

Factors affecting consumers' behavioral intentions to use and adopt digital wallets**Mohammad Hamdi Al Khasawneh^a, Mohammad Al-Rousan^a, Shafiq Al-Haddad^a, Abdel-Aziz Ahmad Sharabati^{b*} and Reem Sewan^a**^aKing Talal School of Business Technology, Princess Sumaya University for Technology, Amman, Jordan^bBusiness Faculty, Middle East University, Amman, Jordan**CHRONICLE***Article history:*

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*Keywords:**Perceived usefulness**Perceived ease of use**Technology Acceptance Model (TAM)**Digital wallets***ABSTRACT**

The current research paper aims to pinpoint the determinants that impact consumers' perceived ease and perceived usefulness of digital wallet usage in Jordan. To accomplish this, the Technology Acceptance Model (TAM) has been used, which encompasses additional dimensions like the perceived risk of COVID-19, social influence, government support, promotional benefits, perceived value, and personal innovativeness. A quantitative research approach was employed in this paper; an online survey was applied to gather data from a total of 401 participants. The gathered data underwent analysis using a two-step PLS-SEM method. The study outcomes show that digital wallet users' perception of promotional benefits and perceived value significantly and positively affect the digital wallet's perceived usefulness. However, governmental support and social influence do not have a significant impact on digital wallets' perceived usefulness.

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1. Introduction

Technology development has increased electronic money transactions (Hoang et al., 2021). Moreover, the COVID-19 epidemic has also altered the mean people make financial transactions (Budiarani et al., 2021). Following these notices, electronic payment transactions have gradually substituted traditional payment methods (Hoang et al., 2021). Furthermore, facts from MarkPlus Inc. and Nielsen report exhibit that there is an increasing number of persons who tend to do online shopping through e-commerce. According to these facts, the researchers surveyed to research new e-wallet users and the types of transactions frequently used during COVID-19 (Budiarani et al., 2021). Numerous global research papers have investigated the utilization of digital payment as a method for payment, and have revealed that the primary determinants of the inclination to benefit from digital wallets during the COVID-19 pandemic are perceived usefulness, perceived ease of use, convenience, privacy, perceived risk, and governmental support (Aji et al., 2020; Karim et al., 2020). Other determinants such as technological, political, and cultural aspects also impact the acceptance and implementation of electronic payment (Alkhowaiter, 2020). Adopting and utilizing digital payment systems in Jordan have been greatly impacted by factors such as expectations of efficiency, social influence, the perceived value of pricing, security, and privacy (Al Okaily et al., 2020). Trust is also another crucial element that considerably affects the utilization and adoption of digital payment, particularly in financial transactions (Al Nawayseh, 2020; Oney et al., 2017). The current paper's goal is to build an inclusive framework that examines the significant variables affecting the intentions of digital wallet use and adoption. The Technology Acceptance Model (TAM) is extensively employed in technology adoption research papers. To recognize the determinants influencing the adoption of digital wallet services in Jordan, the framework must incorporate variables like promotional benefits, perceived value, governmental support, and perceived COVID-19 risk. It also should examine the unique relationships between these factors and consumer behavioral intentions, which have not been previously investigated (Al-Qudah et al., 2022). These variables have not been extensively studied within the context of digital wallet services but are vital for the process of decision-making of students and working populations.

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In this paper, to recognize the dimensions impacting digital wallet acceptance, the TAM was adopted. TAM is one of the utmost recognized models for being able to understand digital payments from the perceptions of customers in adopting applications (Perdana, 2017). The technology acceptance model explains how users are introduced to a new technology, where several variables determine how and when they will use it (Martínez-Caro et al., 2013). There are external variables that have a connection with perceived ease of use along with perceived usefulness, eventually leading to the intention to adopt. The reason behind using the TAM model is that TAM was applied fruitfully in evaluating the backgrounds that determine the adoption of numerous technologies (Gbongli et al., 2019). Moreover, it has been the most accepted model and used theory when assessing an individual's adoption and behavioral intention (Oliveira & Martins, 2011). Finally, nowadays, e-commerce and Smartphones are very important to modern users and the economy. The use of mobile wallets is a fast-growing method for payment not only in developed countries but also in developing countries (Rana et al., 2023). Lastly, the outcomes of this paper are predicted to benefit e-wallet firms in defining the aspects that impact digital wallet acceptance and use.

2. Literature review

In the digital age, electronic payment systems have become an essential part of our lives. One of the most popular forms of e-payment systems is digital wallets. Nowadays, the use of digital wallets is increasing, especially after the COVID-19 era, so people have started adopting digital payment within their daily practices. It is crucial to explore the determinants that impact their adoption. The TAM is extensively used as a framework for examining technology adoption. The current research paper aims to carry out an in-depth review of the literature on the TAM and its implementation in digital wallets. To understand the willingness of consumers to adopt Information System (IS) technology, many theories have developed, among them the TAM is the most widely used. The TAM has been extensively investigated in prior studies to explain how people use a particular technology (Davis, 1989b). Moreover, the TAM is utilized in several technologies, for example, e-commerce, e-learning, and short message service (Al-Marouf & Al-Emran, 2018; Barry, 2017; Cheung & Vogel, 2013; Muk & Chung, 2015), and has instituted itself as a most popular model for evaluating the new technology usage intention and adoption (Aydin & Burnaz, 2016). Anyway, the variables of the original TAM may not fully include the fundamental concepts that affect customers' behavioral intentions toward online purchasing. Consequently, scholars have suggested the addition of more variables to the model to increase its suitability (Jaradat, 2013). Both security and privacy are additional determinants that positively impact the usage intention to new technology. Both security and privacy have affected the behavioral intention of e-wallet usage. Along with security and privacy, the other factors studied in their research were PU and PEOU (Barry, 2017). Moreover, it is noted that most of the former investigations have studied technology adoption in the mobile banking context (Amin et al., 2008; Shin, 2009) and mobile payment (Singh et al., 2017). Limited research papers were evident to examine digital wallet adoption, especially in the Jordanian context. Few existing studies have endeavored to investigate the underlying association between determinants that impact the attitude of users (Singh et al., 2017) as well as their intentions (Madan & Yadav, 2016) to accept and use digital wallets.

The ever-increasing number of mobile users reveals that more and more individuals want to embrace the freedom that comes with not having to worry about wires, time, or location. The aspects impacting the mobile payment systems consumers' adoption in Jordan were explored by employing the TAM variables, with the inclusion of an independent variable, namely perceived financial cost. Both perceived usefulness and perceived financial cost have a considerable and favorable influence on the behavioral intention usage of digital payment systems. Nevertheless, it was observed that perceived ease of use has no statistical or positive influence on the behavioral intention of digital wallet usage (Lutfi et al., 2021). When defining the drivers that influence the adoption and utilization of digital wallets in Islamic banks in Jordan. The primary obstacle to implementing the TAM is to establish a concrete foundation for the adoption of information and communication technology (ICT). Persons' attitudes toward digital wallets are impacted by person ease of use perception, usefulness perception, competency, and trustworthiness. These factors, in turn, impact their behavioral intention to digital wallets and mobile banking usage (Al-Khasawneh & Alquraan, 2019). Many factors affect the change in consumers' attitudes and intentions regarding payment methods from traditional ones like cash, debit or credit cards, and physical wallets to digital payment methods such as mobile apps. The consumers' willingness to switch is highly influenced by their perception of ease of use, usefulness, and perceived risk, which affects attitude and intention (Alaeddin et al., 2018). Factors that define the effect of consumers' intentions to use digital wallets include application quality, perceived simplicity of use, perceived usefulness, as well as attitude toward utilization. Perceived ease of use affects perceived usefulness. The perceived usefulness of e-wallet applications has a beneficial effect on attitudes toward utilizing them. While the perceived usefulness of e-wallet applications is unaffected by quality, attitude is a crucial factor for behavioral intentions for its use (Kustono et al., 2020). Elements that affect consumers' intentions of digital wallet usage during the COVID-19 pandemic period include government support, perceived usefulness, perceived risk, and behavioral intention to digital wallet use. TAM Model dimensions were employed with two additional factors, government support, and perceived risk. Results indicated that perceived risk is allied with using physical cash during the pandemic and the e-wallet's perceived usefulness influenced their adoption. Additionally, government support for digital payment platforms was found to be advantageous as it can enhance digital payment systems usage (Sree & Paul, 2020). Findings of the upgraded version of the TAM Model to test the dimensions that impact millennials' acceptance of digital wallets demonstrated that perceived ease of use is associated with perceived usefulness. In addition, perceived ease is considered correlated to behavioral intention, while trust has a positive and noteworthy correlation with actual use (Sarmah et al., 2020). Usefulness, ease of use, security, and trust have a significant effect on user attitude and intention, while trust is affected by security (Chawla & Joshi, 2020). Digital payment technology includes four types of digital payment: mobile payment, e-payment, card payment, and cryptocurrencies. They are influenced by users' perceived value, degree of satisfaction, and users' intention to adopt

any of them (Mew & Millan, 2021). Mobile financial technology services can reach remote areas where banks can not reach, it reduces the cost and time of financial transactions for users and bankers (Neelam & Bhattacharya, 2022). Mobile wallets are different from traditional payment, it is cashless, enjoyable, and eco-friendly. In addition, it satisfies sellers' and purchaser expectations (Hopali et al., 2022). Mobile self-efficacy strongly affects perceived enjoyment, which affects performance expectancy, effort expectancy, and satisfaction. Performance expectancy, social influence, and satisfaction affect users' behavioral intentions (Esawe, 2022). Cognitive drivers (perceived usefulness and perceived ease of use) strongly affect the perceptions of e-wallet apps, while attitudes and subjective norms affect the e-wallet app's continued use. The correlation between attitude and continued use is mediated by subjective norms (X. J. Lim et al., 2022). Before digital wallet adoption, customers used multi-criteria to evaluate e-wallet services mainly the perceived value, which affects satisfaction (Ilieva et al., 2023). Digital wallet adoption drivers include perceived ease of use, usefulness, trust, and security (Neves et al., 2023). Lastly, e-wallet has a significant effect on the economy and welfare (Umeokeke et al., 2017). Finally, the dimensions that influence people's use of digital wallet services include positive disconfirmation, perceived usefulness, subjective norm, perceived behavioral control, attitude, and perceived ease of use. Perceived value and satisfaction are correlated with the intent to consume e-wallets in the future. Intention to use is impacted by the variables of the Theory of Planned Behavior (TPB), the TAM Model, and user satisfaction. However, the correlation between satisfaction and digital wallet usage intention was not strengthened by perceived value (Ariffin et al., 2021).

