



Factors Influencing on User Acceptance of Mobile Payment Channels in Sri Lanka; with Special Reference to Virtual Wallet

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ABSTRACT

This study explores the critical factors influencing user acceptance of mobile payment channels in Sri Lanka, with a special focus on mobile wallets backed by commercial banks. Leveraging the Technology Acceptance Model (TAM) and related theoretical frameworks, the research investigates the impact of perceived ease of use, perceived usefulness, perceived trust, and perceived mobility on the adoption of mobile wallets. Primary data were collected via a structured questionnaire from 128 active mobile wallet users representing diverse demographic characteristics. Quantitative analysis using multiple regression revealed that all four factors positively and significantly influence user acceptance, with perceived usefulness identified as the strongest predictor. The findings emphasize the importance of intuitive user interfaces, robust security measures, reliable network accessibility, and credible institutional backing in fostering greater acceptance of mobile payments in Sri Lanka. The study fills a notable gap in the literature by providing context-specific insights relevant to emerging economies. Practical recommendations are offered for mobile wallet providers and policymakers to enhance system usability, build consumer trust, and expand digital payment ecosystems, thereby supporting the broader transition toward a cashless economy and digital financial inclusion.

Keywords: Mobile Payment, Mobile Wallet, Perceived Ease of Use, Perceived Trust, Perceived Usefulness, Perceived Mobility, User Acceptance

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INTRODUCTION

Mobile payments or mobile payment channels refer to initiating and conducting payments over mobile devices such as smartphones and tablets (Chen, 2024). With the revolution of modern-day commerce (e-commerce) people tend to buy and sell goods and services at any time of the day from anywhere (from locally and internationally). Mobile payments are invented to cater the payment requirements in e-commerce. E-commerce cannot exist without payment systems. For any transaction to take place there must be a way for consumers to pay.

Over the last decade, rapid smartphone adoption has significantly accelerated the uptake of mobile payment services worldwide (Kumar & Lee, 2024). According to recent statistics, global transactions initiated through mobile payment channels exceeded \$8 trillion in 2023, driven by widespread smartphone adoption and enhanced mobile network technologies such as 5G. The surge in smartphone and tablet usage, coupled with faster and more reliable connectivity, has significantly accelerated mobile commerce growth worldwide. Consumers increasingly prefer performing financial transactions on their personal mobile devices due to convenience and security.

The Telecommunication Regulatory Commission of Sri Lanka (TRC) has declared that mobile broadband connections have recorded a vigorous expansion in the Sri Lankan context with a penetration of over 120 per cent compared to the population as of 2024. Central Bank of Sri Lanka observed that, by the close of 2023 it has recorded a figure of about 135 mobile-phone subscriptions per 100 people, and fixed-line subscriptions have been decreasing steadily. According to recent reports in the ICT industry worldwide, mobile phone users were found to have reached up to 5.4 billion in the year 2023 with the number

of smartphone subscriptions of approximately 4.8 billion.

Additionally, there are more than 8 billion mobile cellular subscriptions in the world, and they differ between devices, which means that the smartphone subscriptions will have reached more than 6.8 billion by 2025 (Ericsson Mobile Report, 2024). Nevertheless, irrespective of such progress, the social and transaction costs of using cash are still high in any location where cash is predominant in payment forms and this highlights the current trend of moving towards digital payment systems. The switch to the electronic payment system can boost economic development and increase financial openness. In the current modernity close to 90 per cent of transactions are carried out with the use of physical notes and coins. Total costs of transactions conducted in cash are enormous to the society, affecting different parties. Moving to digital payments will reduce expenses on the parts of the banks, governments and merchants, and at the same time enhance economic growth and enhance transparency in both emerging and developed economies. It is therefore important that a shared payment system is implemented so as to digitize all cash-based operations in to a cashless digitized system. The use of mobile payments is set to be rampant in the nearest future. This is because with a population in the world of more than 6 billion people having access to mobile devices and the number expected to increase, mobile devices payments will become a more frequent occurrence. A number of mobile devices already have NFC chips, which means they can easily move to electronic payment. All that a user requires is to install an application that would transmit banking and payment data safely when they are within the range of NFC readers. Compared to the conventional debit cards, mobile devices can provide payment information immediately. This will remove the necessity of carrying physical

cash and the use of registers, which would greatly decrease cases of theft and pick pocketing.

Also, the digital payment systems enable governments to observe the monetary streams in the real-time, which may help fight the black-money operations among other illicit financial practices. The mobile payment systems give a broad range of functions in the Sri Lankan scenario which will facilitate a wide range of transactions. They can be used to send direct remittances to beneficiary bank accounts, person-to-person, cash withdrawals via authorised agents and payments of goods, services and utilities (Central Bank of Sri Lanka, 2023). A harmonious combination of merchants, agents, consumers, and utility providers forms an ecosystem that supports the adoption of mobile wallets by a large number of people. The QR-code payments or NFC transactions and real-time balance check are the essential functions that make the system more convenient to the users and efficient in transactions (Perera et al., 2023; Wickramasinghe et al., 2021).

A key feature of this platform is the capability to integrate different types of entities such as large-scale merchants, small scale agents, customers, utility providers seamlessly. This enables all the key elements of a Mobile Wallet ecosystem to work in harmony.

RESEARCH PROBLEM

Based on the available mobile payment platforms in Sri Lanka, following key features and solutions can be identified in mobile wallet.

1. Direct Remittance to the Beneficiary's Bank Account. The funds could be remitted directly to the beneficiary's Bank Account.
2. Remittance to the M - wallet Account. The Remitter can send Money directly to the Beneficiary's M - wallet Account.
3. Withdrawal from the M - wallet Account the beneficiary could withdraw the Money from the M - wallet Account at any Authorized agent.
4. Remittance to the Unregistered Beneficiary the Remitter will advise the Exchange house to remit the money to the Mobile Number of the Beneficiary.
5. The customer can transfer money from the M - wallet Account to the Bank Account using the M - wallet Mobile Application.
6. Fund transfers from Bank Account to the M - wallet Account. (Top up) The customer can transfer money from the Bank Account to the M - wallet Account using the M - wallet Mobile Application.
7. Funding Source Bank Account Balance Inquiry. The Receiver can check the Bank Account balance using the M - wallet Mobile Application.
8. Peer to Peer Fund Transfer a Registered M - wallet Customers can transfer money between each other using the M - wallet Mobile Application. A predefined limit that can be transferred by any customer can be set when creating a new customer. When the Transaction has completed both Customers will receive Alerts on their Mobiles and the relevant Account balances will get updated.
9. M - Wallet Transaction from ATM's All M - wallet customers can withdraw money from any ATM.
10. M - Wallet for Utility bill Payments. The customers could make payment for registered Utility providers with

DVB Bank Accounts using the M - wallet Application.

11. M - Wallet for the Payments for goods & services. The customers could make payment for goods and services at registered vendors using the M - wallet Application.

RESEARCH GAP

Despite the technological infrastructure and policy support for mobile payments in Sri Lanka, adoption rates remain modest compared to other emerging economies in the region (Qadri, 2023; Galhena et al., 2023). Multiple factors influence mobile payment adoption, including perceived compatibility, security, usefulness, ease of use, mobility, and social influence (Schierz et al., 2010; Garcia et al., 2024). However, research specifically examining these determinants in Sri Lanka's frontier market context remains limited. While studies from developed countries and mature emerging markets provide valuable insights, the unique socio-economic, infrastructural, and cultural characteristics of frontier markets as Sri Lanka necessitate context-specific investigation (Qadri, 2023; Chowdhury et al., 2015). This study addresses this gap by empirically examining the factors influencing user acceptance of mobile payment channels, specifically mobile wallets backed by commercial banks, in Sri Lanka. Although (Silva & Perera, 2023; Galhena et al., 2023; Nasiketha et al., 2023) have applied TAM to Sri Lankan mobile payments, their samples focused on urban, tech-savvy users and did not examine perceived mobility or trust in less-banked segments. Hence, this study re-investigates these factors to capture adoption dynamics in a broader frontier-market context.

The primary objective of this study is to identify and analyze the factors that influence user acceptance of mobile

payment channels in Sri Lanka, with specific focus on mobile wallets provided by commercial banks. Guided by the Technology Acceptance Model and its extensions, this research investigates four key determinants: perceived ease of use, perceived usefulness, perceived trust, and perceived mobility.

