfolding technique was utilized with an omission distance of 7. The Q^2 value of 0.437 confirms the predictive validity of the research model (Chin, 2010; P. Sharma et al., 2022).

6. Discussion and Implications

In this research, the innovation resistance theory (IRT) and the theory of planned behavior (TPB) were integrated and employed to investigate the main barriers and drivers to use mobile payments in the State of Kuwait. The proposed model of this study comprised one endogenous (i.e., behavioral intentions) and eight exogenous variables (i.e., usage barrier, value barrier, risk barrier, tradition barrier, image barrier, attitude, subjective norm, and perceived behavioral control) through 8 paths (H1-H8). The model explained variance of 59% on Kuwaiti consumers' behavioral intention to use mobile payments. While the current model explained similar variance of mobile payments' use intentions as reported in Kaur et al. (2020), it has strengthened the variance of mobile payments' use intentions as reported in Khanra et al.'s (2021) study.

Regarding the functional barriers outlined in the IRT framework, this study's results highlighted that the usage barrier was the most significant impediment to mobile payment adoption in Kuwait, followed by the risk barrier and then the value barrier. Hypothesis 1 (H1), which explored whether the usage barrier negatively influences the intention to use mobile payments, was substantiated by our research findings (H1: Usage barrier (UB) → Intention to use mobile payments, β = -0.291, p<0.000). These findings align with prior research on mobile payments (e.g., Kaur et al., 2021; Khanra et al., 2021; Leong et al., 2020; Liébana-Cabanillas & Lara-Rubio, 2017; Nguyen et al., 2016; Sivathanu, 2018). This outcome may be attributed to the relatively recent introduction of mobile payments in Kuwait, where consumers may feel more comfortable using traditional payment methods like cash or bank cards due to their limited exposure to mobile payments. Additionally, adopting mobile payments might necessitate users to acquire new skills, such as installing payment apps on their devices, establishing accounts, linking payment apps to their bank accounts, and so forth (Rabaa'i, in press a; Rabaa'i & Zhu, 2021). Consequently, the usage

barrier significantly impedes intentions to embrace mobile payments. Hypothesis 2 (H2) delved into the investigation of the negative relationship between the value barrier and the intention to use mobile payments. Our study's findings lent support to this hypothesis (H2: Value barrier (VB) → Intention to use mobile payments, $\beta = -0.095$, $p<0.05$). This outcome aligns with research on mobile payment usage intentions conducted by Leong et al. (2020), Kaur et al. (2020), and Sivathanu (2018). It suggests that Kuwaiti consumers do not perceive the value of mobile payments when compared to traditional payment methods like cash or bank cards. Consequently, this unfavorable perception negatively impacts their intention to adopt this payment method. In contrast to the findings of Khanra et al. (2021) and Migliore et al. (2022), this study validated the negative connection between the risk barrier and the intention to use mobile payments (H3: Risk barrier (RB) → Intention to use mobile payments, $\beta = -0.136$, $p<0.01$). This aligns with previous mobile payment literature (e.g., Kaur et al., 2020; Leong et al., 2020; Rabaa'i, in press a; Rabaa'i & Zhu, 2021; Sivathanu, 2018). The finding suggests that Kuwaiti consumers may not be enthusiastic about mobile payments due to various uncertainties and concerns related to privacy, security, and the potential for financial loss (e.g., Kaur et al., 2020; Rabaa'i, in press a).

In this study, we explored the psychological barriers within the IRT framework, focusing on tradition and image barriers. Our findings provided support for H4, which investigated the negative relationship between the tradition barrier and the intention to use mobile payments (H4: Tradition barrier (TB) → Intention to use mobile payments, $\beta = -0.113$, $p<0.05$). This result aligns with earlier research on mobile payments (Leong et al., 2020; Sivathanu, 2018) but differs from the findings of Kaur et al. (2020), Khanra et al. (2021), and Migliore et al. (2022). It implies that Kuwaiti consumers are accustomed to traditional payment methods like cash and bank cards, and they are likely to adhere to these routines and payment practices because they find them comfortable. Consequently, they may resist adopting mobile payments. Contrary to the results of Khanra et al. (2021) but in line with the findings of Leong et al. (2020), Kaur et al. (2020), and Migliore et al. (2022), H5, which proposed that the image barrier is negatively associated with the intention to use mobile payments, did not find support in this study (H5: Image barrier (IB) → Intention to use mobile payments, $\beta = -0.019$, $p=0.585$). In our study, we assessed the image barrier in terms of the perceived difficulty and complexity of using mobile payments. The insignificance of the image barrier in this context may be attributed to the technological orientation of the participants. Our study focused on young individuals who are typically highly accustomed to using various mobile applications, are tech-savvy, and hold favorable views of technology-oriented platforms (Kaur et al., 2020; Rabaa'i et al., 2018; Rabaa'i & Zhu, 2021, 2021). Furthermore, Sivathanu (2018) argued that young individuals who use mobile payments do not consider such technologies as "difficult to use" or "complex to use." Therefore, the image barrier is less likely to have a negative impact in this demographic.