3. Research Model & Hypothesis Development

The current suggested model stems from the original TAM model. In addition to several variables to be examined thoroughly, such as social influence, as people learn new things from their society e.g. friends, family, and peers, and are influenced regarding their choices and preferences (Singh et al., 2017) thus increasing this research's interest in looking closely at its effect in regards to digital wallets. Perceived value is also added, which significantly and positively affects adopting intentions to use new technologies, like mobile banking, mobile commerce, and mobile wallets (Amoroso & Magnier-Watanabe, 2012; Pagani, 2004; Slade et al., 2015), perceived value is a key driver in gaining and retaining customers (Mutahar et al., 2018). Thus, perception of value should be essential for e-services marketers. Furthermore, prior research argued that promotion could motivate consumers for digital wallet usage. This sort of drive is said to be "extrinsic" (Davis et al., 1992), which is the motivation resulting from external factors, such as money (Muchena et al., 2014). In addition to governmental support, supporting digital wallets during this pandemic may likewise affect the intention to adopt digital wallets (Aji et al., 2020). World Health Organization's advice encourages the government to enhance people's participation in using digital wallets (Brown, 2020; Huang, 2020). It is beneficial for the government to "flatten the curve" (Kaur, 2021). The aforementioned variables are studied to assess their effect on PU, while perceived value is studied to assess the effect on both PEOU and PU (Mutahar et al., 2018). Meanwhile, personal innovativeness and perceived COVID-19 risk are being studied to assess their effects on intention towards use. People with high personal innovativeness are vital to assess when adopting new technology, as they are pioneers to examine new technology and share their experiences (Campbell & Singh, 2017). Furthermore, the perceived COVID-19 risk is important to study because, as mentioned in earlier studies, the necessity to use technologies during the global pandemic is inescapable (Sukendro et al., 2020).

3.1 Social Influence

It is viewed in the related literature as the perceived influence of important individuals in one's life who inspire and motivate them in the transaction of using digital wallets (Sarika & Vasantha, 2019). It was commonly agreed, in the existing related literature, on the substantial effect of social influence on customers' intention to accept technologies (Amoroso & Magnier-Watanabe, 2012; Lee et al., 2004; Schierz et al., 2010; Yang et al., 2012). Numerous studies showed a correlation between social influence and attitude toward consuming digital banking services. For instance, (Deb & Lomo-David, 2014) concluded that social influence has a positive correlation with consumers' attitudes toward mobile banking. Similarly, Bashir and Madhavaiah (2014) established that social influence has a positive influence on users' intention to Internet banking usage. These outcomes suggest that social influence is crucial in promoting the digital wallets adoption. As Mun et al. (2017) pointed out, the effect of friends, family, and colleagues is important in shaping individuals' choice to adopt mobile payments. Moreover, other researchers (e.g., Calisir et al., 2013; Ramazani et al., 2013; Thakur, 2016; Zhao et al., 2018) indicated that social influence is strongly correlated with technology acceptance through perceived usefulness. (Singh et al., 2017) concentrated on the family and friends role-played in encouraging the adoption of mobile wallets. Peers teach users new things, and their attitudes and behaviors have an impact on them. That means that when evaluating the effectiveness of technology, social influence might happen by considering the opinions of significant individuals. Considering the previous discussion, it is expected that people's positive feedback on digital wallets could potentially perceive a high usefulness level of new technologies such as digital wallets leading to the intent to use them. Therefore, it is suggested that:

H₁: *Social influence has a significant positive influence on the perceived usefulness of digital wallets.*

3.2 Promotional Benefits

Promotional benefits are defined as motivational rewards such as discounts, free sample gifts, and monetary bonuses that can attract customers to use a certain product or technology (Aydin & Burnaz, 2016). Customers are eager to exert effort to attain these worthwhile benefits (Han et al., 2014; Kim et al., 2021). Mobile payment provides the tangible advantage of uploading and using digital wallets i.e., discounts, and internet access, which can develop a positive attitude and enhance the intention

towards use. Success can rely on creating a complete experience for the customers with value added. Promotional benefits proved to be a vital component that can foster the acceptance proportion of Internet banking users (Hosein, 2009). Additional research on mobile payment concluded that incentives including monetary prizes, loyalty points, and discount coupon codes may influence consumers' behavioral intentions toward mobile shopping (Baghla, 2018; Madan & Yadav, 2018).

Seminal contributions such as (Lilliecrona & Sundelin, 2017) found that if consumers do not have the option of digital payment usage, they would choose to cash payment or cards. To elaborate further, customers seek to get these tangible and intangible benefits (Prabhakaran et al., 2020). Many papers have demonstrated that there is a direct association between the promotional advantage offered by mobile wallet institutions and users' intention to mobile wallets acceptance and use (Bagla & Sancheti, 2018; Madan & Yadav, 2016). (Singh et al., 2020) concluded that users are adopting and utilizing digital wallet services more when they receive benefits, such as cashback or reward points. Additionally, (Fikri & Lisdayanti, 2020) found that incorporating more benefits into the customer experience positively impacts users' acceptance of digital wallets as a form of payment, which ultimately enhances the perceived usefulness. The proper in-text citation has been included in the passage. Based on this argument, the hypotheses suggested can be:

H₂: *Promotional benefits have a significant positive influence on the perceived usefulness of digital wallets.*

3.3 Government Support

It is defined as the degree of government recognizing the status of the information system's (IS) role and the content to which it is involved in the actions (Al-Haderi, 2014). In several previous studies, government support has been found to enhance or hinder the new technology acceptance (Appiah et al., 2019; Besley & Burgess, 2002). Moving into the mobile payment context, government support significantly influences users intentions to accept and adopt mobile payment transactions (Aji et al., 2020; Dawi, 2019; Mandari et al., 2017; Rambocas & Arjoon, 2012). Ultimately, external variables like governmental funding may have an impact on how beneficial people believe technology to be (Al-Haderi, 2014; Hai & Kazmi, 2015). The encouragement of the government of utilizing digital wallets during the COVID-19 outbreak may have had a beneficial impact on how useful people thought the wallets were (Aji et al., 2020). Since COVID-19 is considered a global pandemic and a threat to many people, this research proposes that government support for digital wallets would potentially encourage users adoption and use of digital wallets. Therefore, it is hypothesized that:

H₃: *Governmental support has a significant positive influence on the perceived usefulness of digital wallets.*

3.4 Perceived Value

The concept of perceived value describes the personal evaluation of the advantages and disadvantages associated with obtaining or using a particular service and/or product. It is a subjective judgment that depends on personal preferences and perceptions (Murillo-Zegarra et al., 2020). In previous studies, perceived value is represented as a multidimensional construct including social, emotional, and functional value (Youn & Lee, 2019), while other studies examined perceived value as a unidimensional variable that affects the technology adoption intention (Murillo-Zegarra et al., 2020). In the current paper model, perceived value is directly linked to PEOU and PU (Murillo-Zegarra et al., 2020). In (Suryadi et al., 2018) opinion, PEOU shows a significant contribution to perceived value. According to (Mutahar et al., 2018), it has been proposed that the more consumers perceive technology as useful or free of effort to be used, the higher they will perceive its value. This has eventually led to the development of the below hypotheses:

H₄: *Perceived value has a significant positive influence on the perceived usefulness of digital wallets.*

H₅: *Perceived value has a significant positive influence on the perceived ease of use of digital wallets.*

3.5 Perceived Usefulness (PU)

Several prior studies have described perceived usefulness as the degree of a personal belief that utilizing a particular system would increase performance (Davis, 1989b, 1989a; Kesumastuti, 2020; Latupeirissa et al., 2020; Singhal et al., 2020) or increase his/her productivity by using digital wallets (Karim et al., 2020). It is crucial to say that the decision to utilize new technology is impacted by perceived usefulness (Davis, 1989a; Venkatesh & Davis, 2000). According to research on technology adoption, the perceived utility affects users attitudes and intentions to utilize Internet banking (Al-Khasawneh et al., 2018; Chong et al., 2010), as well as mobile banking (Al-Khasawneh & Alquraan, 2019; Mohammadi, 2015). The correlation between attitude and perceived usefulness was shown in many articles (Aboelmegeed & Gebba, 2013; Deb & Lomo-David, 2014; Krishanan et al., 2016; Teo et al., 2008). Perceived usefulness has been shown to have a beneficial association with digital wallet adoption (Alalwan et al., 2017; Liébana-Cabanillas et al., 2018; Nguyen & Huynh, 2018). Hence, perceived usefulness is a major dimension in the behavioral intention for digital wallet usage, with a negligible impact on intention according to (Jin et al., 2020). However, several previous studies have consistently discovered that perceived usefulness is a significant determinant of the intention to electronic or digital wallet usage (Aji & Dharmmesta, 2019). Thus, the hypothesis being proposed is as follows,

H₆: *Perceived usefulness of digital wallets has a significant positive influence on users' intention to use digital wallets.*

3.6 Perceived Ease of Use (PEOU)

It is described as the level to which users perceive a new technology to be effortless to utilize (Davis, 1989a; Watcharadamrongkun et al., 2018), including the perceived convenience of consuming digital wallets (Najib & Fahma, 2020). (Kumar et al., 2020) found that users consider digital wallets easy to use because of the minimal number of steps involved in transferring money. Researchers such as (Phuong et al., 2020) and (Shao et al., 2020) discovered that perceived ease of usage positively and significantly impacts users' intention to continue consuming a digital wallet. (Hew et al., 2015) concluded that user-friendly apps would attract users and influence their opinions. Perceived ease of use strongly impacts users' attitudes (Chau & Lai, 2003; Deb & Lomo-David, 2014; Lin & Lu, 2011; Suh & Han, 2002) and their propensity to utilize the system (Shao et al., 2020). In the case of digital wallets, research has demonstrated that customers consider usability to be one of the most important determinants when using mobile payments (Alkhowaiter, 2020; Sankaran & Chakraborty, 2021). (Al-Marooof & Al-Emran, 2018) showed that digital wallet usage is simple and significantly impacts their intention to use them. Findings were further supported by more recent research by (Kumar et al., 2020), which found that 78% of mobile users believed that using a mobile wallet to pay and navigate was easy and required minimal effort. It is suggested, based on these observations, that digital wallet developers prioritize ease of use to improve user satisfaction and encourage continued usage. Hence, it is suggested that