Specifically, the study seeks to,

1. To assess the impact of perceived ease of use on user acceptance of mobile wallets.
2. To evaluate the influence of perceived usefulness on acceptance behavior.
3. To examine the role of perceived trust in fostering user confidence and adoption.
4. To analyze how perceived mobility affects continued engagement with mobile payment platforms.

By addressing these objectives, the study aims to provide empirical evidence to inform mobile wallet providers and policymakers in enhancing system design and adoption strategies.

CONTRIBUTION TO LITERATURE AND PRACTICE

The current paper contributes to the current literature on mobile payment adoption in a number of ways. In theory, it expands the Technology Acceptance Model by incorporating the constructs of trust and mobility that were selected to be of particular importance in the framework of frontier-market settings and empirically confirms the integrated framework in the specific digital payment environment in Sri Lanka. The research results provide context-specific information compared to the studies carried out in developed or mature emerging markets regarding mobile wallet uptake in a frontier economy with dynamic digital infrastructure, moderately financial literacy, and a culture of cashless payment (Chowdhury et al., 2015; IMF, 2015).

The research design is rigorous because quantitative analysis is conducted using validated measurement tools and it would add some credible empirical evidence to the existing few studies in South Asian frontier markets about mobile payments. The results contribute to the academic knowledge on the way traditional technology acceptance variables are manifested differently in the developing-economy settings, where infrastructural constraints, lack of trust, and cultural preferences related to payments introduce different mechanisms of adoption (Qadri, 2023; Pathirana and Azam, 2017).

Practically, this study can be of use to various stakeholders because it offers practical knowledge. The findings can be used by mobile wallet providers and commercial banks to focus on the features development, improve the user-interface design, reinforce security measures, and network stability according to the empirically tested user preference. These insights can be used by policymakers and regulatory authorities such as the Central Bank of Sri Lanka to develop specific interventions to enhance digital financial inclusion, create consumer-education programmes and concerns about trust, and set standards guaranteeing the quality and availability of the services. The developers of technology may use the results to streamline the mobile wallet apps to suit the local user requirements, by adding language localisation, easier transaction process and functions to counter the connectivity issues.

Lastly, the research will facilitate financial inclusion efforts by establishing the barriers and enablers to mobile payment adoption in the different demographic groups, and therefore serves to inform efforts toward increasing the number of underserved populations who are using digital payments.

THEORETICAL FRAMEWORK AND MODEL SELECTION

The research is based on the Technology Acceptance Model (TAM), initially developed by Davis (1989), and is still one of the most commonly tested frameworks that describe technology adoption. TAM assumes that the key determinants of user acceptance are Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). But since mobile payment is a unique situation in frontier markets like Sri Lanka, this paper updates the classical TAM with two new constructs, namely, Perceived Trust and Perceived Mobility. Although other extended TAM models have incorporated factors like perceived risk (Lai- Ahmad, 2015; Alrawad et al., 2023), technological readiness (Abdennebi et al., 2023), and security concerns (Karim et al., 2020), this study has considered the use of trust and mobility due to a number of contextual reasons.

To begin with, trust is especially important in the context of the newly developing digital payment infrastructure in Sri Lanka where the institutional credibility and perceived safety play a significant role in the adoption (Pathirana, 2017). Second, perceived mobility is a solution to such infrastructure-related issues as variability of network coverage and inaccessibility of services that are common in developing economies (Kumar et al., 2024). Even though the perceived risk has been determined as a major factor in certain mobile payment studies (Ramtiyal et al., 2022; Tan et al., 2014), preliminary in the Sri Lankan context indicated that trust constructs are sufficient to measure risk related concerns among the users.

Future studies have the potential to look at the unique role of perceived risk as an independent construct or moderating variable. On the same note, technological preparedness though relevant in previous adoption studies was not considered vital

in the current study; paper focuses directly on active mobile wallet users who have already demonstrated basic technological proficiency. This frugal framework that balances theoretical excellence with situational applicability, allows conducting a narrow study of the most salient factors that shape the adoption of mobile wallets in the unique socio-economic and technological environment of the Sri Lankan context.

LITRETURE REVIEW

Mobile Payment Adoption: Global Perspectives and Frontier Market Context

M-Payments systems have significantly transformed the financial landscape in the world, with the rates and trend of adoption showing high levels of discrepancy in the economic settings. Mobile payment penetration, supported by strong digital infrastructure, high smartphone ownership and developed financial ecosystems, is over 70 percent of the population in developed markets such as Sweden, Norway, and Singapore (Bogodistov and Moormann, 2019; de Luna et al., 2019). The latter markets represent the terminal phases of the acceptance development lifecycle, in which electronic payments are now top of the wallet when it comes to transactions of a quotidian nature (Visa, 2016).

In contrast, emerging economies, like China, India, and Kenya, have been experiencing a fast rate of mobile payment growth due to their own set of distinct factors, such as sizable unbanked groups, mobile-first access to the web, and creative business models, like M-pesa and Alipay (Aron, 2018; Kumar & Lee, 2024). In Chinese mobile payment, which is led by Alipay and WeChat Pay, more than \$50 trillion transactions took place in 2023 and it thus demonstrates the potential transformational power of mobile payments in emerging markets

(Garcia & Kumar, 2024). Frontier markets (Sri Lanka, Pakistan, Bangladesh, and Vietnam) lie somewhere in the range of mobile payments adoption (Chowdhury et al., 2015; IMF, 2015). Such markets are defined by less developed financial markets, poor digital infrastructure, average smartphone penetration, and mostly cash-based cultures of transactions (Qadri, 2023).

Despite the positive conditions (mobile phone penetration is more than 135 per cent and internet connectivity is increasing) several factors make Sri Lanka a special case of adoption, even though this country is a frontier market according to the major index providers (MSCI, FTSE) (Central Bank of Sri Lanka, 2023; Galhena et al., 2023). Ease of use was determined as a key factor but was not measured, mobility was omitted, usefulness was emphasized, and trust measures were omitted, and Nasiketha et al. (2023) concentrated on urban youth.

These gaps encourage a combined analysis of mobility and trust among different groups of users. The comparison of mobile payment adoption in markets of various types shows that critical differences exist: advanced markets are characterized by high-order values of convenience and speed, emerging markets by higher values of financial inclusion and cost reduction, and frontier markets by essential issues associated with trust, security perception, and infrastructural reliability (Qadri, 2023; Pathirana & Azam, 2017). According to Sri Lankan research, despite the potential of technology, the adoption rate is lower than in the region because of cultural factors (cash is preferred), consumer knowledge about the benefits of digital payments is insufficient, and people are afraid of security aspects of transactions (Nasiketha et al., 2023; Galhena et al., 2023). These contextual differences are critical to understanding in order to come up with suitable theoretical frameworks

along with the interpretation of the empirical evidence of the frontier market research. The determinants of mobile payment adoption that have been identified in developed or mature emerging markets might not be directly applicable to frontier markets hence requiring context-specific research (Qadri, 2023; World Bank, 2018).

User Acceptance of Mobile Wallets: Empirical Evidence

Empirical studies have been conducted on the adoption of mobile wallets in various geographic and demographic settings, which have shown that there are common trends in the acceptance factors, and also, there are context-specific differences.

Developed Country Studies: In developed markets, empirical studies have consistently found perceived usefulness and ease of use as the key factors of mobile wallet acceptance. Slade et al. (2015) discovered that perceived usefulness strongly predicted mobile wallet adoption intentions among UK consumers as compared to social influence and hedonic motivation which had a weak influence. Similarly, a study in Scandinavian nations revealed that convenience and speed of transaction motivated the adoption by tech-minded populations of high digital literacy (Bogodistov & Moormann, 2019).

Emerging Market Evidence: Evidence of the emerging economies studies show that there are other factors becoming eminent. Indian studies had shown that, promotional offers and situational aspects (e.g., COVID-19) had a significant impact on mobile wallet continued usage intentions in addition to the traditional TAM variables (George & Paul, 2022). In Malaysia, Karim et al. (2020) observed that the privacy and security issues had a significant impact on adoption intentions, and that in markets with underdeveloped regulatory frameworks, the factors related

to trust are essential. The Chinese mobile payment literature focused on the power of network effects and integration of ecosystems, in which the value of mobile wallets grew with the number of merchants participating and the number of users (Wu et al., 2017).

