



Publisher

<http://jssidoi.org/esc/home>



---

**FACTORS INFLUENCING THE INTENTION BEHIND MOBILE WALLET ADOPTION:  
PERCEPTIONS OF UNIVERSITY STUDENTS**

**Wasef Mater <sup>1</sup>, Nasim Matar <sup>2</sup>, Omar A. Alismaiel <sup>3</sup>, Moteeb A. Al Moteri <sup>4</sup>, Ibrahim Youssef Al Youssef <sup>5</sup>,  
Waleed Mugahed Al-Rahmi <sup>6</sup>**

<sup>1,2</sup>*E-Business Department, Business and Financial Faculty, University of Petra, Amman, 961343, Jordan*

<sup>3,5</sup>*Education Technology Department, Faculty of Education, King Faisal University, Al Ahsa 31982, Saudi Arabia*

<sup>4</sup>*Department of Management Information Systems, Business Administration College King Saud University, Riyadh 11451, Saudi Arabia*

<sup>6</sup>*Faculty of Social Sciences & Humanities, School of Education, Universiti Teknologi Malaysia, UTM, 81310, Skudai, Johor, Malaysia*

E-mails: <sup>1</sup>[wasef.matar@uop.edu.jo](mailto:wasef.matar@uop.edu.jo) & <sup>6</sup>[waleed.alrahmi1@gmail.com](mailto:waleed.alrahmi1@gmail.com) (Corresponding authors)

*Received 15 June 2021; accepted 26 July 2021; published 30 September 2021*

**Abstract.** The desire of students towards adopting the mobile wallet technology can be affected by various factors. The exploration of these factors and the discussion of the future uses of this technology among university students are the targets of this study. The conceptual model employs the unified theory of acceptance and use of technology besides the self-efficacy construct in this research. Primary data was collected online by surveying 389 university students. The model was subsequently validated by employing the structural equation model. From the results obtained, the intention of students in the utilization of mobile wallet technology are largely affected by trust, self-efficacy, facilitating conditions (FC), hedonic motivation (HM), effort expectation (EE), performance expectation (PE), social influence (SI) and price value (PV). This research's findings highlight the most significant factors in determining the intention behind mobile wallet technology utilization. The developed model is an appropriate research model to explore mobile wallet technology among students. This model focuses on students from private universities, which may limit its universality. The results of this analysis can benefit multiple institutions that use mobile wallet technology as a part of their services, such as banks, financial organizations and mobile payment system suppliers. Factors influencing customers' intention behind adopting the latest technology-related services in developing countries are not sufficiently reported in the literature. This research paper can be considered the first to examine the intention behind the utilization of mobile wallets in developing countries.

**Keywords:** Mobile wallet; unified theory of acceptance and use of technology; self-efficacy; customer intention; structural equation modeling

**Reference** to this paper should be made as follows: Mater, W., Matar, N., Alismaiel, O.A., Al Moteri, M.A., Al Youssef, I.Y., Al-Rahmi, W.M. 2021. Factors influencing the intention behind mobile wallet adoption: perceptions of university students. *Entrepreneurship and Sustainability Issues*, 9(1), 447-461. [http://doi.org/10.9770/jesi.2021.9.1\(28\)](http://doi.org/10.9770/jesi.2021.9.1(28))

**JEL Classifications:** D14, D91

## **1. Introduction**

The technology advancement for mobile networking has accelerated dramatically in developed countries during the last decade. A significant number of companies have invested in telecommunications providers to improve mobility for the masses by offering connections to superior types of communications networks. Millions of people's lives have been affected by mobile phones, which today play a key role in a country's overall social and economic growth. By developing mobile-technology-based market architectures, this phase has provided a multitude of possibilities for the companies involved (Mittal & Kumar, 2018). According to the report "Digital around the world in 2018" by We Are Social, 89% of the population of Jordan were using the Internet and 54% were using mobile phones. Currently, there are four Internet and mobile phone service providers operating in Jordan, a fact evident by the increase in mobile phone usage in the country. Moreover, 15 banks in Jordan have commenced offering mobile banking services. However, the use of cash as the main form of payment still dominates the daily transactions in the country. As a result, the use of mobile wallets has not been widely accepted. This was evident in 2016 when four Mobile Payment Service Providers (MPSPs) started offering mobile payment services, but only 72,000 users subscribed to them. The literature on mobile wallet usage in Jordan is lacking and not many models studying the intention to use such technology exist at the moment. This research paper analyzed the factors that can affect mobile wallets usage by Jordanian university students by utilizing the unified theory of acceptance and use of technology (UTAUT2). The authors conducted a survey in various Jordanian private universities. For structural equation simulation, evaluation of the collected data was undertaken via the partial least squares method. This study used some theoretical and functional concepts for the creation, review and testing of the different research-related hypotheses. Future studies should investigate other relevant factors which can contribute to the behavioral intentions towards mobile wallets as this area of research remains relatively underexplored.

## **2. Conceptual Background**

In general, mobile payment can be defined as using smart devices to pay for different products and services by making use of advanced communication technologies, which include mobile wallets (Zhong, 2015). A mobile wallet is an electronic mobile phone account that acts like a regular wallet in that it stores money (online) and can be used to make financial transactions and purchases. It also allows you to run and access your account history and your payment records. Mobile wallets can have multiple channels that allows a person to make a transaction, for example, consumer-to-online, consumer-to-machine, consumer-to-consumer, and consumer-to-business. This technology can serve as a multifunctional application by supporting numerous service components such as subscriptions, loyalty cards, online shopping accounts and booking records. Mobile wallets also hold sensitive and confidential information in encrypted or password-protected files, such as the PIN codes of a person's credit cards. 83% of Jordanians used mobile phones in 2017. If these people are converted to mobile wallet users, they will be able to pay for their various purchases and services via their mobile phones. As a result, the amount of complex authentication processes and transaction steps required during money transactions will decrease. MEPS (mobile easy payment service) and NFC already exist in the market while mobile wallets are the newest and the easiest technology available for users.