The results of this study partially affirmed the validity of the TPB constructs for assessing intentions to use mobile payments. The findings lent support to H6 and H8, confirming that attitude and perceived behavioral control are positively associated with the intention to use mobile payments (H6: Attitude (ATT) → Intention to use mobile payments, $\beta = 0.163$, $p<0.01$; H8: Perceived behavioral control (PBC) → Intention to use mobile payments, $\beta = 0.206$, $p<0.000$). These results align with prior studies on the adoption and use of mobile payments (e.g., Belanche et al., 2022; Nur & Dewanto, 2022; N. Upadhyay et al., 2022; Verkijika & Neneh, 2021). They underscore that Kuwaiti consumers possess the necessary resources and opportunities to utilize mobile payments and value their functionality, ease of use, and simplicity, which positively motivate their adoption. However, the study did not find a significant relationship between subjective norm and the intention to use mobile payments (H7: Subjective norm (SN) → Intention to use mobile payments, $\beta = 0.016$, $p=0.724$). The impact of subjective norm on behavioral intentions in the context of mobile payments has yielded mixed and inconsistent results in previous research. Some studies (e.g., Gupta et al., 2019; Park et al., 2019; Ramos De Luna et al., 2019; Sivathanu, 2018; Slade, Williams, et al., 2014; Sobti, 2019) reported a significant relationship between subjective norm and intention to use, while others (e.g., Belanche et al., 2022; Rabaa'i, in press a; Rabaa'i & Zhu, 2021; N. Upadhyay et al., 2022) found no such relationship. There are several possible interpretations of this finding. Firstly, it appears that Kuwaiti consumers, when deciding whether to use mobile payments, may place less importance on the opinions and recommendations of their reference groups, such as family and friends (Alalwan et al., 2017; Rabaa'i, in press a). Secondly, in line with Belanche et al. (2022), it's possible that mobile payments possess unique attributes that make external judgments irrelevant to their adoption. Perhaps the inherent advantages of mobile payments, regardless of social pressure and societal acceptance, are sufficient to drive their adoption. Finally, as argued by Kalinic et al. (2019), subjective norms may indirectly influence consumers' intentions to use mobile payments through perceived usefulness, ease of use (N. Upadhyay et al., 2022), and attitude (Rabaa'i, in press a; Rabaa'i & Zhu, 2021).

6.1 Theoretical Implications

This study contributes to the existing body of knowledge in several ways. Firstly, it addresses the scarcity of research on usage barriers related to mobile payments (e.g., Leong et al., 2021; Migliore et al., 2022; Rabaa'i, in press a). By delving into consumer resistance to technological innovations in the mobile payments' context, it fills a gap in the literature. Previous research has often focused on the positive drivers of adoption, neglecting the aspect of consumer resistance. Recently, scholars have shown an increased interest in understanding consumer resistance, and this study contributes to this emerging field. To further advance this underdeveloped area of research, the study employs the Innovation Resistance Theory (IRT) framework to investigate potential barriers affecting users' intentions to adopt mobile payments. Secondly, this study sheds light on the interaction and mutual influence between drivers and barriers that impact behavioral intentions to use mobile payments. It achieves this by integrating the IRT and the Theory of Planned Behavior (TPB) in the context of mobile payments. Recognizing that no single model or theoretical framework can comprehensively capture all aspects of new innovation adoption behavior (Leong et al., 2020, 2021), this study pioneers the integration of IRT with TPB in the mobile payments'

context. According to Migliore et al. (2022), this integration enhances the understanding of consumers' behavioral intentions and enhances the significance and predictability of findings. Thirdly, despite the rapid growth and expansion of technological innovation initiatives in Kuwait and other developing countries (Rabaa'i, in press c), there is a lack of evidence-based studies on consumer resistance, especially in emerging markets like Kuwait (Kaur et al., 2021). This study addresses this gap by investigating consumer resistance to adopting technological innovations, such as mobile payments, in Kuwait. Lastly, the robust predictive relevance (Q^2 = 43.7%) and the variance explained (R^2 = 59%) in behavioral intentions to use mobile payments demonstrate that the proposed model can be applied to various types of technological innovations, including blockchains, cryptocurrencies, and non-fungible tokens (NFTs). This highlights the model's adaptability and relevance beyond the scope of mobile payments.