Frontier Market Research: There is limited rising research on frontier markets that demonstrates specific adoption patterns. Pakistan was compared with Sri Lanka by Qadri (2023) with trust deficits, infrastructural constraints, and financial literacy defects being a major obstacle that was deemed to be non-existent in developed market research. In Pakistan, (Singh & Srivastava, 2018) also revealed that perceived usefulness and ease of use were still relevant predictors but need to be supplemented by interventions on basic digital literacy and trust. There is limited research on Sri Lanka; (Pathirana & Azam, 2017) has given provisional data that mobile payment usage depended upon perceived usefulness, ease of use, and to a substantial degree upon trust and security perceptions.

Comparative Insights: Meta-analytic reviews and cross-country comparisons show that the core constructs of TAM (perceived usefulness and ease of use) manifest a similar predictive power in different situations, although the degree of significance of trust, risk, security, and mobility factors rises significantly in developing and frontier markets (Alalwan et al., 2020; George and Paul, 2022). Comparative research between developed and developing nations has identified that trust in developing countries contributed to the growth of the economy much more, and institutional credibility and regulatory control are still in their infancy (Abdennebi et al., 2023; Alrawad et al., 2023). This empiricism environment has highlighted the importance of a context-specific study in the frontier markets like

Sri Lanka wherein the adoption pattern might be significantly different than those experienced in the developed or mature emerging economies. This empirical underpinning is what the current research adds to existing literature by offering a rigorous quantitative data on the case of mobile wallet ecosystem in Sri Lanka.

Theoretical Foundations: The Technology Acceptance Model

Technology Acceptance Model by Fred Davis, which was developed way back in 1989, is one of the most reliable models to explain and predict the user acceptance of information systems and technologies. Based upon the Theory of Reasoned Action (TRA) developed by (Ajzen & Fishbein, 1980), TAM gives attention to the technology adoption behavior by outlining the important psychological factors that shape the user acceptance decisions.

The initial TAM assumes that two initial belief variables, or Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are the main predictors of user acceptance behavior. Perceived Usefulness is defined as the extent of an individual perception that application of a certain system would improve his or her job performance (Davis, 1989, p. 320), whereas Perceived Ease of Use is defined as the extent to which a person believes that using a given system would not be painstaking (Davis, 1989, p. 320). The beliefs define attitudes to the use of technology, thus, affecting behavioral intentions and, finally, the use of the system.

TAM is a causal model in which perceived ease of use and perceived usefulness are influenced by external factors (such as features of the system design, user characteristics, and organizational factors). PEOU has a direct effect on PU (easier systems are viewed as more useful), and both of these constructs affect the attitude toward technology adoption in

a similar way. Behavioral intention to use is a result of attitude and PU and predicts actual usage behavior. Notably, there exists a direct impact of PU on behavioral intention via TAM that goes beyond the attitude, thus, the pragmatic, goal-oriented aspect of the technology adoption decisions (Davis, 1993; Venkatesh and Davis, 2000).

TAM has been enormously refined and extended since its introduction. TAM2 proposed by Venkatesh and Davis (2000) included the following antecedents of perceived usefulness: social influence processes: subjective norm, voluntariness, image; and cognitive instrumental processes: job relevance, output quality, result demonstrability. The model was further developed by TAM3 (Venkatesh and Bala, 2008) who defined the determinants of perceived ease of use to be computer self-efficacy, external control perceptions, computer anxiety, and computer playfulness and determine experience and voluntariness as moderating variables.

TAM has a strong predictive ability as confirmed in a large number of contexts through extensive empirical validation. According to meta-analyses, that TAM normally elucidates 40-50 per cent of the variance in the usage intentions and around 30-40 per cent of the actual use behavior (King and He, 2006; Venkatesh and Bala, 2008). The model has been used on a variety of technologies, which include mobile banking, e-commerce, social media, and mobile payments, and has repeatedly shown good predictability of adoption behavior (Rahimi et al., 2018; Tian et al., 2024).

The application of TAM to mobile payment systems is warranted especially well. Information systems that require interactivity through mobile devices such as mobile wallets fit perfectly within the theoretical spectrum of TAM. The usefulness and ease of use of the model

have a strong appeal to the adoption decision of mobile payment types, where users balance the perceived benefits, including convenience, speed, functionality, and the perceived effort, including the learning curve and compatibility with current practice. TAM has been tested and proved to be theoretically applicable in mobile payment settings in developed and developing countries, confirming that TAM is a valid concept (de Luna et al., 2019; Schierz et al., 2010; Singh and Srivastava, 2018; George and Paul, 2022).

This research paper uses TAM as its main theoretical framework due to a number of strong reasons. To start with, the parsimony and theoretical rigour of TAM offers a sound framework of examining the use of mobile wallets without excessive encumbrance to the empirical research. Second, the wide-ranging validation of TAM in the literature of mobile payments means that the validation can be compared with existing literature, which leads to easy positioning of the findings into the larger scholarly context. Third, the flexibility of TAM allows theoretically justified extensions that can include context-specific factors in this case, perceived trust and perceived mobility, to respond to such specifics of the frontier market environment in Sri Lanka. Lastly, the manner in which TAM prioritizes the user perceptions over objective system characteristics is apt in the context of this paper, which aims at explaining the subjective factors of adoption behavior in the context of mobile wallet users in Sri Lanka.

Tam Extensions and Alternative Theoretical Models

Although TAM provides a strong platform upon which one can understand technology acceptance, researchers have realized the necessity of additions and other models that can be used to explain other aspects of adoption behaviour

especially in intricate areas like mobile payments.

Many studies have added some more constructs to TAM that are relevant to a particular technology or situation. Perceived Risk has become a major extension, particularly in financial technologies where monetary and privacy risks can impact the adoption decision to a significant degree (Lai and Ahmad, 2015; Ramtiyal et al., 2022). Empirical studies show that the perceived risk has detrimental effects on the adoption intention as it lowers the trust and increases the anxiety of the system use (Pavlou, 2003; Alrawad et al., 2023).

The concept of Perceived Trust and Security is an extension of each other, where the former implies the trust of the user in the workings of the system and the involved provider, the latter focuses on the technical protection that stops transactions and data from being compromised (Gefen et al., 2003; Chandra et al., 2010). Perceived Compatibility determines how much an innovation fits into the values, experiences, and needs of the users, which is important in mobile payment research in which compatibility to the current payment habits determines adoption (Schierz et al., 2010). Technological Readiness assesses the likelihood of using and using new technologies, which is based on the difference in adoption beyond system-specific perceptions (Abdennebi et al., 2023).

Alternative and Complementary Theoretical Models:

In addition to TAM extensions, other alternative frameworks have been used in studies in mobile payments.

A combination of factors of eight technology acceptance theories, the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003) hypothesizes that performance expectancy, effort expectancy, social

influence, and facilitating conditions are the determinants of usage intentions, which are moderated by gender, age, experience, and voluntariness. UTAUT2 expanded the model in consumer settings to include hedonic motivation, price value, and habit (Venkatesh et al., 2012). There is empirical evidence that UTAUT has a slightly higher variance compared to TAM at the cost of higher complexity (Tian and Chan, 2024).

Innovation Diffusion Theory (IDT) is a theory of innovation diffusion developed by Rogers (2003), which looks at the way innovations spread out in populations over time, the relative advantage, compatibility, complexity, trialability, and observability are key characteristics of innovations that influence the adoption rates. IDT has been successfully used in research on mobile payment especially in learning the pattern of diffusion among users (Chen and Chen, 2005).

Another theory that is relevant in this situation is the Theory of Planned Behavior (TPB) which is an extension of TRA but has an added advantage of introducing perceived behavioral control as a predictive of intentions and behavior (Ajzen, 1991). DeLone and McLean IS Success Model, in turn, provides a different point of view through the focus on the quality of the systems, the quality of information, and the quality of service as the factors that determine the user satisfaction and their further utilization; it has been used to study the continuance of mobile wallets (Zhou, 2013; George and Paul, 2022). Models based on trust explicitly describe the importance of trust in technology adoption, which is especially relevant to financial technologies where lack of trust is a major obstacle to the adoption process (Chandra et al., 2010).