H7: *Perceived ease of use has a significant positive influence on the intention towards the use of digital wallet.*

3.7 Personal Innovativeness

It is described as the person's distinctive willingness to utilize and foster new technologies (Karim et al., 2020). For this current research, individual innovativeness describes the disposition of a user to embrace new ideas related to paying and performing transactions online using digital wallets. Innovative individuals are more open to accepting innovations, and they are more likely to pursue them than their non-innovative peers (Zampou et al., 2012). Persons who have a high degree of creativity are more open and adventurous to try new ways (C. Kim et al., 2010). Persons with a high degree of innovation are thought to have opinions and attitudes that are more favorable toward the convenience and utility of adopting mobile banking (F.-W. Lim et al., 2020). It is expected that higher people innovativeness may hold more positive views of innovation as usefulness and ease of use both have more positive intentions towards the usage of the digital wallet (Cao et al., 2019). Individuals' level of anxiety towards technology and their degree of personal innovativeness are crucial dimensions that impact the decision of digital wallet usage (Gbongli et al., 2019). Based on that statement, it can be suggested that:

H8: *Personal Innovativeness has a significant positive influence on the behavioral intention to use digital wallets.*

3.8 Perceived COVID-19 Risk

It is described as the possibility of unfavorable consequences or drawbacks that may arise from utilizing a particular service (Featherman & Pavlou, 2003). Perceived COVID-19 risk is considered as the personal belief of the risks associated with having coronavirus (Taselaar, 2020). An early study conducted by (Mitchell, 1999) also demonstrated that users' risk perception significantly impacts an individual's behavioral intentions in using digital payment. (Al Nawayseh, 2020) asserted that the lack of impact that technology-related risk had on FinTech adoption in Jordan was due to consumers' increased worry about COVID-19's health danger, which outweighed their fear of other hazards associated with technology. Additionally, (Aji et al., 2020) concluded that customers' intention to adopt e-wallets during the pandemic significantly influences government support, perceived usefulness, and perceived risk of COVID-19. Moreover, it has been indicated that hazards can reduce consumers' intention to adopt digital wallet payment for a single platform (Lai, 2018). Therefore, the use of digital wallets would be the superlative solution to prevent the transmission of COVID-19 between individuals. As well as, the more COVID-19 threatens people's health by using cash flow the more people tend to utilize digital wallets for transactions (Aji et al., 2020). Hence, the suggested hypothesis is:

H9: *Perceived COVID-19 risk has a significant positive influence on the intention to use digital wallets.*

4. Methodology

The proposed theoretical framework is tested in the current study using a quantitative research methodology. The current study depended on the Internet survey strategy to get a high response rate even though there are several data-gathering methods available, including mail surveys, Internet surveys, phone surveys, and self-administrated surveys. Jordanians can be chosen because of their easy accessibility and close vicinity to the researchers thanks to the convenience and purposive sampling technique, which is rapid and simple in the current study. A Likert scale with five possible outcomes from strongly important (1) to strongly important (5) was employed to evaluate the items of the current study. For the data collection, surveys were conducted both offline and online. Only those who have heard of or used a mobile wallet were asked to participate in the survey after being informed of the study's objectives. The data was gathered and analyzed with the highest care, and participation was optional. Users of mobile wallets from different industries, such as retail, telecommunications, consulting, banking and financial services, manufacturing, and additional business services, made up the sampling frame. The survey was completed by 450 respondents in total. The study was only able to use 401 of the useable surveys because 49 respondents were unaware of mobile wallets.

5. Data Analysis

In a two-step process, the obtained data were examined using PLS-SEM. The measurement model was employed to check the validity and reliability of the instrument, while path analysis was conducted to explore the predicted correlations. In addition, the following are the justifications for selecting PLS-SEM: The purpose of the estimated structural model is to investigate theoretical extensions of existing theories. It is complicated and involves numerous constructs, indicators, and/or model linkages (Hair et al., 2019).

Table 1
Sample Demographics

		Frequency	%
Gender	Female	268	66.8
	Male	133	33.2
Age	18-23	239	59.9
	24-29	52	13.0
	30-35	30	7.5
	36-41	20	5.0
	40 and above	60	15.0
Education	High school	28	7.0
	Bachelor 'degree	322	80.3
	Master's degree	43	10.7
	PhD	8	2.0

After examining the demographic information in Table 1, it is evident that there are 268 females (66.8% of the population) and 133 males (33.2%), meaning that females outnumbered males in this survey. On the other hand, the study sample's median age is between 18 and 23 years, with a percentage of (59.9%), the largest among all the age groups represented in the survey. The statistical analysis's findings also indicate that up to (80.3%) of the respondents in this survey are bachelor's degree holders.

5.1 Reliability Test and Validation of Model

Exploratory of Factorial Analysis (EFA)

To execute an EFA, the following criteria must be met: factor loadings have to be more than 0.60 and cross-loadings 0.30. No items (questions) were eliminated when these criteria were applied, and all (31) measurements of the Nine variables were loading well with their respective constructs (0.625 to 0.922), exceeding the advised threshold of 0.60 (Neill, 2008; Sharabati et al., 2022) as exhibited in Table 2.

Table 2
Factor Loading Matrix

	1	2	3	4	5	6	7	8	9
GS1	0.720								
GS2	0.903								
GS3	0.908								
GS4	0.810								
ITU1		0.881							
ITU2		0.911							
ITU3		0.810							
PB1								0.856	
PB2								0.868	
PB3								0.885	
PCR1			0.875						
PCR2			0.859						
PCR3			0.874						
PEOU1				0.882					
PEOU2				0.886					
PEOU3				0.909					
PEOU4				0.854					
PI1							0.791		
PI2							0.801		
PI3							0.625		
PI4							0.856		
PU1					0.781				
PU2					0.835				
PU3					0.830				
PU4					0.803				
PV1						0.873			
PV2						0.891			
PV3						0.836			
SI1									0.912
SI2									0.922
SI3									0.824

Social Influence (SI), Promotional Benefits (PB), Governmental Support (GS), Perceived Usefulness (PU), Perceived Value (PV), Perceived Ease of Use (PEOU), (Kaiser-Meyer-Olkin = 0.909; df = 465; Sig = 0.000); (Bartlett = 8466.983; df = 465; Sig = 0.000)

Also, the Kaiser-Meyer-Olkin (KMO) score, According to (Al-Haddad et al., 2022; Stephanie Glen, 2016; Tabachnick & Fidell, 2019). The recommended criterion for the Kaiser-Meyer-Olkin related to sampling adequacy is 0.70 or above. The Bartlett test of sphericity significance level was determined to be 0.000, indicating a statistically significant result (Al-Khasawneh et al., 2023; Kaiser et al., 1974; Sharabati et al., 2022; Tabachnick & Fidell, 2019). These results demonstrate that all of the metrics factor satisfactorily. As a result, the table's (2) outer loading matrix provides information that allows the validity of the items for the analysis. Therefore, it is crucial to confirm that the variables included in the statistical analysis are genuine.

5.2 Construct Reliability and Validity Analysis

The current article indicates (α) Cronbach Alpha exceeding (0.70) with all scales (e.g. 0.774 - 0.906), and the Composite Reliability (CR) of each tool was more than (0.80) (0.854 - 0.934). (Hair et al., 2014) define convergent validity using AVE as the agreement between a latent construct and its tools. According to (Couchman & Fulop, 2006), this validity can be determined by calculating the mean-variance among variables and their constituents, meaning AVE assesses how accurately a measuring instrument evaluates the construct it intends to measure. According to the outcome displayed in Table 3, the Average Variance Extracted (AVE) of each of the nine variables surpassed the suggested threshold of 0.50, as suggested by (Barclay et al., 1995). Particularly, the AVE for each of the nine variables ranged from 0.598 to 0.787, indicating a significant association among the scale items. This demonstrates the validity of the tool of study and allows statistical analysis to be conducted by researchers based on the test results.

Table 3
Reliability and Validity, and Descriptive Analysis of Construct

Variables	Mean	AVE	CR	A	Std. Deviation
Social Influence	3.842	0.787	0.917	0.864	1.004
Promotional Benefits	3.989	0.756	0.903	0.842	1.012
Governmental Support	4.057	0.703	0.904	0.861	0.924
Perceived Value	4.244	0.752	0.901	0.835	0.816
Perceived Usefulness	4.458	0.660	0.886	0.828	0.708
Perceived Ease of Use	4.317	0.779	0.934	0.906	0.755
Perceived COVID-19 Risk	4.080	0.756	0.903	0.839	0.798
Personal Innovativeness	4.159	0.598	0.854	0.774	0.992
Intention to use	4.382	0.754	0.902	0.836	0.782

5.3 The Convergent and Discriminant Validity Validation

Table 4 indicates that the correlation coefficients of each construct are lower than the square roots of (AVE), indicating that the latent construct has greater item loadings compared to other constructs. Hence, the validity discriminant of the research model is acceptable, and the data it produces is used appropriately. Furthermore, this indicates that there are no issues with discriminant validity.