## **3. Previous Research on Mobile Payment Systems**

The potential for mobile wallet use is immense, and it is gaining traction as a payment option throughout the world. As a result, the current study seeks to create a conceptual model to identify the most important elements that influence a user's intention, perceived happiness, and recommendation to use a mobile wallet. According to (Singh et al., 2020), mobile wallets assist practitioners by identifying key variables that influence a user's decision, which in turn influences the user's perceived happiness and endorsement of mobile wallet services. The

breadth of the mobile wallet, whose value has been boosted by the constantly increasing smartphone technology, is a hot issue of debate right now. With the addition of new players to the scene, the reach of mobile wallets grows every day, making them indispensable for satisfying daily demands (George & Sunny, 2021). To develop and retain trust, mobile wallet app providers emphasize reputation in their communication approach. In addition to the moderating role of the provider's profession, verifying the provider's reputation as a factor enhancing the trust and perceived security of the mobile wallet is a factor enhancing the trust and perceived security of the mobile wallet (Garrouch, 2021). Smartphones have become means for digital users to perform money transactions or payments utilizing applications loaded on the smartphone as a result of technical advancements (Raimee et al., 2021). In terms of any technology, the findings by (Xavier & Zakkariya, 2021) show that both positive and negative valence strongly influenced the desire to use mobile wallet indefinitely. As a result, mobile wallets are new and gaining traction as a payment option throughout the world. The groundbreaking development in mobile devices and their uses in the recent years has supported the emergence and spread of new applications that provide mobile payment service such as mobile wallets. The research done on these technologies is still in the budding stages and only very few studies have explored the use of mobile wallets in Jordan. Table 1 summarizes some studies investigating various factors linked to mobile wallets usage intention using multiple hypotheses. Creating a real value for consumers is the main purpose of mobile wallets according to these studies. The unified theory of acceptance and use of technology (UTAUT), diffusion of innovation (DOI), behavioral control theory and the technology acceptance model (TAM) were the primary models used. Researchers had also claimed that the wide acceptance of mobile wallets by individuals is accelerating. However, most of this research focused on this technology's adoption rather than the usage intention. Moreover, most of these studies had been done outside the Arab region and only one of them had explored mobile wallets usage intention in Jordan.

**Table 1.** A summary of theories used in mobile payment studies

Author(s)	Theories	Content/viewpoint
(Amoroso & Magnier-Watanabe, 2012a)	UTAUT	Developing adoption model for mobile wallets in Japan. Cultural factors play an important role.
(Alalwan et al., 2017)	UTAUT2	Extending UTAUT2 with trust for mobile banking in Jordan.
(Kavandi, 2020)	UTAUT	Understanding the behavioral intentions to use mobile wallet services by examining gender roles, age and adoption experience.
(Gbongli et al., 2019)	Extended TAM	Understanding the factors influencing the use of mobile wallets by users.
(Seetharaman, Nanda Kumar, et al., 2017)	Extended TAM	Understanding the key factors that affect mobile wallet acceptance in Singapore.
(S et al., 2018)	TAM, diffusion of innovation (DOI)	Understanding the intention of using mobile wallets in India.
(Pathirana & Azam, 2017)	Extended TAM	Investigating the elements affecting the consumers' intention while using Malaysian services for mobile payment during the millennial era.
(Limantara et al., 2018)	Extended TAM	Examining the elements affecting mobile payment utilization intention for Indonesians.

Source: Authors

### 3.1 Unified Theory of Acceptance and Use of Technology Model

For explaining the acceptance of novel technologies by consumers, the comprehensive integrated model known as UTAUT2 is specifically developed. The UTAUT2 was selected for its suitability in designing this research's conceptual model as it can encompass almost all factors that affect Jordanian consumers' intention behind mobile wallet acceptance. These factors, which were suggested as direct determinants of the consumers' intent behind the adoption of mobile banking, are: price value (PV), performance expectancy (PE), social influence (SI), hedonic motivation (HM) and effort expectancy (EE). Apart from those factors, two more factors were found to be crucial

in foreseeing the acceptance of using banking services on the mobile phone, which are behavioral intention (BI) and facilitating conditions (FC). Customer behavior and habits were not taken into consideration in this study. Some authors have used other models for example, Al-Maatouk et al. (2020) and Alamri et al. (2020) used the Technology Acceptance Model (TAM) with the Task Technology Fit (TTF) to test the effect of learning applications acceptance. As well as, other studies used other models, for example (Ullah et al., 2021; Sayaf et al., 2021; Al-Rahmi et al., 2020; Alenazy et al., 2019) used the (TAM) with digital communication and Blockchain Technology Adoption effect of learning applications acceptance. This is due to the fact that a behavior study requires the subjects to have good experience in using such technologies. Most of the students surveyed in this study are considered prospective customer and have not yet used this technology. Moreover, mobile wallets have only recently been launched by Jordanian banks, which makes this technology too new to provide us with enough data to establish any relationship between its use and customers' habits. Thus, the role of customer habits is excluded from this study (Figure 1). The hypotheses of this research have been formulated under the different factors of the UTAUT2 theory based on previous research. These hypotheses are discussed in more details below.