The adopted study follows a long Technology Acceptance Model (TAM) framework as opposed to other models

due to some strategic reasons. To start with, the concept of parsimony in TAM enables a dedicated study of the essential determinants of adoption without the analysis complexity posed by the more elaborate models like UTAUT. Second, the vast validation of TAM within mobile payment studies allows making direct comparisons with the existing ones, which facilitates the cumulative character of academic knowledge. Third, in comparison with other models, TAM gives more insightful view because it focuses on the user perception as it is the most suitable to the objective of the current study, which is to clarify the subjective factors of mobile wallet acceptance. The choice made to add perceived trust and perceived mobility to TAM, instead of perceived risk or technological readiness, are both theoretical and practical. Perceived trust not only carries risk-related issues but also represents a broader variable that takes into account institutional credibility, security of transactions, and system reliability those that are exceptionally relevant in the digital payment environment in Sri Lanka (Pathirana and Azam, 2017). Perceived mobility is a solution to infrastructure-specific issues that are high in developing economies; this consideration is common in frontier market researches but less in developed ones where coverage of networks and availability of services differ significantly (Kumar et al., 2024; Qadri, 2023). Although other extensions are also theoretically valuable, the parsimonious extended TAM model of the present study accommodates the theoretical breadth of the model with the empirical manageability, by focusing on the most contextually suitable determinants of mobile wallet acceptance in Sri Lanka.

Perceived Ease of Use

One of the key drivers towards the uptake of mobile payment systems by end-users is that the payment process should be

exceptionally easy and user-friendly, preferably delivered in a single or two clicks. The mobile applications should be made to allow the user to learn and use them with ease and thus, reducing the amount of steps needed. The support of local languages like Sinhala and Tamil is another important characteristic of localization that helps to decrease language obstacles among local users, which promote the adoption (Wickramasinghe and Fernando, 2021). User interfaces should be designed in a user-centric way with easy graphics and access to common features, as this increases user satisfaction and by facilitating ease of use.

To merchants, the reception of payment should be smooth and fast to not interfere with running of business. As an illustration, a trader in a conventional market might lose its customers when a mobile payment process takes a long time compared to a cash transaction. The application of QR code technologies can solve these issues because it allows the customer and the merchandise to make transactions in a quick, and safe manner. The use of static QR code enables customers to make payment transactions and saves time as well as increases the level of transactional security (Perera et al., 2023).

Considering inherent technical constraints of mobile devices, perceived ease of use is one of the key factors determining mobile payment application adoption (Venkatesh, 2020). This is especially crucial when mobile payments are compared to the already existing payment solutions when it comes to clear benefits in usability. Regular iconography, limited functionality keys and few-step payment processes, as well as convenient help functionalities, are among the important aspects (Pagani and Schroeder, 2020). It is important to note that the ease-of-use word is more powerful when it comes to non-users, and the perception thereof is

more likely to influence their adoption intentions (Venkatesh and Bala, 2019).

H1: There is a significant relationship between perceived ease of use and Perception on accepting Mobile Payment Channels in Sri Lanka.

Perceived Usefulness

Perceived usefulness is understood as the extent to which one perceives that the use of a certain technology can make his or her job or everyday activity better. Perceived usefulness is a critical factor that affects technology acceptance, which was initially developed by Davis et al. (1989). Previous studies by Hwang (2009) have revealed that the perceived usefulness has a significant influence on the adoption of mobile payment channels among the users. Equally, Rabini et al (2013) noted that perceived usefulness is a perception by a user of an information system that he or she will enhance efficiency in performing a task.

The importance of perceived usefulness has been confirmed in recent studies as a critical factor of mobile payment adoption. Indicatively, Alalwan et al. (2020) discovered that the intention to use mobile financial services is strongly predicted by perceived usefulness in emerging markets. Singh et al. (2022) recently have affirmed that the perceived usefulness has a positive impact on user engagement and acceptance of mobile wallets, especially when it comes to South Asian users. Additionally, the growing number of functions that improve convenience and efficiency in the transactions further justifies the significance of perceived usefulness in customer adoption (Garcia & Kumar, 2024).

These results prove that mobile payment channels are those that users are more likely to integrate when they feel material gains in terms of better convenience,

quickness, and general efficacies in financial transactions management.

H2: There is a significant relationship between perceived usefulness and Perception on accepting Mobile Payment Channels in Sri Lanka.

Perceived Mobility

Perceived mobility is one of the unique features of mobile services where it is referred to as being able to conduct payment transactions anywhere and anytime without being restricted by physical or network boundaries (Amberg et al., 2003). This is what makes mobile payments superior to conventional payment methods, and it provides more flexibility and convenience to the user. Nonetheless, the perceived mobility can be adversely affected by the lack of network coverage, the accelerated consumption of a phone battery, or the absence of service providers (Wang et al., 2021; Kwargis al., 2021). The predicted payment roaming concept as proposed by Krueger (2001) is an implication of the increased consumer interest in continuous payment experiences outside their immediate network which allows them to conduct transactions as they travel, or communicate with other network users in different network operators. (Buhan et al., 2002) have stressed the need to have interoperability among payment systems to achieve a global mobile payment infrastructure.

According to more recent studies, perceived mobility is an important factor of mobile payment acceptance. As an example, Chen and Liu (2022) discovered that consumers attach importance to the fact that they can get the services without interruptions, which leads to further interaction with mobile wallets. Also, (Kumar et al., 2024) emphasized that the perceived mobility is effective which is facilitated by the extensive coverage of the network and the compatibility across the

network which is highly valuable in developing economies like Sri Lanka to promote willingness of the users to use mobile payment services. Hence, perceived mobility is proposed as a significant determinant positively influencing user acceptance of mobile payment channels.

H3: There is a significant relationship between perceived mobility and the perception of acceptance of mobile payment channels in Sri Lanka.

Perceived Trust

As the basic step to establishing trust among the users the developers and the service providers of common wallet application must ensure that applications and the supporting technology back-end is adequately secure (Zhao & Lee, 2024). Despite its importance, trust in electronic payment methods has not yet been fully established among the general population. Without established trust, users prefer cash, perceiving it as simpler and more reliable (Zhao & Lee, 2024). One of the effective methods to build the trust that people are currently lacking is to properly advertise and make people aware of the available services and how much convenience it provides. According to (Robert Steele, 2007), Research indicates that between 15% and 20% of potential users across various service sectors believe that clearer advertising and communication about a new service would encourage them to adopt it sooner. Targeted communications focusing on correct customer segments can effectively convert non-users by increasing their trust (Zhao & Lee, 2024).

In order to establish trust among the general masses it is essential that the central bank and other affiliated banks with Bank has to join hands to promote the mobile wallet, so that the general public know it's been approved and backed by both the state and private financial sector.

Trust, integrated into extended Technology Acceptance Model frameworks (Gefen et al., 2003), remains pivotal in mobile payment adoption given concerns over security and privacy (Zhao & Lee, 2024). According to Egger (2001) trust in a payment system is shaped by factors such as the level of anonymity, the security measures in place, the system's reliability, the degree of control users possess, and the credibility of the organization offering the service. Trust, as perceived based on these elements, is considered a key factor influencing the acceptance of mobile payment systems by users.

H4: There is a significant relationship between perceived trust and Perception on accepting Mobile Payment Channels in Sri Lanka

METHODOLOGY

This paper is carried out to establish the determinants of how mobile payment channels are accepted in Sri Lanka, especially virtual wallets. The introduction of e-commerce has led to consumers buying goods and services online and thus creating a platform of availing mobile payments.

Research Design

The research design used in the study is a quantitative research design, which is consistent with the objectives of assessing the perceived ease of use, perceived usefulness, perceived trust and perceived mobility on mobile payment adoption. Financial institutions and biochemicals in Sri Lanka are also encouraging cashless transactions among the general population in order to minimize the use of physical cash which not only impacts the efficiency of the economy but also the cultural behaviour of transactions.

The Common Mobile E-wallet platform is a standardized platform that is aimed at universal cashless payment to provide a

secure, efficient, and straightforward payment system, involving several stakeholders, such as merchants, agents, users, and utility providers.