Table 4
Discriminant Validity Matrix

	GS	ITU	PCR	PEOU	PU	PV	PI	PB	SI
GS	0.839								
ITU	0.299	0.869							
PCR	0.212	0.442	0.869						
PEOU	0.341	0.740	0.323	0.883					
PU	0.302	0.665	0.394	0.587	0.813				
PV	0.334	0.736	0.332	0.707	0.589	0.867			
PI	0.372	0.555	0.353	0.631	0.481	0.649	0.773		
PB	0.385	0.498	0.410	0.514	0.488	0.531	0.472	0.870	
SI	0.435	0.459	0.329	0.490	0.364	0.594	0.466	0.438	0.887

5.4 Testing hypotheses

The study utilized Path Analysis, which is a structural equation method, to check the proposed model. According to (Hair et al., 2014), this method can effectively analyze complex causal models and is considered a covariance-based structural equation modeling technique. When testing a model using a structural equation, four key values must be determined: the P-value, path coefficients (β), the effect size (f^2) as described by (Neill, 2008), and variation in the consumer intention for digital wallets usage variable (R²) based on digital wallet characteristics, as clarified by (Hair et al., 2010; Henseler et al., 2015). Table 5 presents the cutoff points for these tests.

Based on the aforementioned hypotheses, the outcome of the structural equation analysis shows that social influence has an insignificant positive impact on the perceived usefulness of digital wallets. The path coefficients (β) are found to be -0.045, the t-value is -0.883, and the P-value is higher than 0.05 ($P < 0.05$) with a significance value of 0.378. Therefore, the (H1) is refused.

The analysis of the H2 indicates that promotional benefits have a noteworthy and positive impact on the perceived usefulness of digital wallets. The hypothesis is validated by the Path Coefficients (β) = 0.231, T-value = 4.296, and $P < 0.05$, with a value of = 0.000. Despite being considered small based on the value ($f^2 = 0.058$) the (H2) is accepted. This effect implies that raising promotional benefits leads to a raising in the perceived usefulness of digital wallets. Regarding the third hypothesis (H3), the

findings suggest that governmental support does not significantly influence the perceived usefulness of digital wallets. This implies that (H3) has been disproved, as indicated by the path coefficients (β) of 0.080, a t-value of 1.609, and a p-value of more than 0.05, which equals 0.108.

The PLS analysis results indicate that perceived value significantly positively impacts digital wallets' perceived usefulness, thereby confirming (H4). This influence is considered moderate and its value ($f^2 = 0.204$), with path coefficients (β) of 0.467, t-value of 7.991, and P-value lower than 0.05 ($P < 0.05$; = 0.000). Therefore, a rise in perceived value leads to an enhancement in the digital wallets' perceived usefulness. The combined influence of the two features - Promotional benefits and Perceived value - on the variance in the perceived usefulness of digital wallets was moderate, as represented by $R^2=0.395$. The value can be trusted when predicting and interpreting the digital wallets' perceived usefulness.

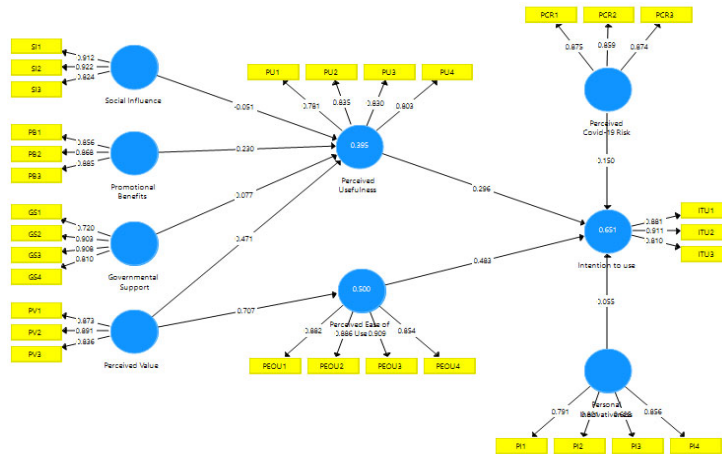


Fig. 1. Model Testing

Table 5 Hypothesis Testing

Hypotheses	effect size (f^2)	Path Coefficients (β)	T-value	Std. Error	P-value	R ²	Decision
SI → PU	0.002	-0.045	-0.883	0.057	P > 0.05 = 0.378	0.395	H1: Rejected
PB → PU	0.058	0.231	4.296	0.054	P < 0.05 = 0.000		H2: Accepted
GS → PU	0.008	0.080	1.609	0.048	P > 0.05 = 0.108		H3: Rejected
PV → PU	0.204	0.467	7.991	0.059	P < 0.05 = 0.000	0.500	H4: Accepted
PV → PEOU	0.999	0.706	19.769	0.036	P < 0.05 = 0.000		H5: Accepted
PU → ITU	0.150	0.298	5.877	0.050	P < 0.05 = 0.000	0.651	H6: Accepted
PEOU → ITU	0.332	0.478	9.140	0.053	P < 0.05 = 0.000		H7: Accepted
PI → ITU	0.005	0.061	1.071	0.051	P > 0.05 = 0.285		H8: Rejected
PCR → ITU	0.052	0.149	3.574	0.042	P < 0.05 = 0.000		H9: Accepted

Effect size F^2 : <0.02 = No Effect
 F^2 : (0.02 to 0.15) = Small Effect
 F^2 : (0.16 to 0.35) = Moderate Effect.
 F^2 : ≥ 0.36 = Large Effect
 (Neill, 2008)

R^2 : <0.19 = Reject.
 R^2 : (0.20 to 0.33) = Weak.
 R^2 : (0.34 to 0.50) = Moderate.
 R^2 : ≥ 0.51 = Strong.
 (Hair et al., 2010; Henseler et al., 2015)

Moreover, the influence of perceived value on perceived ease of digital wallet usage is considerable and positive (with Path Coefficients (β) = 0.706; T-value = 19.769; $P < 0.05$; = 0.000). This influence is substantial ($f^2 = 0.999$), confirming the hypothesis (H5). Essentially, this means that when perceived value increases, so does the perceived ease of digital wallet use. The explained variance in perceived ease of digital wallet use due to perceived value was moderate ($R^2=0.500$), making it a reliable factor for predicting and interpreting the perceived ease of digital wallet usage.

Hypothesis H6 suggests that perceived usefulness significantly and positively impacts the digital wallets' intention and use, H6 is acceptable. This influence is considered as small based on the value ($f^2 = 0.150$), with path coefficients (β) of 0.298, a T-value of 5.877, and a P-value of less than 0.05, hypothesis (H6) is accepted indicating that a rise in perceived usefulness led to a rise in the digital wallet's intention and use. Similarly, H7 is also accepted, indicating that perceived ease of use

significantly and positively influences the intention toward the use of digital wallets. This influence is considered moderate with a value ($f^2 = 0.332$), with path coefficients (β) of 0.478, a T-value of 9.140, and a P-value of less than 0.05, meaning that a rise in perceived ease of use results in a rise in the digital wallets intention to use. Hypothesis (H7) is accepted.

However, H8 is refused as personal innovativeness insignificantly influences attitudes towards digital wallet usage (Path Coefficients (β) = 0.061; T-value = 1.071; $P < 0.05$; = 0.285). Conversely, H9 is supported as the findings indicate that perceived COVID-19 risk has a significant and positive effect on the intention to use digital wallets (Path Coefficients (β) = 0.149; T-value = 3.574; $P < 0.05$; = 0.000), with a minor impact size ($f^2 = 0.052$). This means that a rise in perceived COVID-19 risk leads to a corresponding rise in the digital wallet's intention to use. The explained variance in intention toward digital wallet use, which is represented by perceived ease of use, perceived COVID-19 risk, and perceived usefulness is strong ($R^2=0.651$). This value is reliable for predicting and interpreting intention toward the use of digital wallets.

6. Discussion

The research aims to define the main dimensions that affect how customers in Jordan perceive the e-wallet's usefulness and ease of use, and how this influences their intention to use e-wallet. The current research model has used the TAM Model, but included additional factors such as promotional benefits, government support, perceived value, personal innovativeness, social influence, and perceived COVID-19 risk. Results revealed that the suggested model was valid for certain variables including perceived usefulness, promotional benefits, perceived risk, perceived value, and perceived ease of use. However, the impact of other dimensions like social influence, government support, and personal innovativeness on users' behavioral intention to e-wallet use was insignificant, thus these hypotheses are rejected.

Social Influence: The outcomes of the study suggest that social influence does not have a favorable effect on the perceived usefulness of digital wallets, thereby hypothesis H1 is refused. This contradicts the numerous prior studies that showed a positive correlation between social influence and the perceived usefulness of digital wallets, such as those (Calisir et al., 2013; Ramazani et al., 2013; Singh et al., 2017; Thakur, 2016; Zhao et al., 2018). The outcomes of this research proposed that Jordanian users are not influenced by the attitudes and opinions of their friends, family, and colleagues when it comes to trying and using digital wallets. It should be noted that most of the participants in the study had a higher education level, with over 90% having a bachelor's degree or higher which may explain why the participants were able to independently their intention to use digital wallets without being influenced by their relatives.

Promotional benefits: On the contrary, the study's outcomes demonstrate a noteworthy affirmative relationship between promotional benefits and PU of digital wallets. As an outcome, hypothesis H2 is validated, supporting the results of earlier research included in the literature review (Bagla & Sancheti, 2018; Fikri & Lisdayanti, 2020; Madan & Yadav, 2016; Singh et al., 2020).

Governmental Support: The results reveal that government support does not affect individuals' perceived of digital wallets usefulness. Therefore, it rejects hypothesis H3, which contradicts the outcomes of prior research studies as identified in the literature review performed by (Aji et al., 2020; Bashir & Madhavaiah, 2014; Dawi, 2019; Mandari et al., 2017; Rambocas & Arjoon, 2012). According to the findings, Jordanian consumers of digital wallets do not perceive the government's support for digital monetary transactions, and hence, it is not impacting their decisions to utilize such services.

Perceived Values: According to the research results, the perceived value of digital wallets has a notable and favorable effect on the perceived ease of use and perceived usefulness of digital wallets, thereby supporting hypotheses H4 and H5. These findings corroborate prior studies conducted by (Murillo-Zegarra et al., 2020; Mutahar et al., 2018; Suryadi et al., 2018).