### 3.2 Performance Expectancy (PE)

PE represents how much someone believes that employing technology can aid in attaining certain benefits. Typically, users tend to be more likely to welcome emerging innovations into their daily lives if they can find them useful. Mobile wallets are considered as appropriate and useful tools for shopping transactions in daily life. Performance expectancy is strongly related to the usage of such technologies (Bertagnolli, 2011),(N. Singh & Sinha, 2020). Besides that, the intention behind new technology utilization is also strongly related to performance expectancy based on the previous works (Singh & Sinha, 2020; Bertagnolli, 2011; Koenig-Lewis et al., 2015). Whether or not a consumer uses mobile wallets is substantially dependent on the expected results. Therefore, the following hypothesis is obtained:

*H1: The intent behind the adoption of mobile wallets of Jordanian students will be positively influenced by performance expectancy.*

### 3.3 Effort Expectancy (EE)

Effort expectancy represents a person's perspective on the effortlessness of utilizing technology. The intention behind technology utilization is significantly influenced by the effortlessness in using the technology (Venkatesh et al., 2016). Its impact on a person's intent to utilize mobile wallets had been validated by some authors across the related area of interest. Previous research had shown that the intent of someone to utilize such technology is significantly affected when it comes to effort expectancy (Tun, 2020). In the current research, the required effort to utilize mobile wallets is explored in order to explain how the decision to utilize mobile wallets is affected by it. Therefore, the following hypothesis is obtained:

*H2: The intention of Jordanian students to adopt mobile wallet will be positively influenced by effort expectancy.*

### 3.4 Social Influence (SI)

How much someone's decision in the adoption of a novel technology is affected by the people's feelings and opinions is referred to as social influence. In previous research, social impact had been proven where the intention behind technology usage is directly correlated with social influence. There are four prescriptive factors related to usage intention behavior in the UTAUT model, where one of them is social influence (Amoroso & Magnier-Watanabe, 2012a). Previous research had shown that the intention behind the utilization of such technology is significantly affected by social influence (Wirtz & Göttel, 2016). Therefore, the following hypothesis is obtained:

*H3: The intention of Jordanian students to adopt mobile wallet will be positively affected by social influence.*

### 3.5 Facilitating Conditions (FC)

Facilitating conditions depend on a particular area's operational infrastructure. They define to what extent is the belief of a person regarding the existence of a certain organizational and technical infrastructure assisting in the system utilization. Facilitating conditions is a significant factor for predicting mobile wallet usage intention. Mobile wallet usage intention is positively influenced by facilitating conditions (Larasati et al., 2018). Many researchers consider facilitating conditions as a key element to determine similar technologies usage (Amoroso & Magnier-Watanabe, 2012b). Accordingly, the following hypothesis is obtained:

*H4: The intention of Jordanian students to adopt mobile wallet will be positively affected by facilitating conditions.*

### 3.6 Hedonic Motivation (HM)

The customer's technology usage intention can be directly linked to hedonic motivation. Hedonic motivation refers to the gratification and joy that technology usage brings (Gogan et al., 2018). Comparing the inclination to adopt mobile services between the Gen X and the millennials, it can be observed that the disposition of an individual for mobile technology usage depends on whether the person belongs to the younger generation or not. It can be noted that behavioral intention is substantially influenced by hedonic motivation (Islam, 2015). This is due to the fact that the younger generation's intrinsic motivations, like joy and curiosity, have a stronger effect on their behaviors. Hence, the following hypothesis is obtained:

*H5: The intention of the Jordanian students to adopt mobile wallets will be positively influenced by hedonic motivation.*

### 3.7 Price Value (PV)

The exchange of cost to a perceived benefit is the price value. When the gain is greater than the cost, customers will adopt a particular technology. It was established that positive price value for mobile payment services lead to higher adoption of these services by customers. (N. Singh & Sinha, 2020) concluded that when the technological gains outweigh the cost, the impact of the price has a beneficial influence on the purpose of utilizing technology. A research on mobile networks in China showed that perceived price values substantially affected the desire of users to use services (Deng et al., 2013)(Chawla & Joshi, 2020). Thus, we hypothesize:

*H6: The intention of Jordanian students to adopt mobile wallets will be positively affected by the price value.*