Population and Sampling

The sample size of this study is all the Sri Lankan people who can use mobile payment services supported by commercial banks. Since secondary data on this population cannot be found in detail, the primary data were gathered using a structured questionnaire. The candidates were the Sri Lankan residents aged 18 years and above, who possess a smartphone and have at least once used or intend to use a bank-supported mobile wallet to make sure that both adopters and potential users are relevant.

The sampling method used was a stratified one to ensure that the respondents were able to reflect on the important demographic factors like gender and age distribution, thus, identifying with the entire user base. This is aimed at increasing the generalisability of the findings. Data collection was done online after intensive pretesting to prove the questionnaire. The sample size of 128 respondents is larger than 100 of the minimum case count required to conduct the multiple regression analysis with four predictors (Hair et al., 2010) and meets the rule of thumb of 20 cases per independent variable (Tabachnick and Fidell, 2013).

The questionnaire was extensively pretested on 15 users of mobile wallet who assumed different demographic variables. According to the feedback of the pre-test, the ambiguous items were explained, the sequence of questions was optimised, and the estimated completion period was estimated at 10-12 minutes. The pilot test Cronbach alpha values of all the constructs were above 0.75, which indicated initial reliability.

Data Collection Instrument

A questionnaire was constructed in the form of a structured questionnaire, which was based on constructs obtained with the help of the Technology Acceptance Model (TAM) and other similar models. Items were presented in Likert-scale items, with scores ranging between 1 (Strongly Disagree) and 5 (Strongly Agree), with variables such as perceived ease of use, perceived usefulness, perceived trust, perceived mobility, and user acceptance being put across. The four items used in the measurement of this construct were based on the measurement items of Davis (1989) and Venkatesh et al. (2003) which measure behavioural intention and the actual usage patterns.

Data Analysis Techniques

The collected data were analyzed using IBM SPSS Statistics version 23.0. The analytical procedures included:

- **Descriptive Statistics:** To summarize demographic profiles and key variable distributions.
- **Reliability Analysis:** Cronbach's alpha coefficient was calculated to assess internal consistency of scales for the constructs. A threshold value above 0.70 was considered acceptable for reliability.
- **Validity Checks:** Exploratory Factor Analysis (EFA) was employed to examine construct validity and ensure that items strongly loaded onto their intended factors.
- **Correlation Analysis:** Pearson's correlation coefficients were computed to evaluate the linear relationships among independent variables and the dependent variable (user acceptance).
- To test the hypotheses, the multiple regression analysis will be conducted

to evaluate the significance and strength of the relationships among independent variables (perceived ease of use, perceived usefulness, perceived trust, perceived mobility) and the dependent variable.

Tests for multicollinearity (Variance Inflation Factor, VIF) confirmed the absence of problematic intercorrelations ($VIF < 10$). Normality assumptions were checked using skewness and kurtosis values within acceptable range (± 3), ensuring suitability for parametric analysis.

Ethical Considerations

The research adhered to ethical standards pertinent to social sciences. Respondents participated voluntarily and provided informed consent after being briefed on the study purpose and assured anonymity and confidentiality of their responses. Data were securely stored and handled strictly for academic research purposes only, in line with institutional and ethical guidelines to protect participant privacy and data security.

Profiling Variables

Gender

Gender is important for the current study in order to measure the intention of using M - wallet as a payment method. Gender was used to measure the intensity of using mobile technology for the day-to-day activities. Recent studies on same field indicate that the gender has high influence of deciding the adoption rate of new technology. This was measured in questionnaire by using ordinal measurement (Male / Female).

Age

The age of respondents was considered in order to decide the adoption rate of M wallet to make day to day payments. Age is typically influencing the technology

adoption of rate of consumers. Generally, the adoption rate of technology among younger generation is higher than the older ages. The age of the respondents was evaluate using four options matrixes, namely (18 - 25 years, 26 - 30 years, 31 – 40 years and 41 – 50 years).

Education

Education level of individuals influences on their adoption rate of the technology. More sophisticated technologies are required users to have language and technology skills to get expected benefits. In the current study researcher use the education as demographic factor in order to measure the usability of the M - wallet as a mobile payment channel with the individual education level. Education level of the respondents was measured using four options (O/L's, A/L's, Degree, master's degree and Other)

Monthly Income

The researcher uses monthly income of the respondents to measure the

relationship between M – wallet adoption and user wealth. Researchers use this variable in order to identify the level of average income of the users and their usage of M wallet to make day to day payments. Income bracket includes Up to 25,000, 25,001- 50,000, 50,000 -75, 000, 75,000-100,000 and 100,001 and above)

Usage of Mobile Wallet

In order to measure the relationship between independent variables with the dependent variable, the researcher used “Usage of mobile wallet” as a measuring variable. This includes Less than 6 months, 6 – 12 months, 12 – 18 months, 18 – 24 months and Above 24 months).

Occupation

The occupation of the respondents was measured in questionnaire as executive or non – executive. This was required for the current study in order to measure the adoption rate of the m wallet with the occupation level

CONCEPTUAL MODEL OF THE STUDY

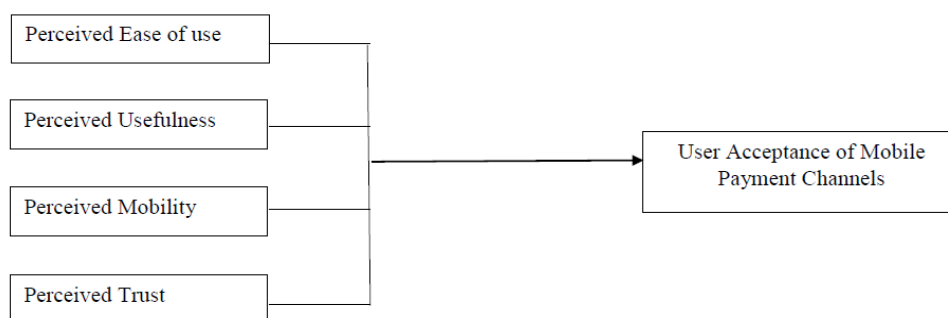


Figure 1: Conceptual Framework

Variables and Measurement

This study examines one dependent variable (User Acceptance) and four independent variables (Perceived Ease of Use, Perceived Usefulness, Perceived Mobility, and Perceived Trust). All

variables were measured using multi-item scales adapted from established instruments in mobile payment research, employing five-point Likert scales ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Dependent Variable: User Acceptance refers to users' willingness to adopt and continue using mobile wallet systems for financial transactions. This construct was measured using four items adapted from Davis (1989) and Venkatesh et al. (2003), assessing behavioural intention and actual usage patterns.

Independent Variables: Perceived Ease of Use is the level at which the users think that the use of the mobile wallet systems needs minimum effort (Davis, 1989). Seven items that evaluated the ease of learning, convenience of use, the clarity of interfaces, and the general simplicity of operation were used to measure this construct. Perceived Usefulness refers to the degree to which the users feel that mobile wallet can make the process of financial transactions effective and efficient (Davis, 1989). Perceptions of speed of transaction, convenience, functionality and the overall benefits were measured using seven items.

Perceived Mobility, which is the user perception to mobile wallets, reflects their accessibility and functionality at various places, various times, and various network conditions (Amberg et al., 2003). There were four items that measured the reliability of the network, availability of the service, and the absence of the physical constraints. Perceived Trust involves user trust on the security, reliability and institutional credibility of the mobile wallet systems and their providers (Gefen et al., 2003). There were 9 items that captured perceptions of data security, transaction safety, system reliability and provider credibility.

Demographic and Profile Variables: A number of demographic variables were measured to profile the respondents and allow segmentation analysis: gender (male/female), age (18 to 25 years, 26 to

30 years, 31 to 40 years, 41 to 50 years), education level (O/L, A/L, Degree, Master

Degree, Other), monthly income (within LKR ranges), type of occupation (executive/non-executive), time of using the mobile wallet (less than 6 months, 2 These variables allow considering the differences in user acceptance between demographic groups and also can be used as the potential control variables in the further analyses.