6.2 Practical Implications

The findings of this study hold significant value for various stakeholders in the mobile payments' ecosystem, including marketers, service providers, policymakers, and banks. Firstly, the study underscores that in Kuwait, usage, value, and tradition barriers act as substantial impediments to the adoption of mobile payments. Consumers perceive these payment methods as incompatible with their existing habits and experiences, potentially requiring them to acquire new skills. Furthermore, mobile payments are seen as less advantageous in terms of performance and financial benefits compared to traditional payment options like cash and bank cards. Considering these findings, marketers can craft promotional and advertising campaigns that highlight the advantages of mobile payments over traditional methods. They can emphasize the convenience, financial value, and benefits of using mobile payments to encourage adoption. Banks may also incentivize customers to embrace mobile payments by adjusting the costs associated with using bank cards or visiting physical branches (Laukkanen, 2016). Mobile payments service providers should play a pivotal role in overcoming the value barrier by providing comprehensive information and guidance. To address this challenge effectively, they can:

- Showcase the utility, convenience, and user-friendliness of their mobile payment tools.
- Design intuitive, high-quality, and customizable user interfaces.
- Create engaging promotional videos that educate users on how to use mobile payments and familiarize them with various features of the applications.
- Ensure compatibility of mobile payments applications with different platforms, such as Android and iOS.
- Introducing online help chat support.

Implementing these strategies can not only mitigate the value barrier but also positively influence consumers' attitudes and perceptions toward mobile payments, which, as this study indicates, are significant factors in motivating behavioral intentions. Secondly, the study reveals that the risk barrier plays a prominent role in inhibiting the adoption of mobile payments in Kuwait. This suggests that consumers harbor concerns about the security of mobile payments. Policymakers can respond to this by introducing regulations and laws governing the use of mobile payments to enhance consumer trust and security. Additionally, banks and mobile payment service providers should prioritize elements that instill a sense of security among users. They can achieve this by clearly communicating the handling of customer transactions and information, addressing methods for recovering lost funds or receiving assistance, and specifying expected time frames for resolving failed transactions or losses, as suggested by Kaur et al. (2020). Thirdly, the study highlights that perceived behavioral control is the most influential factor shaping consumers' behavioral intentions regarding mobile payments. This underscores the importance of consumers feeling in control when using this payment method. To boost consumers' perceived control, mobile payment service providers, banks, and marketers should emphasize that users can confidently and independently navigate these technologies. They can facilitate this by offering training, demo versions, instructional videos, and quick guides (Belanche et al., 2022). This approach will not only enhance users' perceived control but also positively impact their attitudes and overall acceptance of these payment methods.

7. Conclusion, Limitations, and Future Research

This research study adopted a comprehensive approach by merging the Innovation Resistance Theory (IRT) and the Theory of Planned Behavior (TPB) frameworks. Its primary objective was to explore the key factors, both hindrances and motivators, influencing consumers' intentions towards adopting mobile payments in Kuwait. To gather data, a convenient sampling method was employed, utilizing a self-administered online survey. The study subjected the proposed model to empirical testing, utilizing responses from 341 participants. The results highlighted that all barriers, except for the image barrier, exerted significant inhibitory effects on mobile payments adoption. Moreover, it revealed that attitude and perceived behavioral control played crucial roles as facilitators of mobile payments adoption, while subjective norm did not exhibit statistical significance. The study's model successfully explained 59% of the variance in the behavioral intentions of Kuwaiti consumers towards mobile payments. Additionally, the model displayed a robust predictive relevance of 43.7%, indicating its applicability and effectiveness in predicting consumer behavior in this context.

The current research study faces several limitations that warrant consideration. Firstly, the study employed a non-probability convenient sampling technique for data collection, which may limit the generalizability of the findings. Future research could benefit from adopting a probability sampling method to enhance the broader applicability of the study's results. Secondly, it's

important to note that this study was conducted in Kuwait, a prosperous Middle Eastern nation characterized by a highly educated population and some of the world's highest rates of internet and mobile device usage (Rabaa'i, 2022; Rabaa'i, Zhu, Jayaraman, et al., 2022; Statista, 2019b, 2019a). Kuwaiti citizens are also known for their tech-savviness compared to individuals in many other developing countries (Rabaa'i, in press a, in press b). To achieve a more comprehensive understanding, future research should encompass a cross-national and cross-cultural perspective, considering various economic, environmental, and technological factors. Thirdly, a significant majority (85%) of the study's respondents fell within the age range of 18 to 45 years old. Subsequently, future research should explore the proposed model with older consumers to provide a more holistic view of mobile payments adoption. Fourthly, the study did not examine potential mediating effects related to factors such as gender and age. Future research should investigate the influence of these variables on mobile payments adoption. Lastly, recent studies in the field of mobile payments have highlighted the relevance of factors such as perceived trust (Rabaa'i, in press a), personal innovativeness (Liébana-Cabanillas et al., 2021), and individual mobility (Sharma et al., 2019) in shaping consumers' behavioral intentions. Therefore, future research could consider integrating these elements into the existing model to gain deeper insights into mobile payments' behavioral intentions.

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