### 3.8 Self-Efficacy (SE)

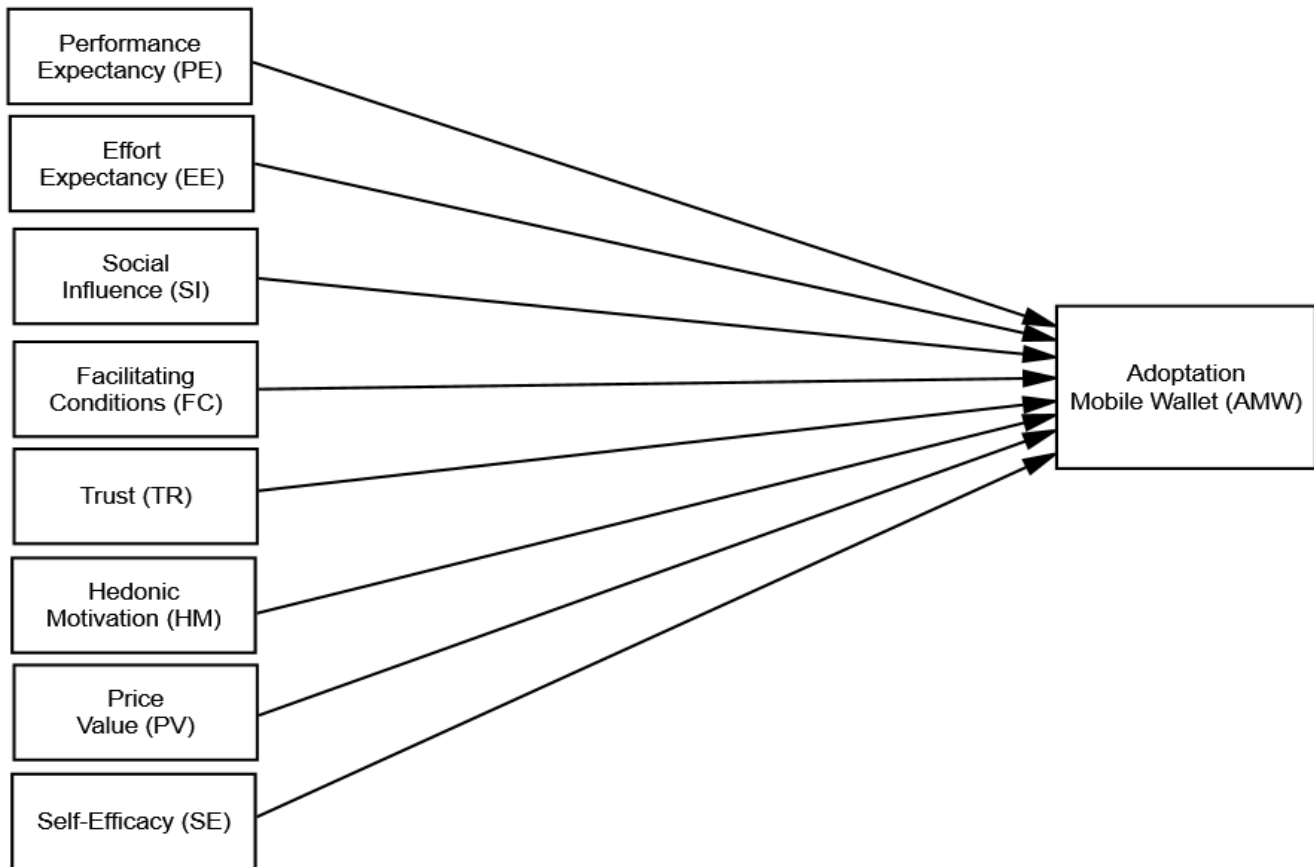
According to Bandura (2006), self-efficacy refers to people's capabilities to organize and perform their daily tasks independently. Self-efficacy is believed to be a key aspect in the pre-intentional stage of action before deciding to use a particular technology. With regard to health information technology, the usage intention is directly and positively affected by self-efficacy (Kavandi, 2020). Self-efficacy has been taken into account in studies on mobile data services, online shopping and money transfer (Gbongli et al., 2019); therefore, self-efficacy positively affects customers willingness to adopt and use a technology like mobile wallets. To date, not many studies take into consideration the intention behind the adoption of mobile wallets by university students in developing countries. As a result, the subsequent hypothesis is obtained:

*H7: Jordanian students' behavioral intention to utilize mobile wallets will be positively influenced by self-efficacy.*

### 3.9 Trust (TR)

Trust is another important factor that was found in the literature to have an effect on the adoption of mobile wallets. A customer needs to trust mobile banking in order to choose to utilize such service. Trust is considered a critical factor while evaluating the mobile banking usage intention of the customer. Existing research found that trust has an impact on the utilization of mobile financial services (Amoroso & Magnier-Watanabe, 2012b; Nidhi Singh et al., 2020)(Chawla & Joshi, 2020), and therefore affects the customers' intention to utilize mobile wallets. Based on that, we hypothesize that:

*H8: Jordanian students' behavioral intention to adopt mobile wallets will be positively influenced by trust.*



**Figure 1.** Research Model

*Source:* Authors

## 4. Research Methodology

By using a structured questionnaire containing multiple items, this research's survey was designed. A scale ranging from 1 to 5 was used for each survey item, whereby strongly agree was assigned to score 1 while strongly disagree was assigned to score 5. Moreover, questions regarding the demographic characteristics of each respondent and questions about their use of mobile wallets were also incorporated into this same survey. Validation of this survey was carried out by two assistant professors who were management specialists and items were adjusted according to the feedback from the assistant professors. Following the amendment of the survey, a sample of 398 students was identified and the survey was conducted in Jordan in April 2019. Data were collected online from students in three private universities in Jordan. In total, 398 questionnaires were collected.



#### 4.1 Measurement and Survey Instrument

A Likert scale with five points was utilized in the questionnaire for this survey, with questions which were close-ended. There were two parts in this questionnaire. The first one included demographic characteristics: gender, age, education level and university. There were 48 questions related to factors of self-efficacy, UTAUT2 and background information. The measurement of students' intention behind mobile wallet utilization was the aim of these questions. Assessment of every construct was done by utilizing validation methods from existing works, where the process of content validity was considered for further validation and refining. Eight factors were considered for measuring the constructs, where seven of them were based on the work by (Venkatesh et al., 2016) and one of them was based on the work by (Bandura, 2010). With reference to the literature on IS and existing studies, adaptation and articulation of the scale were carried out. The model was assessed via SmartPLS, including structural models assessment (Henseler et al., 2016). Regarding the latent variables' relationship with the related observed variables, measurement assessment entailed the relationship's reliability and validity examination. The different constructs' relationships were the focus of the structural model's evaluation (Hair et al., 2018). For this research, an approach based on the PLS-SEM was considered. For the Structural Equation Modeling (SEM) based on variance, the Partial Least Squares (PLS) was utilized in the SmartPLS (Hair et al., 2018). IBM SPSS Statistics 19.0 and Smart PLS 3.3.3 were utilized for data analysis due to the following reasons: 1) the concept of the PLS-SEM is not based on data with normal distribution, 2) the implementation of bootstrap resampling via random selection of observations, 3) the standard errors' derivation, which is enabled through the estimated parameter. Furthermore, this research's goals are aligned with the PLS (Partial Least Squares) analysis' aim, including the prediction of the role of the factors with regard to mobile wallet technology usage intention.