Data Collection

In order to generate primary data, a questionnaire was formulated on the basis of the indicators of the independent and dependent variables stipulated in the conceptual framework, in an effort to evaluate the variables that affect user acceptance of mobile payment channels in Sri Lanka.

DATA ANALYSIS

Descriptive Statistics and Reliability

The sample had 128 mobile wallet active users in Sri Lanka. Table 1 reports descriptive statistics of the major variables used in the study, which are Perceived Ease of Use, Perceived Usefulness, Perceived Mobility, Perceived Trust and User Acceptance. Each of the constructs showed above-mid lines of the scale mean scores (3.0). It means that there are positive attitudes towards mobile payment channels in the sample. Analysis of reliability indicated an excellent internal consistency of all scales and Cronbach alpha were between 0.86 and 0.90 (see Table 2). This affirms the validity of the measurement tools.

Table 1 shows some significant trends in the data as indicated in the descriptive statistics. The mean scores of all the variables were above 3.0 that represented the midpoint of the scale, revealing the positive perception of mobile wallet systems as a whole by the sample population.

Table 1: Descriptive Statistics of Key Variables

Variable	Mean	Std. Deviation	Min	Max	Skewness	Kurtosis
Perceived Ease of Use	4.12	0.65	2.71	5.00	-0.28	-0.17
Perceived Usefulness	4.25	0.60	2.43	5.00	-0.22	-0.42
Perceived Mobility	3.90	0.70	3.00	5.00	-0.36	-0.70
Perceived Trust	4.05	0.63	2.44	5.00	-0.32	-0.15
User Acceptance	4.10	0.62	3.00	5.00	-0.31	-0.30

Perceived Usefulness registered the best mean ($M = 4.25$, $SD = 0.60$) implying that the respondents have a solid perception of the functional value and utility of mobile wallets in helping to improve the efficiency of the transaction. The measure of Perceived Ease of Use also had a high mean ($M = 4.12$, $SD = 0.65$), and it can be stated that users find mobile wallet interfaces and processes comparatively easy and straightforward to use. The mean score of Perceived Trust ($M = 4.05$, $SD = 0.63$) and User Acceptance ($M = 4.10$, $SD = 0.62$) had a positive score which indicates the confidence of the respondents in the security of the systems and the credibility of the institutional level, and also the willingness of respondents to use these platforms. Importantly, Perceived Mobility showed a relatively lower mean ($M = 3.90$, $SD = 0.70$) which indicated a little bit more variability in perceptions of network functionality and network access by users a result in line with challenges of infrastructure in developing economies (Kumar et al., 2024). Standard deviations of all the variables were between 0.60 and 0.70, which implied that there is moderate dispersion about the means and that variability is enough to perform some statistical analysis. All variables had values of skew and kurtosis within the acceptable range of ± 3 (Kline, 2015), but most skewness's in constructs are slightly negative. This is a negative skew, as those are between -0.22 and -0.36, which

indicates the tendency of the sample to be concentrated more on the upper end of the scale implying that the sample consisted of mainly satisfied and accepting users. Kurtosis values, ranging from -0.70 to -0.15, indicated relatively flat distributions without extreme outliers. These distributional characteristics support the appropriateness of parametric statistical techniques including Pearson correlation and multiple regression analysis.

Table 2: Reliability Statistics

Variable	Cronbach's Alpha
Perceived Ease of Use	0.86
Perceived Usefulness	0.88
Perceived Mobility	0.87
Perceived Trust	0.90
User Acceptance	0.86

Univariate Normality and Linearity Tests

Univariate normality is an assumption that about each variable of a research study. It ensures variables normally distributed. Skewness and kurtosis statistics were used to test the univariate normality of the study. Univariate normality was confirmed as skewness and kurtosis values for all variables fell within the recommended ± 3 range, supporting the suitability of parametric tests. Multicollinearity diagnostics showed

variance inflation factors (VIF) ranging from 1.66 to 2.60 for independent variables, well below the critical threshold

of 10, indicating no multicollinearity concerns.

Table 3: Skewness and Kurtosis of variables

Variable	Minimum	Maximum	Skewness	Kurtosis
Perceived Ease of Use	2.71	5.00	-0.278	-0.174
Perceived Usefulness	2.43	5	-0.216	-0.418
Perceived Mobility	3.00	5.00	-0.362	-0.698
Perceived Trust	2.44	5	-0.321	-0.146
Customer Acceptance	3.00	5.00	-0.315	-0.300

Multicollinearity Diagnostics

The tolerance and variance inflation factor (VIF) statistics (Table 4) demonstrate that multicollinearity is not a concern in this study. All tolerance values exceed 0.38 (well above the 0.10 cutoff), and VIF values are below 3, indicating that the predictor variables Perceived Ease of Use, Perceived Usefulness, Perceived Mobility, and Perceived Trust are sufficiently independent for regression analysis.

Tolerance and VIF Values

Table 4: Tolerance and VIF values

Variable	Variable Tolerance	Variable Tolerance VIF
Perceived Ease of Use	0.601	1.664
Perceived Usefulness	0.384	2.604
Perceived Mobility	0.442	2.261
Perceived Trust	0.555	1.800

Correlation Analysis

Pearson correlation analysis revealed moderate positive correlations between all independent variables (perceived ease of use, perceived usefulness, perceived mobility, perceived trust) and the dependent variable (user acceptance). The highest correlation was observed between perceived usefulness and user acceptance ($r = 0.514$, $p < 0.01$), followed by perceived trust ($r = 0.416$), perceived mobility ($r = 0.392$), and perceived ease of use ($r = 0.347$).

Table 5 presents the correlation analysis, which shows significant relationships between the variables of the study which give preliminary support of the hypothesized relationships but does not go further to multivariate analysis. The expected directional relationships were as follows, all independent variables had statistically significant positive correlations with User Acceptance at the $p < 0.01$ level. The perceived Usefulness had the most significant correlation with User Acceptance ($r = 0.514$, $p < 0.01$) and it is the strong positive relationship (Cohen, 1988). This implies that users who view mobile wallets as something that can help improve the efficiency of transactions are much higher in adopting and accepting such systems which is in agreement with fundamental TAM postulations (Davis, 1989; Venkatesh and

Table 5: Correlations

	Perceived Ease of use	Perceived Usefulness	Perceived Mobility	Perceived Trust	Customer Acceptance
Perceived Ease of use	1				
Perceived Usefulness	.583**	1			
Perceived Mobility	.583**	.704**	1		
Perceived Trust	.424**	.648**	.567**	1	
Customer Acceptance	.347**	.514**	.392**	.416**	1

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

Davis, 2000). The second strongest correlation between the variables was shown between User Acceptance and Perceived Trust ($r = 0.416$, $p < 0.01$), which means moderate-to-strong positive relationship

This observation highlights why trust plays an instrumental role in the uptake of financial technology especially in frontier markets where trust and security issues as well as institutional credibility have a considerable impact on user behavior (Qadri, 2023; Pathirana and Azam, 2017). Perceived Mobility was moderately positively related with User Acceptance ($r = 0.392$, $p < 0.01$) which implies that those users who feel that mobile wallets are available and usable in different places and network conditions tend to be more accepting. Although this correlation is slightly lower than the usefulness and trust correlation, the fact that it exists at all proves the topicality of mobility factors in the mobile payment situation of Sri Lanka, where the variability of the network coverage is still a feasible issue (Kumar et al., 2024). The highest level of correlation, but still with statistical significance ($r = 0.347$, $p < 0.01$), was observed between Perceived Ease of Use and User Acceptance, which is a moderate positive correlation. This recommendation is

consistent with the implications of TAM that ease of use can have an indirect impact on the acceptance process via its impact on the perceived usefulness (Davis, 1993). It is important to note, that the independent variables also exhibited strong intercorrelations with the greatest correlation rate between Perceived Usefulness and Perceived Mobility ($r = 0.704$, $p < 0.01$). The close relationship indicates that, mobile wallets that users view as convenient at any time and place also appear more convenient: the relationship between these two views is considered to be integrated in mobile payment situations. Perceived Usefulness had a very high correlation with Perceived Trust ($r = 0.648$, $p < 0.01$) which means that the users who have trust in mobile wallet systems have also known that they have functional utility. Empirical evidence to support the existence of TAM is found in the correlation of Perceived Ease of Use and Perceived Usefulness ($r = 0.583$, $p < 0.01$) and shows that the ease of use does affect the perceptions of usefulness (Davis, 1989). Although these interrelations are significant, these diagnostics have established that they are not a threat to the validity of regression analysis (refer to discussions below). These bivariate associations offer initial support of the hypothesized positive

effects of perceived ease of use, usefulness, mobility, and trust on mobile wallet acceptance and the multivariate regression analysis will be based on the above relationships to determine the unique effect of each predictor whilst holding the others constant.