Perceived Ease of Use: Study outcomes show that perceived ease of use positively and directly impacts the desire to continue mobile wallet usage. This finding validates the theory that perceived ease of use is a crucial determinant of the adoption and continued usage of mobile wallets by consumers. Previous studies by (Al-Amri et al., 2018; Campbell & Singh, 2017; Chakraborty & Mitra, 2018; Chatterjee & Bolar, 2019; Eappen, 2019; Isrososiawan et al., 2019; Kafsh, 2015; Karim et al., 2020; Reddy & Rao, 2019; Shaw, 2015; Singh et al., 2020) have all concluded that perceived ease of use is key dimension that impact the user intention to use and adopt mobile wallets. This finding, however, contradicts a prior study carried out (Garrouch, 2021).

Perceived Usefulness: The outcome suggested that H6 has been accepted, which confirms that perceived usefulness has a significant and positive impact on the intention of digital wallet usage. These findings align with previous research cited in the literature review (Aboelmegeed & Gebba, 2013; Al-Khasawneh et al., 2018; Chong et al., 2010; Deb & Lomo-David, 2014; Krishanan et al., 2016; Mohammadi, 2015; Teo et al., 2008). This implies that if Jordanian citizens perceive the systems of mobile payment as useful, they have more chance to increase their usage of such systems. Therefore, individuals who consider mobile payment systems to be highly useful show strong approval for their usage. The opinions of Jordanian citizens regarding the advantages and utility of mobile payment systems greatly influence their decision to use them.

Personal Innovativeness: The article outcomes show that personal innovativeness does not have a significant influence on shaping the intention to digital wallet use. As an outcome, hypothesis H8 is rejected. The results are inconsistent with the previous research results carried out by (Cao et al., 2019; Gbongli et al., 2019; F.-W. Lim et al., 2020). Jordanians' lack of skills and confidence in adopting digital wallet services may be attributed to insufficient exposure. Therefore, educating citizens on how to use digital wallet services is crucial to integrating technology into people's daily lives.

Perceived Risks: The findings indicate that individuals' perceived risk associated with COVID-19 has a noteworthy and affirmative impact on their inclination to utilize digital wallets, thereby supporting hypothesis H9. These results are consistent with prior research performed by (Aji et al., 2020; Lai, 2018; Mitchell, 1999), which suggests that consumers' e-wallet adoption is impacted by their perceived level of risk. This finding suggests that customers who perceive digital wallets as essential and valuable in reducing physical touch with money are more likely to prioritize health concerns and be positively inclined toward using them as a payment platform.

7. Conclusion

This paper has aimed to investigate how users in Jordan accept and adopt e-wallet services. The TAM model is utilized in this article to define the dimensions that impact consumers' attitudes and intentions toward digital wallet services. The outcome indicates that perceived value and promotional benefits significantly and positively impact digital wallets' perceived usefulness. Additionally, the findings demonstrate that intention to use digital wallets, perceived COVID-19 risk, perceived usefulness, and perceived ease of use have a positive and significant correlation. However, the other variables tested were found to be insignificant and were rejected.

8. Limitations and Future Research

This paper only studied several factors that influence the intention and acceptance of e-wallets, namely, social influence, promotional benefits, government support, perceived value, personal innovativeness, and perceived COVID-19 risks. These limitations suggest several areas for future research. Firstly, studies could explore additional aspects of digital wallet acceptance beyond those examined in this research, such as the perceived compatibility of e-wallets. Secondly, future research could delve into the security and technology infrastructure, attributes, and functions of digital wallets. Thirdly, demographic variables like age and gender classification could be investigated for their moderating effect. Moreover, comparing mobile wallets with other used methods like VISA, credit cards, and MasterCard would be useful. It is worth noting that TAM has undergone recent conceptual expansions that have not been explored in this research, which means that more empirical research on digital wallets would lead to better predictions of consumer behavior. Thus, further research in this field is necessary.

9. Managerial Implications

The present paper proposes various implications that can apply to various industries in Jordan. Our research indicates that Jordanians are prepared to accept digital wallet technology, and certain drivers like perceived value, promotional benefits, and perceived ease of use are keys to adopting modern payment systems.

To enhance the digital wallet services adoption in Jordan, the organization has to promote how digital wallets are easy, comfortable, and convenient. This can be done by advertisements and demonstrating how to use digital wallets in shopping centers and malls. Advertisements display how using digital wallets for payments is simple and easy without bothering about the risk of transactions and other issues like counting of currency notes, accuracy, and money exchanges. Furthermore, they show how digital wallet services reduce transaction time and increases productivity. Moreover, ad campaigns should include directives for both e-wallet non-users and users on how to use e-wallet for shopping, bill payment, and booking of tickets.

To encourage digital wallet users and promote its use, digital wallet organizations support their services with kiosks and call centers in showrooms and malls to provide a deep understanding of the ease of use and usefulness of such digital payment systems. Moreover, organizations may present discounts and rewards for digital wallet installation.

References

- Aboelmaged, M., & Gebba, T. R. (2013). Mobile banking adoption: an examination of technology acceptance model and theory of planned behavior. *International Journal of Business Research and Development*, 2(1), 35–50. <https://doi.org/https://doi.org/10.24102/ijbrd.v2i1.263>
- Aji, H. M., Berakon, I., & Md Husin, M. (2020). COVID-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia. *Cogent Business and Management*, 7(1), 1–16. <https://doi.org/10.1080/23311975.2020.1804181>
- Aji, H. M., & Dharmmesta, B. S. (2019). Subjective norm vs dogmatism: Christian consumer attitude towards Islamic TV advertising. *Journal of Islamic Marketing*, 10(3), 961–980. <https://doi.org/10.1108/JIMA-01-2017-0006>
- Al-Amri, R., Maarop, N., Jamaludin, R., Samy, G. N., Magalingam, P., Hassan, N. H., Ten, D. W. H., & Daud, S. M. (2018). Correlation Analysis Between Factors Influencing the Usage Intention of Nfc Mobile Wallet Payment. *Journal of Fundamental and Applied Sciences*, 4(1), 9–10. <http://dx.doi.org/10.4314/jfas.v10i1s.7>
- Al-Haddad, S., Sharabati, A. A., Harb, L., Husni, A., & Abdelfattah, M. (2022). E-WOM and consumers' purchase intention: An empirical study on Facebook. *Innovative Marketing*, 18(3), 149–158. [https://doi.org/10.21511/im.18\(3\).2022.13](https://doi.org/10.21511/im.18(3).2022.13)
- Al-Haderi, S. (2014). The Influences of Government Support in Accepting the Information Technology in Public Organization Culture. *International Journal of Business and Social Science*, 5(5), 118–124.
- Al-Khasawneh, M., & Alquraan, T. A. A. (2019). Factors Influencing Consumers' Intention to Adopt and Use Mobile Banking Applications in Jordanian Islamic Banks. *European Journal of Scientific Research*, 152(4), 384–393. <http://www.europeanjournalofscientificresearch.com>
- Al-Khasawneh, M., Hujran, O., & Abdrabbo, T. (2018). A quantitative examination of the factors that influence users' perceptions of trust towards using mobile banking services. *International Journal of Internet Marketing and Advertising*, 12(2), 181–207. <https://doi.org/10.1504/IJIMA.2018.090957>

- Al-Khasawneh, M., Sharabati, A. A., Al-haddad, S., Al-daher, R., Hammouri, S., & Shaqman, S. (2023). Consumer's Attitude Towards Display Google Ads. *Future Internet*, 15(145), 1–19. <https://doi.org/10.3390/fi1504014>
- Al-Marouf, R. A. S., & Al-Emran, M. (2018). Students Acceptance of Google Classroom: An Exploratory Study Using PLS-SEM Approach. *International Journal of Emerging Technologies in Learning*, 13(6), 112–123. <https://doi.org/10.3991/ijet.v13i06.8275>
- Al-Qudah, A. A., Al-Okaily, M., Alqudah, G., & Ghazlat, A. (2022). Mobile payment adoption in the time of the COVID-19 pandemic. *Electronic Commerce Research*, 0123456789, 1–25. <https://doi.org/10.1007/s10660-022-09577-1>
- Al Nawayseh, M. K. (2020). FinTech in COVID-19 and Beyond: What Factors are Affecting Customers' Choice of FinTech Applications? *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 1–15. <https://doi.org/10.3390/joitmc6040153>
- Al Okaily, A., Lutfi, A., Alshira'h, A., Alqudah, H., Al Okaily, M., & Alsyouf, A. (2020). The Influence of Digital Payment Systems on the Jordan Payment Selection: An Extension of the Classic UTAUT2 Model. *International Journal of Business Information Systems*, 1(1), 1. <https://doi.org/10.1504/ijbis.2020.10036880>
- Alaeddin, O., Rana, A., Zainudin, Z., & Kamarudin, F. (2018). From Physical to Digital: Investigating Consumer Behaviour of Switching to Mobile Wallet. *Polish Journal of Management Studies*, 17(2), 18–30. <https://doi.org/10.17512/pjms.2018.17.2.02>
- Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management*, 37(3), 99–110. <https://doi.org/10.1016/j.ijinfomgt.2017.01.002>
- Alkhowaiter, W. A. (2020). Digital payment and banking adoption research in Gulf countries: A systematic literature review. *International Journal of Information Management*, 53(February), 102102. <https://doi.org/10.1016/j.ijinfomgt.2020.102102>
- Amin, H., Hamid, M. R. A., Lada, S., & Anis, Z. (2008). The Adoption of Mobile Banking in Malaysia: The case of Bank Islam Malaysia (BIMB). *International Journal of Business and Society*, 9(2), 43–53.
- Amoroso, D. L., & Magnier-Watanabe, R. (2012). Building a Research Model for Mobile Wallet Consumer Adoption: The Case of Mobile Suica in Japan. *Journal of Theoretical and Applied Electronic Commerce Research*, 7(1), 94–110. <https://doi.org/10.4067/S0718-18762012000100008>
- Appiah, K., Osei, C., Selassie, H., & Osabutey, E. (2019). The role of government and the international competitiveness of SMEs: Evidence from Ghanaian non-traditional exports. *Critical Perspectives on International Business*, 15(4), 296–322. <https://doi.org/10.1108/cpoib-06-2018-0049>
- Ariffin, S. K., Abd Rahman, M. F. R., Muhammad, A. M., & Zhang, Q. (2021). Understanding the consumer's intention to use the e-wallet services. *Spanish Journal of Marketing - ESIC*, 25(3), 446–461. <https://doi.org/10.1108/SJME-07-2021-0138>
- Aydin, G., & Burnaz, S. (2016). Adoption of mobile payment systems: a study on mobile wallets. *Journal of Business, Economics, and Finance*, 5(1), 73–73. <https://doi.org/10.17261/pressacademia.2016116555>
- Baghla, A. (2018). A Study on the Future of Digital Payments in India. *IJRAR-International Journal of Research and Analytical Reviews*, 5(4), 85–89. <http://ijrar.com/>
- Bagla, R. K., & Sancheti, V. (2018). Gaps in customer satisfaction with digital wallets: challenge for sustainability. *Journal of Management Development*, 37(6), 442–451. <https://doi.org/10.1108/JMD-04-2017-0144>
- Barclay, D., dan Higgins, C., & Thompson, R. (1995). The Partial Least Squares (PLS) approach to casual modeling: Personal computer adoption and use as an illustration. *Technology Studies*, 2(2), 285–309.
- Barry, C. Y. H. (2017). *CAN A SHORT VIDEO MODULE TEACH STEREOTYPE THREAT AND METHODS OF PREVENTION TO WHITE, WOMEN, PRE-SERVICE TEACHERS?* (Issue December). The Pennsylvania State University.
- Bashir, I., & Madhavaiah, C. (2014). Revisiting Technology Acceptance Model (TAM) at the Individual Internet Banking Adoption Level. *Metamorphosis: A Journal of Management Research*, 13(1), 42–56. <https://doi.org/10.1177/0972622520140107>
- Besley, T., & Burgess, R. (2002). The Political Economy of Government Responsiveness: Theory and Evidence from India. *Angewandte Chemie International Edition*, 6(11), 951–952.
- Brown, D. (2020). *Can Cash Carry Coronavirus? World Health Organization Says: Use Digital Payments When Possible.* USA Today. <https://www.usatoday.com/story/money/2020/03/06/coronavirus-covid-19-concerns-over-using-cash/4973975002/>
- Budiarani, V. H., Maulidan, R., Setianto, D. P., & Widayanti, I. (2021). The Kano Model: How the Pandemic Influences Customer Satisfaction With Digital Wallet Services in Indonesia. *Journal of Indonesian Economy and Business*, 36(1), 62–82. <https://doi.org/10.22146/jieb.59879>
- Calisir, F., Atahan, L., & Saracoglu, M. (2013). Factors Affecting Social Network Sites Usage on Smartphones of Students in Turkey. *Proceedings of the World Congress on Engineering and Computer Science, WCECS 2013, 23-25 October 2013, San Francisco, USA*, 2, 1081–1085.
- Campbell, D., & Singh, C. B. (2017). A Study of Customer Innovativeness for the Mobile Wallet Acceptance in Rajasthan. *Pacific Business Review Internationa*, 10(6), 7–15. http://www.pbr.co.in/2017/2017_month/Dec/1.pdf
- Cao, J., Shang, Y., Mok, Q., & Lai, I. K. W. (2019). The Impact of Personal Innovativeness on the Intention to Use Cloud Classroom: An Empirical Study in China. In *Communications in Computer and Information Science* (Vol. 1048). Springer