#### 5. Results and Analysis

The demographic profile of those who participated in the research is displayed in Table 2. In terms of gender distribution, 53 percent were female participants and 47 percent were male. Table 2 depicts the detailed statistics of the respondents' profile and technology used. The Cronbach  $\alpha$  reliability coefficient value for every construct (price value, hedonic motivation, PE, EE, SI, FC, SE, trust and mobile wallet adoption) was 0.902. An acceptable discriminant validity (DV) can be achieved if: (1) every construct's average extracted variance (AVE) is not less than 0.50, (2) the factors' index is more or equal to 0.80 (Hair et al., 2018), (3) and the inter-construct correlations (IC) related to the factors are less than the value of the AVE's square root corresponding to every construct (Hair et al., 2018). Furthermore, the lowest acceptable value for Factor Loading (FL) with Crematory Factor Analysis (CFA) is 0.70. Similarly, the Cronbach's  $\alpha$  (CA) must be no less than 0.70 (Hair et al., 2018). Further, 0.70 should be the ideal value of the durability of composite (CR) considered.

**Table 2.** Respondents Demographic Profile

Gender		%
Male	190	47%
Female	212	53%
Education		
Bachelor	395	99%
Master	3	1%
Age		
18-13	350	88%
24-30	44	11%
31-35	4	1%
36-45	0	0%

Source: Authors

### 5.1 Measurement Model and Instrumentation

Using SmartPLS 2.0, the PLS-SEM was implemented in the initial phase to validate the model. Confirmation of this model's reliability was carried out in two steps, before hypotheses testing was done.

### 5.2 Measurements' Construct Validity

The parameter that represents to what extent does a test measures the components that need to be measured is the construct validity. The three main evidence validation types are criterion validity, content validity and construct validity (Hair et al., 2018). The factors were shown to have high item cross-loading and loading through factor analysis (Table 3).

**Table 3.** Cross-Loading

Factors	Items	AMW	EE	FC	HM	PE	PV	SE	SI	TR
Adoptation Mobile Wallet	AMW1	0.832571	0.406384	0.428621	0.507182	0.473396	0.450422	0.529188	0.422681	0.466594
	AMW2	0.870291	0.423431	0.269690	0.417262	0.477829	0.381813	0.415374	0.404943	0.322921
	AMW3	0.826170	0.522780	0.357688	0.530033	0.497686	0.562029	0.394712	0.599885	0.352439
Effort Expectancy	EE1	0.347625	0.824031	0.394635	0.392431	0.430598	0.378909	0.467302	0.213368	0.273997
	EE2	0.420564	0.858651	0.311393	0.455111	0.532605	0.471280	0.475993	0.417831	0.293318
	EE3	0.490394	0.834796	0.252298	0.391867	0.484323	0.466301	0.431901	0.382499	0.198012
	EE4	0.489741	0.780545	0.492773	0.555290	0.554318	0.534914	0.623984	0.350097	0.544060
Facilitating Conditions	FC1	0.307035	0.356154	0.745084	0.431961	0.242617	0.502537	0.514452	0.297416	0.432422
	FC2	0.301401	0.291087	0.811533	0.426179	0.267221	0.384821	0.296176	0.121226	0.356583
	FC3	0.356719	0.359957	0.746933	0.385702	0.399288	0.307330	0.284938	0.272668	0.361790
Hedonic Motivation	HM1	0.479189	0.475910	0.437906	0.896148	0.499031	0.589577	0.514636	0.481473	0.431685
	HM2	0.580556	0.600492	0.524188	0.944556	0.612047	0.595313	0.546889	0.502202	0.570930
	HM3	0.531672	0.427300	0.513598	0.908596	0.536251	0.625985	0.575778	0.565438	0.538657
Performance Expectancy	PE1	0.503172	0.575771	0.297379	0.511215	0.839497	0.404492	0.360437	0.564525	0.310283
	PE2	0.474931	0.431285	0.411340	0.437824	0.850430	0.342944	0.286893	0.480370	0.303447
	PE3	0.459994	0.560125	0.254903	0.508092	0.808186	0.450263	0.387231	0.541746	0.278967
	PE4	0.402870	0.390264	0.332580	0.481338	0.706878	0.514709	0.537653	0.446048	0.457096
Price Value	PV1	0.405242	0.344124	0.186423	0.441101	0.431949	0.701444	0.460019	0.494241	0.305080
	PV2	0.508134	0.506695	0.515582	0.554549	0.416794	0.926652	0.548794	0.415247	0.433319
	PV3	0.482568	0.558147	0.544114	0.638570	0.473633	0.856816	0.560375	0.449693	0.536985
Self- Efficacy	SE1	0.357823	0.548763	0.327191	0.416263	0.274206	0.525602	0.772371	0.301310	0.437724
	SE2	0.473951	0.428561	0.425976	0.507030	0.406201	0.434966	0.820979	0.343409	0.429227
	SE3	0.338982	0.414620	0.287632	0.403698	0.394212	0.477273	0.642207	0.397439	0.319600
Social impact	SI1	0.471134	0.354101	0.207633	0.463055	0.505046	0.482854	0.438213	0.903937	0.270486
	SI2	0.597267	0.425359	0.257595	0.564635	0.606040	0.515662	0.438013	0.931195	0.319422
	SI3	0.450384	0.342983	0.359971	0.467618	0.584238	0.434428	0.346354	0.838879	0.381447
Trust	TR1	0.307255	0.249041	0.405927	0.406911	0.292862	0.336803	0.419873	0.320311	0.839717
	TR2	0.275127	0.347503	0.435658	0.458545	0.305410	0.429143	0.419560	0.253672	0.851630
	TR3	0.514201	0.418868	0.454361	0.563274	0.431421	0.530410	0.512724	0.344215	0.905649

Source: Authors

### 5.3 Measurement Model's Convergent Validity

The lowest score for composite reliability was 0.791439 and the highest score was 0.940384. Since the threshold level is 0.70, the scores obtained are acceptable, thus every construct can be taken into consideration. In addition, the values corresponding to the Cronbach  $\alpha$  were between 0.607702 and 0.904961, which met the requirement of being above 0.60. Besides that, the range of the values of AVE were between 0.560998 and 0.795982, which



exceeded the lowest value required, 0.50. On the other hand, the necessary value of 0.50 was exceeded by the critical element loadings (Hair et al., 2018). Table 4 highlights the measurement model's CFA results.