Multiple Regression Analysis

To prove the impact of Perceived Ease of Use, Perceived Usefulness, Perceived

Mobility, and Perceived Trust on User Acceptance of mobile payment channels, a multiple linear regression was done (Table 6). The full regression equation was significant ($F(4, 123) = 11.888$, $p = 0.001$), which explained 27.9% of the variance in User Acceptance (Adjusted $R^2 = 0.255$). The value of Durbin-Watson 1.649 does not suggest a severe autocorrelation issue.

Table 6: Regression Model Summary

Model	R	R ²	Adjusted R ²	Std. Error	F	Sig.
Regression	0.528	0.279	0.255	0.434	11.888	.000

Table 7: Regression Coefficients

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.273	0.335	-	6.778	0.000	-	-
	Perceived Ease of use	0.215	0.094	0.225	2.287	0.024	0.601	1.664
	Perceived Usefulness	0.329	0.106	0.384	3.106	0.002	0.384	2.604
	Perceived Mobility	0.180	0.102	0.200	1.765	0.039	0.442	2.261
	Perceived Trust	0.240	0.092	0.270	2.609	0.010	0.555	1.800
	a. Dependent Variable: Customer Acceptance							

Table 7 showed the regression coefficients used to indicate the extent and direction of the effect of each predictor on User Acceptance. Unstandardized coefficients (B values) have been taken as it gives real world interpretation of the relationship between variables in their actual measures of measurement (Hair et al., 2010).

Perceived Usefulness showed the highest positive impact on User Acceptance ($B = 0.329$, $SE = 0.106$, $p = 0.002$), meaning that an increase of a one unit in the perceived usefulness (on a 5-point Likert scale) leads to a positive increase in user acceptance of 0.329 units, other variables remaining stable.

This result supports H 2 and proves the role of perceived usefulness as the strongest factor influencing mobile wallet acceptance in this sample, as the core idea of TAM is that users embrace technologies, which they believe will help them achieve their objectives (Davis, 1989; Alalwan et al., 2020). Perceived Trust had the second highest effect ($B = 0.240$, $SE = 0.092$, $p = 0.010$), indicating that a one-unit change in perceived trust will be associated with a 0.240 unit change in user acceptance, other factors held constant.

This significant impact validates H4 and also highlights the paramount role of security, reliability, and the credibility of the institution in facilitating mobile wallet acceptance in the context of the Sri Lankan frontier market (Gefen et al., 2003; Qadri, 2023).

Perceived Ease of Use showed significant positive relation ($B = 0.215$, $SE = 0.094$, $p = 0.024$) to mean that a one-unit increment in perceived ease of use positively affects user acceptance by 0.215 units. This proves H1 and the value of the role of TAM that emphasizes the significance of the simplicity and user-friendliness of a system in the development of technology adoption (Venkatesh and Bala, 2008; Wickramasinghe and Fernando, 2021). Lastly, there was a marginally significant positive influence of Perceived Mobility ($B = 0.180$, $SE = 0.102$, $p = 0.039$) that indicated that one-unit change of perception of mobility resulted in a 0.180-unit change in user acceptance. Although the effect is not as large as the other predictor, it is statistically significant, which proves H3 and underlines the applicability of network accessibility and service availability in the choice of users (Kumar et al., 2024). To compare them, it may be used to compare standardized coefficients (Beta values) to find out the relative significance of predictors on a similar scale. The standardized coefficients state that Perceived

Usefulness ($= 0.384$), Perceived Trust ($= 0.270$), Perceived Ease of Use ($= 0.225$) and Perceived Mobility ($= 0.200$), have the strongest relative influence. These standardized values substantiate the order of importance of the predictors as the unstandardized coefficients give real-life insight into the levels of effects in their original units.

Summary of Hypothesis Outcomes

Hypothesis	Outcome
H1: There is a significant relationship between perceived Ease of use and Perception on accepting Mobile Payment Channels in Sri Lanka.	Accepted
H2: There is a significant relationship between Perceived Usefulness and Perception on accepting Mobile Payment Channels in Sri Lanka.	Accepted
H3: There is a significant relationship between Perceived Mobility and Perception on accepting Mobile Payment Channels in Sri Lanka.	Accepted
H4: There is a significant relationship between Perceived Trust and Perception on accepting Mobile Payment Channels in Sri Lanka.	Accepted

DISCUSSION

This paper has discussed the most critical aspects of influencing the acceptance of mobile payment channels, especially

mobile wallets supported by commercial banks in Sri Lanka utilizing the Technology Acceptance Model (TAM) and its variations. The findings provide valuable information about the determinants of adoption which are both theoretical and practical. The perceived usefulness was the best predictor.

Perceived Usefulness as the Strongest Predictor

Perceived usefulness became the strongest predictor of mobile wallet acceptance ($B = 0.329$, $p = 0.002$), which is also in line with the ample empirical literature on TAM showing that perceived utility is the main driving force behind technology adoption decisions (Davis, 1989; Venkatesh and Davis, 2000). This result is very consistent with the mobile payment research conducted in various contexts, such as the research conducted in India (George and Paul, 2022), in Pakistan (Singh and Srivastava, 2018), in Malaysia (Tian and Chan, 2024), and in the other South Asian markets (Alalwan et al., 2020), where the perceived usefulness was found to be the strongest or one of the strongest determinants of adoption.

Importance of Perceived Ease of Use

Perceived Ease of Use also made a significant contribution to the acceptance, which underlines how mobile wallets should be friendly and user-intuitive in order to foster high adoption rates. The latter discovery is consistent with prior studies that highlighted the minimality of steps, simplicity, and clear interfaces as well as localized functionality (e.g., the presence of an option to use the Sinhala and Tamil languages) as minimizing the barriers, in particular, among non-experts (Venkatesh, 2020; Wickramasinghe and Fernando, 2021). The digital divide can be bridged in Sri Lanka with the assistance of ease of use in the context of the dense socio-economic environment and high

uptake rate among both the elderly and the educated population.

Role of Perceived Mobility

Even though the influence of Perceived Mobility is somewhat smaller compared to the other aspects, the high level of its positive impact proves the idea that users appreciate the ease of access to mobile payment service and its availability in different places and situations (Amberg et al., 2003; Kumar et al., 2024). The network coverage, the ability to communicate with various devices, and constant access to the network will be especially important in a developing economy when the infrastructure-level restriction can still occur. These areas can be improved to increase long-term activity on the mobile payment platforms.

Influence of Perceived Trust

Perceived Trust was also found to be a major factor in acceptance, highlighting the importance of the relevance of security, reliability, and institutional credibility in an industry that engages in sensitive financial dealings (Gefen et al., 2003; Zhao and Lee, 2024). Trust factor has been shown to be concerned with the data privacy, the safety of transactions, and the reputation of the mobile wallet providers, and has shown that high levels of technical security and open communication by the banks and regulating bodies are needed to develop consumer confidence.

Theoretical Implications

This research offers various key theoretical contributions to the literature of mobile payment acceptance and TAM-based research, in general.

First, it empirically confirms the existence of a broader TAM model that includes the perceived trust and perceived mobility with the traditional TAM constructs in a frontier market setting. Although the

easiness of use and perceived usefulness were the key variables in TAM, which showed high predictive capacity as per the hypothesized functions, the addition of trust and mobility increased the predictive capacity of the model, which includes context-specific factors that are relevant in developing economies (Qadri, 2023; Abdennebi et al., 2023). The adjusted R² of 0.255 means that the extended model accounts for about 25.5 percent of variance in user acceptance, which is similar or even greater, than other explanations of comparable studies (Karim et al., 2020; Singh and Srivastava, 2018).