- Singapore. https://doi.org/10.1007/978-981-13-9895-7_16
- Chakraborty, S., & Mitra, D. (2018). A study on consumers' adoption intention for digital wallets in India. *International Journal on Customer Relations*, 6(1), 38–56.
- Chatterjee, D., & Bolar, K. (2019). Determinants of Mobile Wallet Intentions to Use: The Mental Cost Perspective. *International Journal of Human-Computer Interaction*, 35(10), 859–869. <https://doi.org/10.1080/10447318.2018.1505697>
- Chau, P. Y. K., & Lai, V. S. K. (2003). An Empirical Investigation of the Determinants of User Acceptance of Internet Banking. *JOURNAL OF ORGANIZATIONAL COMPUTING AND ELECTRONIC COMMERCE*, 13(2), 123–145. <https://doi.org/10.1108/09564230310500192>
- Chawla, D., & Joshi, H. (2020). The moderating role of gender and age in the adoption of mobile wallet. *Foresight*, 22(4), 483–504. <https://doi.org/10.1108/FS-11-2019-0094>
- Cheung, R., & Vogel, D. (2013). Predicting user acceptance of collaborative technologies: An extension of the technology acceptance model for e-learning. *Computers and Education*, 63(2013), 160–175. <https://doi.org/10.1016/j.compedu.2012.12.003>
- Chong, A. Y. L., Ooi, K. B., Lin, B., & Tan, B. I. (2010). Online banking adoption: An empirical analysis. *International Journal of Bank Marketing*, 28(4), 267–287. <https://doi.org/10.1108/02652321011054963>
- Couchman, P. K., & Fulop, L. (2006). Building trust in cross-sector R & D collaborations : exploring the role of credible commitments. *European Group for Organizational Studies (EGOS) 22nd Colloquium Trust Within and Across Boundaries*, 1–31. <http://hdl.handle.net/10072/15583>
- Davis, F. D. (1989a). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly: Management Information Systems*, 13(3), 319–339. <https://doi.org/10.2307/249008>
- Davis, F. D. (1989b). Technology Acceptance Model: Origins. In *Working Papers on Information Systems*.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and Intrinsic Motivation to Use Computers in the Workplace. *Journal of Applied Social Psychology*, 22(14), 1111–1132. <https://doi.org/10.1111/j.1559-1816.1992.tb00945.x>
- Dawi, N. M. (2019). Factors influencing consumers' intention to use QR code mobile payment—A proposed framework. *International Journal of Recent Technology and Engineering*, 8(2), 114–120.
- Deb, M., & Lomo-David, E. (2014). An empirical examination of customers' adoption of m-banking in India. *Marketing Intelligence and Planning*, 32(4), 475–494. <https://doi.org/10.1108/MIP-07-2013-0119>
- Eappen, N. (2019). Mobile Wallet Adoption in India: Impact of Trust and Information Sharing. *South Asian Journal of Management*, 26(1), 32.
- Esawe, A. T. (2022). Understanding mobile e-wallet consumers' intentions and user behavior. *Spanish Journal of Marketing - ESIC*, 26(3), 363–384. <https://doi.org/10.1108/SJME-05-2022-0105>
- Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: A perceived risk facets perspective. *International Journal of Human-Computer Studies*, 59(4), 451–474. [https://doi.org/10.1016/S1071-5819\(03\)00111-3](https://doi.org/10.1016/S1071-5819(03)00111-3)
- Fikri, M., & Lisdayanti, A. (2020). Analysing Promotion Mix and Perceived Usefulness of e-Wallets: A case of Linkaja applications in Indonesia. *International Journal of Finance & Banking Studies*, 9(1), 76–84.
- Garrouch, K. (2021). Does the reputation of the provider matter? A model explaining the continuance intention of mobile wallet applications. *Journal of Decision Systems*, 30(2–3), 150–171. <https://doi.org/10.1080/12460125.2020.1870261>
- Gbongli, K., Xu, Y., & Amedjonekou, K. M. (2019). Extended Technology Acceptance Model to Predict Mobile-Based Money Acceptance and Sustainability: A Multi-Analytical Structural Equation Modeling and Neural Network Approach. *Sustainability (Switzerland)*, 11(13), 1–33. <https://doi.org/10.3390/su11133639>
- Hai, L. C., & Kazmi, S. H. A. (2015). Dynamic Support of Government in Online Shopping. *Asian Social Science*, 11(22), 1–9. <https://doi.org/10.5539/ass.v11n22p1>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*, 7th ed. In *Prentice-Hall*. Prentice-Hall.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Sage Publications. *European Journal of Tourism Research*, 6(2), 211–213.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Han, H., Kim, W., & Hyun, S. S. (2014). Overseas travelers' decision formation for airport-shopping behavior. *Journal of Travel and Tourism Marketing*, 31(8), 985–1003. <https://doi.org/10.1080/10548408.2014.889643>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hew, J. J., Lee, V. H., Ooi, K. B., & Wei, J. (2015). What catalyses mobile apps usage intention: An empirical analysis. *Industrial Management and Data Systems*, 115(7), 1269–1291. <https://doi.org/10.1108/IMDS-01-2015-0028>
- Hoang, T. H., Duong, T. H. N., & Pham, H. T. (2021). An empirical analysis of factors affecting the intention of using digital wallets in Vietnam. *Journal of International Economics and Management*, 21(1), 86–107. <https://doi.org/10.38203/jiem.021.1.0024>
- Hopali, E., Vayvay, Ö., Kalender, Z. T., Turhan, D., & Aysuna, C. (2022). How Do Mobile Wallets Improve Sustainability in Payment Services? A Comprehensive Literature Review. *Sustainability (Switzerland)*, 14(24), 1–30. <https://doi.org/10.3390/su142416541>