**Table 4.** Convergent Validity

Factors	Items	Factors Loading	AVE	Composite Reliability	Cronbach $\alpha$
Adaptation Mobile Wallet	AMW1	0.832571	0.711046	0.880645	0.797722
	AMW2	0.870291			
	AMW3	0.826170			
Effort Expectancy	EE1	0.824031	0.680611	0.894890	0.844208
	EE2	0.858651			
	EE3	0.834796			
	EE4	0.780545			
Facilitating Conditions	FC1	0.745084	0.590548	0.812026	0.654022
	FC2	0.811533			
	FC3	0.746933			
Hedonic Motivation	HM1	0.896148	0.840272	0.940384	0.904961
	HM2	0.944556			
	HM3	0.908596			
Performance Expectancy	PE1	0.839497	0.645207	0.878611	0.814912
	PE2	0.850430			
	PE3	0.808186			
	PE4	0.706878			
Price Value	PV1	0.701444	0.694947	0.870921	0.773093
	PV2	0.926652			
	PV3	0.856816			
Self-Efficacy	SE1	0.772371	0.560998	0.791439	0.607702
	SE2	0.820979			
	SE3	0.642207			
Social Influence	SI1	0.903937	0.795982	0.921151	0.871804
	SI2	0.931195			
	SI3	0.838879			
Trust	TR1	0.839717	0.750199	0.899997	0.842981
	TR2	0.851630			
	TR3	0.905649			

Source: Authors

#### 5.4 Discriminant Validity of the Measurement Model

Discriminant validity represents to what degree is one latent variable different from the others. It refers to the case where the observed variables linked to a latent variable have a higher variance compared to the: a) different constructs under the conceptual framework; or b) error in measurement or any comparable external unmeasured effects. Every indicator and construct's validity are considered as unreliable for any case that is different from the aforementioned case (Hair et al., 2018), see Table 5.

#### 5.5 Structural Model Analysis

From Table 5, it can be observed that the factors that were considered were all statistically significant. Consequently, every hypothesis considered were accepted. Therefore, we can conclude that mobile wallet usage intention was affected by the important factors of PE ( $\beta=0.127948$ ,  $t=2.608857$ ), EE ( $\beta=0.144183$ ,  $t=2.413334$ ), SI ( $\beta=0.240565$ ,  $t=4.916715$ ), FC ( $\beta=0.050628$ ,  $t=1.204036$ ), hedonic motivation ( $\beta=0.108791$ ,  $t=1.767918$ ), price value ( $\beta=0.093208$ ,  $t=1.861954$ ), SE ( $\beta=0.080590$ ,  $t=1.550957$ ) and trust ( $\beta=0.078155$ ,  $t=1.892641$ ) (see Figure 1 and Figure 2).

Table 5. Hypotheses testing

H	Independent	Relationship	Dependent	Path Coefficient	Standard .E	T. Value	Result
1	PE	→	AMW	0.127948	0.049044	2.608857	Accepted
2	EE	→	AMW	0.144183	0.059744	2.413334	Accepted
3	SI	→	AMW	0.240565	0.048928	4.916715	Accepted
4	FC	→	AMW	0.050628	0.042049	1.204036	Accepted
5	HM	→	AMW	0.108791	0.061536	1.767918	Accepted
6	PV	→	AMW	0.093208	0.050059	1.861954	Accepted
7	SE	→	AMW	0.080590	0.051962	1.550957	Accepted
8	TR	→	AMW	0.078155	0.041294	1.892641	Accepted