Second, this study adds to the knowledge about the differences in how TAM constructs are reflected in various contexts of economic development. Although perceived usefulness has always become the best predictor of all developed, emerging, and frontier markets, the relative significance of trust in this Sri Lankan sample was higher than that of developed market research (Bogodistov and Moormann, 2019; de Luna et al., 2019). This implies that trust is more salient under the conditions when regulatory frameworks are still underdeveloped, institutional trust is uneven, and users have not acquired much experience using digital financial service (Chandra et al., 2010; Zhao and Lee, 2024). Likewise, the importance of perceived mobility as an element that is mostly ignored in developed market research highlights infrastructural reliance with the nature of frontier economies. Third, the research contributes to theoretical discussion of the limits and uses of Western-constructed technology acceptance model in developing countries, outside the West. The effective practice of the extended TAM framework in Sri Lanka implies that although the fundamental theoretical processes are universal in any setting, situational conditions require careful model adjustments. It is in line with the advocacy

of context-sensitive theorizing of information systems research by acknowledging the fact that the dynamics of adoption in frontier markets might vary significantly compared to tendencies reported in WEIRD (Western, Educated, Industrialized, Rich, Democratic) populations that dominate the prevailing literature (Qadri, 2023).

Finally, this research contributes to the limited but growing body of empirical evidence on mobile payment adoption in South Asian frontier markets, complementing studies in Pakistan (Singh & Srivastava, 2018), Bangladesh (Aron, 2018), and other comparable contexts. By providing rigorous quantitative data specific to Sri Lanka, the study enables future meta-analyses and comparative research examining adoption patterns across frontier economies, potentially revealing universal versus context-specific determinants of mobile payment acceptance.

Practical Implications for Stakeholders

The findings of this study offer actionable insights for multiple stakeholder groups invested in promoting mobile wallet adoption and advancing Sri Lanka's digital payment ecosystem.

For Mobile Wallet Providers and Commercial Banks:

Service providers should prioritize enhancing perceived usefulness through continuous feature innovation and user-centric design. This includes expanding merchant acceptance networks to increase payment utility, integrating bill payment functionality for essential services (utilities, telecommunications, government fees), enabling seamless e-commerce transactions, and providing value-added services such as transaction categorization, spending analytics, and cashback rewards (George & Paul, 2022). Given the significance of perceived trust, providers must invest substantially in

security infrastructure including multi-factor authentication, encryption protocols, and fraud detection systems, while transparently communicating these safeguards to users through clear privacy policies and security certifications (Zhao & Lee, 2024). User interface design should prioritize simplicity, incorporating localized language options (Sinhala, Tamil), intuitive navigation, minimal transaction steps, and accessible help functions to enhance perceived ease of use, particularly for first-time users and those with limited digital literacy (Wickramasinghe & Fernando, 2021). Addressing perceived mobility concerns requires collaboration with telecommunications providers to ensure service reliability across network conditions, optimizing applications for low-bandwidth environments, and developing offline functionality for areas with connectivity limitations (Kumar et al., 2024).

For Policymakers and Regulatory Authorities:

The Central Bank of Sri Lanka and relevant regulatory bodies should establish comprehensive regulatory frameworks governing mobile payment security, consumer protection, and data privacy, thereby enhancing institutional trust and legitimizing mobile wallets as safe, regulated financial services (Pathirana & Azam, 2017). Government-led awareness campaigns highlighting mobile wallet benefits, security features, and proper usage can address information asymmetries and accelerate adoption, particularly in rural and underserved communities (Qadri, 2023). Infrastructure development initiatives should prioritize expanding reliable mobile network coverage and internet connectivity, recognizing that perceived mobility constraints directly impede adoption (Kumar et al., 2024). Incentive programs encouraging merchant adoption such as reduced transaction fees, subsidized point-

of-sale equipment, or tax incentives for digital transactions can expand acceptance networks, thereby enhancing perceived usefulness for consumers (World Bank, 2018). Finally, digital literacy programs integrated into national education curricula and community outreach initiatives can build foundational technological competence, reducing barriers related to perceived complexity and effort (Galhena et al., 2023).

For Technology Developers and User Experience Designers:

Application developers should conduct iterative user testing with diverse demographic groups to identify and eliminate usability barriers, ensuring interfaces accommodate varying technological proficiency levels. Incorporating progressive disclosure principles revealing advanced features gradually as users gain confidence can balance simplicity for novices with functionality for experienced users (Venkatesh & Bala, 2008). Personalization features allowing users to customize interfaces, set transaction limits, and configure security preferences can enhance both perceived ease of use and trust (Singh & Srivastava, 2018).

For Financial Inclusion Initiatives:

Organizations promoting financial inclusion should leverage mobile wallets as tools for reaching unbanked and underbanked populations, recognizing that mobile payment platforms can provide accessible entry points to formal financial systems (Aron, 2018). Targeted interventions addressing trust deficits among marginalized communities through partnerships with trusted local institutions, community demonstrations, and small-scale pilots can facilitate adoption among populations traditionally excluded from digital financial services (World Bank, 2018). Affordability considerations, including low or zero transaction fees for

small-value transactions and minimal account maintenance costs, can enhance perceived usefulness among economically disadvantaged users for whom cost concerns significantly influence adoption decisions.

Limitations and Future Research

The cross-sectional design limits causal inference: the urban-biased sample may not reflect rural users; self-report measures risk common-method bias. Future work should employ longitudinal designs, rural sampling, and mixed methods.

RECOMMENDATIONS AND CONCLUSION

The purpose of this study was to identify the key factors influencing user acceptance of mobile payment channels in Sri Lanka, with a particular focus on mobile wallets backed by commercial banks. While mobile payments have become a significant trend worldwide, particularly in retail and corporate sectors, research specifically addressing the Sri Lankan context remains limited. This study addresses this gap by providing empirical evidence on local determinants of mobile wallet adoption, offering valuable insights for researchers, service providers, and policymakers planning future investments and initiatives.

Based on data collected through an online questionnaire from 128 active mobile wallet users, predominantly aged 20 to 30 years a demographic recognized for its higher technological adoption rates, the study identified perceived ease of use, perceived usefulness, perceived mobility, and perceived trust as significant predictors of mobile payment acceptance.

The key findings include:

- Perceived Usefulness emerged as the strongest predictor, highlighting that users are primarily motivated by

tangible improvements in transaction efficiency, convenience, and service effectiveness provided by mobile wallets.

- Perceived Ease of Use also significantly impacts acceptance, underscoring the critical need for mobile wallet platforms to be intuitive, simple, and accessible. This is especially important in the Sri Lankan context where accommodating diverse language and cultural factors enhances usability.
- Perceived Trust plays a vital role, emphasizing the necessity for robust security measures, credible backing by financial institutions, and transparent communication to build and maintain consumer confidence.
- Perceived Mobility remains a relevant factor, confirming that users value reliable network coverage and service accessibility across various locations, which facilitates uninterrupted payment experiences.

Recommendations

In light of these findings, mobile wallet providers and financial institutions in Sri Lanka should:

- Prioritize system usability enhancements, ensuring user interfaces are easy to navigate and support local languages to reduce barriers to adoption among wider demographic groups.
- Invest in security infrastructure to safeguard user data and transactions, while actively communicating these protections to users to strengthen perceived trust.
- Expand network accessibility and service reliability to improve perceived mobility, addressing

infrastructural challenges that may inhibit seamless mobile payment use.

- Develop targeted marketing and educational campaigns focused on building trust and increasing awareness, particularly among older and less technologically experienced users outside the dominant younger demographic.

Conclusion

This study set out to identify and analyze the key factors influencing user acceptance of mobile payment channels in Sri Lanka, with specific focus on mobile wallets provided by commercial banks. Drawing on the Technology Acceptance Model and its extensions, the research examined how perceived ease of use, perceived usefulness, perceived mobility, and perceived trust shape adoption decisions in Sri Lanka's frontier market context. By addressing these critical factors, service providers and policymakers can more effectively promote digital payment adoption, which supports the broader goal of fostering a cashless economy and accelerating the country's ongoing digital transformation.

These insights provide a foundation for enhancing mobile wallet services and suggest pathways to overcoming adoption challenges unique to Sri Lanka's social and technological landscape. Future research could explore longitudinal adoption trends and the impact of emerging technologies on user acceptance in diverse demographic segments.

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