- Hosein, N. Z. (2009). Internet Banking: An Empirical Study Of Adoption Rates Among Midwest Community Banks. *Journal of Business & Economics Research (JBER)*, 7(11), 51–72. <https://doi.org/10.19030/jber.v7i11.2355>
- Huang, J. S. (2020). Feedback effect of online brand extension: an empirical analysis of newspapers in Taiwan. *Chinese Journal of Communication*, 13(4), 389–406. <https://doi.org/10.1080/17544750.2020.1752759>
- Ilieva, G., Yankova, T., Dzhubarova, Y., Ruseva, M., Angelov, D., & Klisarova-Belcheva, S. (2023). Customer Attitude toward Digital Wallet Services. *Systems*, 11(4). <https://doi.org/10.3390/systems11040185>
- Isrososiawan, S., Hurriyati, R., & Dirgantari, P. D. (2019). User Mobile Payment Behavior Using Technology Acceptance Model (TAM): Study of “Dana” E-Wallet Users. *Jurnal Minds: Manajemen Ide Dan Inspirasi*, 6(2), 181. <https://doi.org/10.24252/minds.v6i2.11274>
- Jaradat, M.-I. R. (2013). Applying the technology acceptance model to the introduction of mobile voting. *Int. J. Mobile Learning and Organisation*, 7(1), 29–47.
- Jin, C. C., Seong, L. C., & Khin, A. A. (2020). CONSUMERS’ BEHAVIOURAL INTENTION TO ACCEPT OF THE MOBILE WALLET IN MALAYSIA. *Computer and Information Science*, 55(1), 1–13. <https://doi.org/10.35741/issn.0258-2724.55.1.3>
- Kafsh, S. Z. (2015). *Developing Consumer Adoption Model on Mobile Wallet in Canada* [Ottawa, Canada]. <https://pdfs.semanticscholar.org/8eef/e3883075c5689cbcb2344ab261a43b32ca1.pdf>
- Kaiser, H. F., Rice, J., Little, J., & Mark, I. (1974). Educational and Psychological Measurement. *American Psychological Association*, 34(1), 111–117. <https://doi.org/10.1177/001316447403400115>
- Karim, M. W., Haque, A., Ulfy, M. A., Hossain, M. A., & Anis, M. Z. (2020). Factors Influencing the Use of E-wallet as a Payment Method among Malaysian Young Adults. *Journal of International Business and Management*, 3(2), 1–12. <https://doi.org/10.37227/jibm-2020-2-21/>
- Kaur, K. (2021). The Case for Cyber Safety During the COVID-19 Outbreak in the Physical World. *COVID-19: Impact and Response*, 5, 45–51.
- Kesumastuti, T. M. (2020). The Process of Adoption Interest in Using Digital Wallet in Central Jakarta (Case Study on Go-Pay Users). *International Journal of Multicultural and Multireligious Understanding*, 7(2), 277–286. <http://ijmmu.comhttp://dx.doi.org/10.18415/ijmmu.v7i2.1463>
- Kim, C., Mirusmonov, M., & Lee, I. (2010). An empirical examination of factors influencing the intention to use mobile payment. *Computers in Human Behavior*, 26(3), 310–322. <https://doi.org/10.1016/j.chb.2009.10.013>
- Kim, J. J., Montes, A. A., & Han, H. (2021). The Role of Expected Benefits towards Smart Hotels in Shaping Customer Behavior: Comparison by Age and Gender. *Sustainability (Switzerland)*, 13(4), 1–15. <https://doi.org/10.3390/su13041698>
- Krishanan, D., Khin, A. A., Teng, K. L. L., & Chinna, K. (2016). Consumers’ Perceived Interactivity and Intention to Use Mobile Banking in Structural Equation Modeling. *International Review of Management and Marketing*, 6(4), 883–890.
- Kumar, J. A., Bervell, B., Annamalai, N., & Osman, S. (2020). Behavioral Intention to Use Mobile Learning: Evaluating the Role of Self-Efficacy, Subjective Norm, and WhatsApp Use Habit. *IEEE Access*, 8, 208058–208074. <https://doi.org/10.1109/ACCESS.2020.3037925>
- Kustono, A. S., Nanggala, A. Y. A., & Mas’ud, I. (2020). Determinants of the Use of E-Wallet for Transaction Payment among College Students. *Journal of Economics, Business, & Accountancy Ventura*, 23(1), 95–95. <https://doi.org/10.14414/jebav.v23i1.2245>
- Lai, P. (2018). Research Methodology for Novelty Technology. *Journal of Information Systems and Technology Management*, 15, 1–17. <https://doi.org/10.4301/s1807-1775201815010>
- Latupeirissa, J. J. P., Gorda, A. A. N. O. S., & Subanda, I. N. (2020). Antecedents of intention to use e-wallet: The development of acceptance model with pls-sem approach. *Journal of Advanced Research in Dynamical and Control Systems*, 12(7 Special Issue), 1416–1429. <https://doi.org/10.5373/JARDCS/V12SP7/20202244>
- Lee, S. M., Choi, J., & Lee, S. G. (2004). The Impact of a Third-Party Assurance Seal in Customer Purchasing Intention. *Journal of Internet Commerce*, 3(2), 33–51. https://doi.org/10.1300/J179v03n02_03
- Liébana-Cabanillas, F., Marinkovic, V., Ramos de Luna, I., & Kalinic, Z. (2018). Predicting the determinants of mobile payment acceptance: A hybrid SEM-neural network approach. *Technological Forecasting and Social Change*, 129(October), 117–130. <https://doi.org/10.1016/j.techfore.2017.12.015>
- Lilliecrona, D., & Sundelin, F. (2017). *Factors To Consider When Adapting To Mobile Payment*.
- Lim, F.-W., Fakhrorazi, A., Ikhsan, R., Silitonga, K., Loke, W.-K., & Abdullah, N. (2020). The Role of Personal Innovativeness and Facilitating Conditions in Shaping the Attitudes of Mobile Internet Banking (MIB) Adoption among Generation Y in Malaysia. *Preprints*, 1(March), 1–12. <https://doi.org/10.20944/preprints202003.0407.v1>
- Lim, X. J., Ngew, P., Cheah, J. H., Cham, T. H., & Liu, Y. (2022). Go digital: can the money-gift function promote the use of e-wallet apps? *Internet Research*, 32(6), 1806–1831. <https://doi.org/10.1108/INTR-06-2021-0406>
- Lin, K., & Lu, H. (2011). Computers in Human Behavior Why people use social networking sites : An empirical study integrating network externalities and motivation theory. *Computers in Human Behavior*, 27(3), 1152–1161. <https://doi.org/10.1016/j.chb.2010.12.009>
- Lutfi, A., Al-Okaily, M., Alshirah, M. H., Alshira’h, A. F., Abutaber, T. A., & Almarashdah, M. A. (2021). Digital Financial Inclusion Sustainability in Jordanian Context. *Sustainability (Switzerland)*, 13(11), 1–13. <https://doi.org/10.3390/su13116312>
- Madan, K., & Yadav, R. (2016). Behavioural intention to adopt mobile wallet: a developing country perspective. *Journal of Indian Business Research*, 8(3), 227–244. <https://doi.org/10.1108/JIBR-10-2015-0112>

- Madan, K., & Yadav, R. (2018). Understanding and predicting antecedents of mobile shopping adoption: A developing country perspective. *Asia Pacific Journal of Marketing and Logistics*, 30(1), 139–162. <https://doi.org/10.1108/APJML-02-2017-0023>
- Mandari, H. E., Chong, Y. L., & Wye, C. K. (2017). The influence of government support and awareness on rural farmers' intention to adopt mobile government services in Tanzania. *Journal of Systems and Information Technology*, 19(1–2), 42–64. <https://doi.org/10.1108/JSIT-01-2017-0005>
- Martínez-Caro, E., Cegarra-Navarro, J. G., & Solano-Lorente, M. (2013). An Extension of the Technology Acceptance Model in Hospital-in-the-Home Units. In *Handbook of Research on ICTs and Management Systems for Improving Efficiency in Healthcare and Social Care* (pp. 1191–1207). IGI Global.
- Mew, J., & Millan, E. (2021). Mobile wallets: key drivers and deterrents of consumers' intention to adopt. *International Review of Retail, Distribution and Consumer Research*, 31(2), 182–210. <https://doi.org/10.1080/09593969.2021.1879208>
- Mitchell, V. (1999). Consumer Perceived Risk: Conceptualisations and Models. *European Journal of Marketing*, 33(1/2), 163–195. <https://doi.org/10.1108/03090569910249229>
- Mohammadi, H. (2015). A study of mobile banking usage in Iran. *International Journal of Bank Marketing*, 33(6), 733–759. <https://doi.org/10.1108/IJBM-08-2014-0114>
- Muchena, M. M., Lomine, L., & Pierce, R. (2014). *Oxford IB Diploma Programme: Business Management Course Companion*. Oxford University Press-Children.
- Muk, A., & Chung, C. (2015). Applying the technology acceptance model in a two-country study of SMS advertising. *Journal of Business Research*, 68(1), 1–6. <https://doi.org/10.1016/j.jbusres.2014.06.001>
- Mun, Y. P., Khalid, H., & Nadarajah, D. (2017). Millennials' Perception on Mobile Payment Services in Malaysia. *Procedia Computer Science*, 124(2017), 397–404. <https://doi.org/10.1016/j.procs.2017.12.170>
- Murillo-Zegarra, M., Ruiz-Mafe, C., & Sanz-Blas, S. (2020). The Effects of Mobile Advertising Alerts and Perceived Value on Continuance Intention for Branded Mobile Apps. *Sustainability (Switzerland)*, 12(17), 1–20. <https://doi.org/10.3390/SU12176753>
- Mutahar, A. M., Daud, N. M., Ramayah, T., Isaac, O., & Aldholay, A. H. (2018). The effect of awareness and perceived risk on the technology acceptance model (TAM): mobile banking in Yemen. *International Journal of Services and Standards*, 12(2), 180–204. <https://doi.org/10.1504/IJSS.2018.091840>
- Najib, M., & Fahma, F. (2020). Investigating the Adoption of Digital Payment System through an Extended Technology Acceptance Model: An Insight from the Indonesian Small and Medium Enterprises. *International Journal on Advanced Science, Engineering and Information Technology*, 10(4), 1702–1708. <https://doi.org/10.18517/ijaseit.10.4.11616>
- Neelam, & Bhattacharya, S. (2022). Financial Technology Solutions for Financial Inclusion: A review and future agenda. *Australasian Accounting, Business and Finance Journal*, 16(5), 170–184. <https://doi.org/10.14453/aabfj.v16i5.11>
- Neill, J. (2008). *Writing Up A Factor Analysis*. Creative Commons Attribution 2.5 Australia. <http://creativecommons.org/licenses/by/2.5/au/>
- Neves, C., Oliveira, T., Santini, F., & Gutman, L. (2023). Adoption and use of digital financial services: A meta analysis of barriers and facilitators. *International Journal of Information Management Data Insights*, 3(2), 100201. <https://doi.org/10.1016/j.ijmei.2023.100201>
- Nguyen, T. D., & Huynh, P. A. (2018). The Roles of Perceived Risk and Trust on E-Payment Adoption. *Studies in Computational Intelligence*, 760, 926–940. https://doi.org/10.1007/978-3-319-73150-6_68
- Oliveira, T., & Martins, M. F. (2011). Literature Review of Information Technology Adoption Models at Firm Level. *4th European Conference on Information Management and Evaluation, ECIME 2010*, 14(1), 312–322.
- Oney, E., Guven, G. O., & Rizvi, W. H. (2017). The determinants of electronic payment systems usage from consumers' perspective. *Economic Research-Ekonomska Istrazivanja*, 30(1), 394–415. <https://doi.org/10.1080/1331677X.2017.1305791>
- Pagani, M. (2004). Determinants of adoption of third generation mobile multimedia services. *Journal of Interactive Marketing*, 18(3), 46–59. <https://doi.org/10.1002/dir.20011>
- Perdana, K. E. (2017). TRADING CHANNEL PATTERN OF CASSAVA COMMODITY: DOUBLE ROLES FOR THE FARMERS – IS IT A BENEFIT? *RJOAS*, 2(74), 17–22. <https://doi.org/https://doi.org/10.18551/rjoas.2018-02.03>
- Phuong, N. N. D., Luan, L. T., Dong, V. Van, & Khanh, N. L. N. (2020). Examining customers' continuance intentions towards e-wallet usage: The emergence of mobile payment acceptance in Vietnam. *Journal of Asian Finance, Economics, and Business*, 7(9), 505–516. <https://doi.org/10.13106/JAFEB.2020.VOL7.NO9.505>
- Prabhakaran, S., Vasantha, D. S., & Sarika, P. (2020). Effect of social influence on intention to use mobile wallet with the mediating effect of promotional benefits. *Journal of Xi'an University of Architecture & Technology*, 12(2), 3003–3019.
- Ramazani, M., Aghajani, M., Alipanahi, F., & Sobouti, H. (2013). Effective Factors in E-Learning Acceptance by English Language Students. *Journal of Emerging Trends in Computing and Information Sciences*, 4(4), 400–408. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2268977
- Rambocas, M. M., & Arjoon, S. (2012). Using Diffusion of Innovation Theory to Model Customer Loyalty for Internet Banking: A TT Millennial Perspective. *International Journal of Business and Commerce*, 1(8), 1–14. www.ijbnet.comwww.ijbnet.com
- Rana, N. P., Luthra, S., & Rao, H. R. (2023). Assessing challenges to the mobile wallet usage in India: an interpretive structural modelling approach. *Information Technology and People*, 36(4), 1533–1554. <https://doi.org/10.1108/ITP-07->