Source: Authors

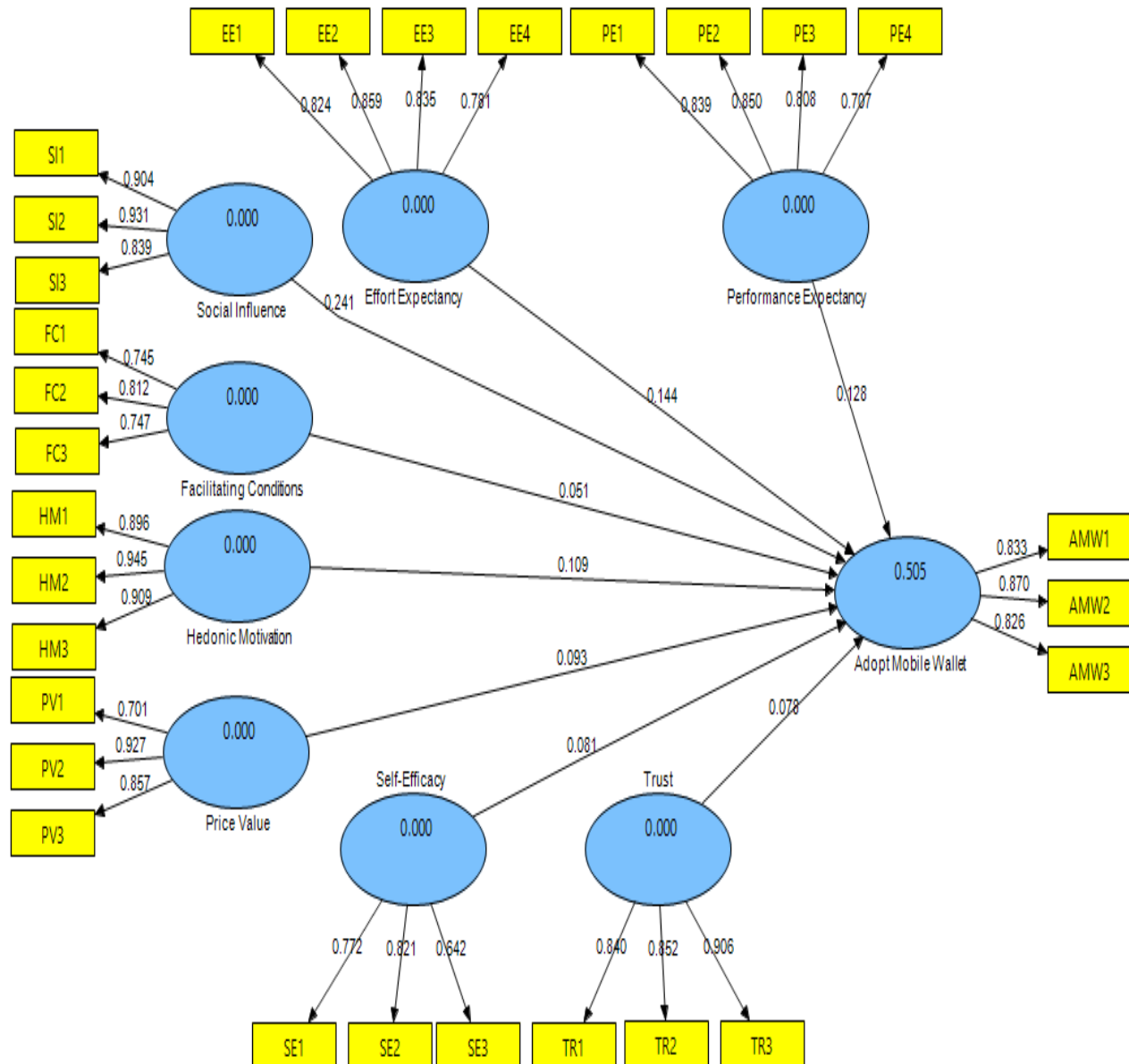


Figure 2. Path Coefficients Results

Source: Authors

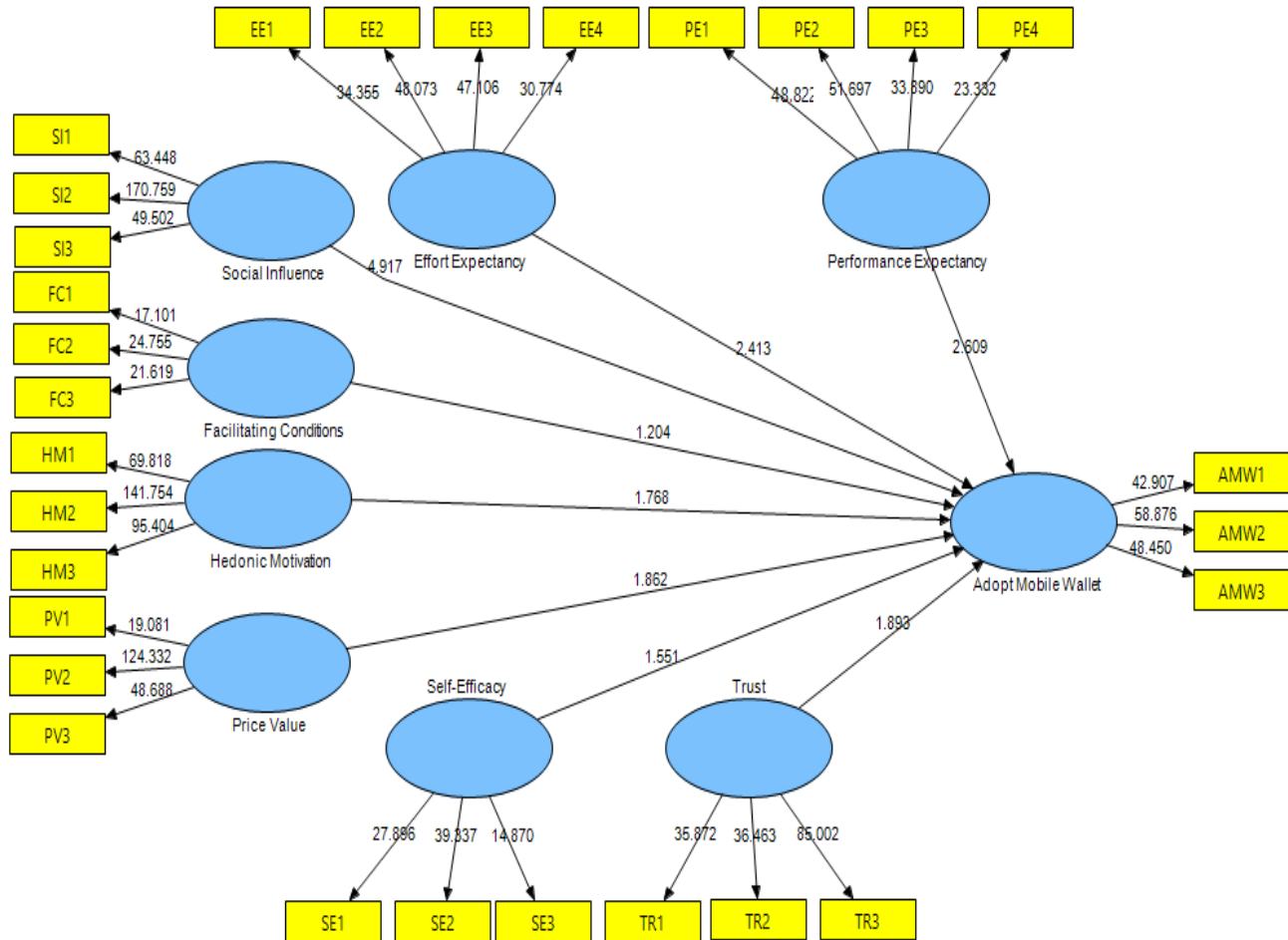


Figure 3. Path Coefficients T Values

Source: Authors

## 6. Discussion And Implications

By collecting and analysing useful data, the intention behind adopting mobile wallet technology is shown to be affected by self-efficacy in this research. With regard to H1, it is believed that mobile wallets usage intention is affected by performance expectancy as evident through empirical evidence. This result is corroborated by an earlier work (Suyoto et al., 2016). In addition, effort expectancy, H2, is believed to affect mobile wallets utilization intention, thus the result obtained is similar to an existing study (Larasati et al., 2018). On the other hand, for social influence, H3, the obtained result has similarities with the findings in an existing research (Mittal & Kumar, 2018; Seetharaman, Kumar, et al., 2017). H4 affirms that facilitating conditions can encourage people to utilize mobile wallet. Additionally, mobile wallet utilization intention is also positively influenced by hedonic motivation, H5. A similar observation to this was reported in an existing work (Mittal & Kumar, 2018; Seetharaman, Kumar, et al., 2017). The result for H6 indicates that price value affects mobile wallet usage intention, where a prior study made the same observation (Suyoto et al., 2016). Finally, the participants believe that both trust (H8) and self-efficacy (H7) can positively influence mobile wallet usage intention. These findings are corroborated by earlier studies (Tun, 2020; Mittal & Kumar, 2018; N. Singh & Sinha, 2020). This research explores further than the proposal in UTAUT2 by (Alalwan et al., 2017), by considering novel factors (self-efficacy, trust) and suggesting novel causal links among the behavioral intention's main antecedences (self-

efficacy→Behavioral intention, trust→ Behavioral intention). Implications, both practical and theoretical, of this research's results are discussed as follows.

### 6.1 Theoretical contributions

In general, the existing literature related to mobile wallet technology acceptance has been enriched through this study. Mobile wallets' usage in Jordan has not been sufficiently studied yet, thus this research is one of the first study to explore this area. Applying advanced statistical analysis like (SEM) in this type of research is another contribution of this paper. Moreover, our study extends the application of the UTAUT2 theory by using it to study a new technology, i.e., mobile wallets in a developing country (Jordan). Our research includes a new construct, i.e. self-efficacy in UTAUT2, which goes beyond what was explored in prior studies. Real-life applications of this research can be significant as customers' motivation to utilize mobile wallets can be improved using the outcomes of this research.

### 6.2 Implications to practice

This study has identified that all the different factors significantly contribute to the intention of using mobile wallet among Jordanians. Banks and financial institutions can use this study as a foundation for their marketing strategies to target customers and motivate them to use this technology.