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- Reddy, T. T., & Rao, B. M. (2019). The moderating effect of gender on continuance intention toward mobile wallet services in India. *Indian Journal of Marketing*, 49(4), 48–62.
- Sankaran, R., & Chakraborty, S. (2021). Why Customers Make Mobile Payments? Applying a Means-end Chain Approach. *Marketing Intelligence and Planning*, 39(1), 109–124. <https://doi.org/10.1108/MIP-12-2019-0622>
- Sarika, P., & Vasantha, S. (2019). Impact of Mobile Wallets on Cashless Transaction. *International Journal of Recent Technology and Engineering*, 7(6), 1164–1171.
- Sarmah, R., Dhiman, N., & Kanojia, H. (2020). Understanding Intentions and Actual Use of Mobile Wallets by Millennial: An Extended TAM Model Perspective. *Journal of Indian Business Research*, 13(3), 361–381. <https://doi.org/10.1108/JIBR-06-2020-0214>
- Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. *Electronic Commerce Research and Applications*, 9(3), 209–216. <https://doi.org/10.1016/j.elerap.2009.07.005>
- Shao, Z., Zhang, L., Chen, K., & Zhang, C. (2020). Examining user satisfaction and stickiness in social networking sites from a technology affordance lens: uncovering the moderating effect of user experience. *Industrial Management and Data Systems*, 120(7), 1331–1360. <https://doi.org/10.1108/IMDS-11-2019-0614>
- Sharabati, A. A. A., Al-Atrash, S. A., & Dalbah, I. Y. (2022). The Use of Supply Chain Control Tower in Pharmaceutical Industry to Create a Competitive Advantage. *International Journal of Pharmaceutical and Healthcare Marketing*, 16(3), 354–375. <https://doi.org/10.1108/IJPHM-08-2020-0064>
- Shaw, N. (2015). The Mediating Role of Perceived Security: An Empirical Study of Mobile Wallet Adoption in USA. *HCIB*, 9191(Cdc), 358–369. <https://doi.org/10.1007/978-3-319-20895-4>
- Shin, D. H. (2009). Towards an Understanding of the Consumer Acceptance of Mobile Wallet. *Computers in Human Behavior*, 25(6), 1343–1354. <https://doi.org/10.1016/j.chb.2009.06.001>
- Singh, N., Sinha, N., & Liébana-Cabanillas, F. J. (2020). Determining factors in the adoption and recommendation of mobile wallet services in India: Analysis of the effect of innovativeness, stress to use and social influence. *International Journal of Information Management*, 50(April 2019), 191–205. <https://doi.org/10.1016/j.ijinfomgt.2019.05.022>
- Singh, N., Srivastava, S., & Sinha, N. (2017). Consumer preference and satisfaction of M-wallets: a study on North Indian consumers. *International Journal of Bank Marketing*, 35(6), 944–965. <https://doi.org/10.1108/IJBM-06-2016-0086>
- Singhal, R. K., Chauhan, P., & Pandey, T. R. (2020). Exploration of Factors Affecting Adoption of Digital Wallet among Indian Domestic Tourist: Study of Trust and Security Perception. *ICRITO 2020 - IEEE 8th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions)*, 1268–1271. <https://doi.org/10.1109/ICRITO48877.2020.9197917>
- Slade, E. L., Dwivedi, Y. K., Piercy, N. C., & Williams, M. D. (2015). Modeling Consumers' Adoption Intentions of Remote Mobile Payments in the United Kingdom: Extending UTAUT with Innovativeness, Risk, and Trust. *Psychology and Marketing*, 32(8), 860–873. <https://doi.org/https://doi.org/10.1002/mar.20823>
- Sree, V. D., & Paul, M. T. V. (2020). A study on COVID-19 app's satisfaction user attitude in digital combat of coronavirus pandemic. *Proceedings of the 4th International Conference on Electronics, Communication and Aerospace Technology, ICECA 2020*, 1207–1212. <https://doi.org/10.1109/ICECA49313.2020.9297425>
- Stephanie Glen. (2016). *Kaiser-Meyer-Olkin (KMO) test for sampling adequacy*. Elementary Statistics for the Rest of Us! statisticshowto.com
- Suh, B., & Han, I. (2002). Effect of trust on customer acceptance of Internet banking. *Electronic Commerce Research and Applications*, 1(3–4), 247–263. [https://doi.org/10.1016/S1567-4223\(02\)00017-0](https://doi.org/10.1016/S1567-4223(02)00017-0)
- Sukendro, S., Habibi, A., Khaeruddin, K., Indrayana, B., Syahrudin, S., Makadada, F. A., & Hakim, H. (2020). Using an Extended Technology Acceptance Model to Understand Students' Use of E-learning During COVID-19: Indonesian Sport Science Education Context. *Heliyon*, 6(11), e05410. <https://doi.org/10.1016/j.heliyon.2020.e05410>
- Suryadi, N., Suryana, Y., Komaladewi, R., & Sari, D. (2018). Consumer, customer, and perceived value: Past and present. *Academy of Strategic Management Journal*, 17(4), 1–9.
- Tabachnick, B. G., & Fidell, L. S. (2019). Using Multivariate Statistics. In *Research Methods in Public Administration and Nonprofit Management*. <https://doi.org/10.4324/9781315181158-21>
- Taselaar, E. (2020). Replacing Physical Wallets: A study expanding UTAUT2 to examine m-payment adoption among Dutch consumers. In *University of Twente, Enschede, The Netherlands*. http://essay.utwente.nl/81789/1/Taselaar_MA_BehavioralManagementandSocialsciences.pdf
- Teo, T., Lee, C. B., & Chai, C. S. (2008). Understanding pre-service teachers' computer attitudes: Applying and extending the technology acceptance model. *Journal of Computer Assisted Learning*, 24(2), 128–143. <https://doi.org/10.1111/j.1365-2729.2007.00247.x>
- Thakur, R. (2016). Understanding Customer Engagement and Loyalty: A Case of Mobile Devices for Shopping. *Journal of Retailing and Consumer Services*, 32(2016), 151–163. <https://doi.org/10.1016/j.jretconser.2016.06.004>
- Umeokeke, N. I., Okoruwa, V. O., & Adeyemo, T. A. (2017). Impact of electronic-wallet system on farmer's welfare in Oyo State, Nigeria. *International Journal of Social Economics*, 44(4), 474–490. <https://doi.org/10.1108/IJSE-07-2015-0184>
- Venkatesh, V., & Davis, F. D. (2000). Theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186–204. <https://doi.org/10.1287/mnsc.46.2.186.11926>
- Watcharadamrongkun, A., Apirungruengsakul, N., & Pooripakdee, S. (2018). Analyzing the Relationship of Factors Towards

- Adoption of Mobile Wallet. *Research Journal of Social Sciences*, 11(3), 17–22. <https://doi.org/10.22587/rjss.2018.11.2.3>
- Yang, S., Lu, Y., Gupta, S., Cao, Y., & Zhang, R. (2012). Mobile payment services adoption across time: An empirical study of the effects of behavioral beliefs, social influences, and personal traits. *Computers in Human Behavior*, 28(1), 129–142. <https://doi.org/10.1016/j.chb.2011.08.019>
- Youn, S., & Lee, K. H. (2019). Proposing value-based technology acceptance model: testing on paid mobile media service. *Fashion and Textiles*, 6(1), 1–16. <https://doi.org/10.1186/s40691-018-0163-z>
- Zarpou, T., Saprikis, V., Markos, A., & Vlachopoulou, M. (2012). Modeling users' acceptance of mobile services. *Electronic Commerce Research*, 12(2), 225–248. <https://doi.org/10.1007/s10660-012-9092-x>
- Zhao, K., Stylianou, A. C., & Zheng, Y. (2018). Sources and Impacts of Social Influence from Online Anonymous User Reviews. *Information and Management*, 55(1), 16–30. <https://doi.org/10.1016/j.im.2017.03.006>



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