### 6.3 Conclusion and Future work

Mobile wallet technology is still an uncharted field which makes it a fertile area to study, especially when it comes to understanding the various difficulties associated with implementing such technology in developing countries. Considering the small number of Jordanians using mobile wallets, it is necessary for the vital factors that influence the intentions of Jordanian customers to use this technology to be analyzed and examined. For the conceptual model's proposal, the UTAUT2 theory was utilized as it is capable of capturing the most critical elements linked with Jordanian customers' mobile wallets adoption. The study addressed the elements, which influence mobile wallet usage intention. The model developed to link the attitude and belief of students to the utilization of mobile wallet represents the most significant contribution of this research. The theory was extended by including self-efficacy and trust as external factors because they were cited to be amongst the crucial predictors of the intention of individuals to adopt mobile wallet technology (Amoroso & Magnier-Watanabe, 2012a; Office et al., 2017; Suyoto et al., 2016). Although this research is a pioneer in the field of mobile wallet usage and acceptance in the Arab world, it still has a few limitations. Firstly, the research's sample was chosen based on convenience and was limited to the students of private Jordanian universities in Amman. This could affect the generality of the results. Therefore, it is advisable that future studies consider different demographics and areas in Jordan. Regardless of that, the conceptual model of this study can be reapplied and retested to investigate customers' intention to use different technologies, such as airline self-check-in service, mobile payment, online shopping and e-learning, of various industries, i.e., education, health, tourism, government, etc. Moreover, as this is a cross-sectional and longitudinal study, it may provide more insight into this topic and the degree to which the impact of the suggested factors can be stabilized or modified over time.

## References

- 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>
- Al-Maatouk, Q., Othman, M. S., Aldraiweesh, A., Alturki, U., Al-Rahmi, W. M., & Aljeraiwi, A. A. (2020). Task-technology fit and technology acceptance model application to structure and evaluate the adoption of social media in academia. *IEEE Access*, 8, 78427–78440. <https://doi.org/10.1109/access.2020.2990420>
- Alamri, M. M., Almaiah, M. A., & Al-Rahmi, W. M. (2020). The role of compatibility and task-technology fit (TTF): On social networking applications (SNAs) usage as sustainability in higher education. *IEEE Access*, 8, 161668–161681. <https://doi.org/10.1109/access.2020.3021944>
- Al-Rahmi, W. M., Alzahrani, A. I., Yahaya, N., Alalwan, N., & Kamin, Y. B. (2020). Digital communication: Information and communication technology (ICT) usage for education sustainability. *Sustainability*, 12(12), 5052. <https://doi.org/10.3390/su12125052>
- Alenazy, W. M., Al-Rahmi, W. M., & Khan, M. S. (2019). Validation of TAM model on social media use for collaborative learning to enhance collaborative authoring. *IEEE ACCESS*, 7, 71550–71562. <https://doi.org/10.1109/access.2019.2920242>
- 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>
- Bertagnolli, C. (2011). Delle vicende dell'agricoltura in Italia; studio e note di C. Bertagnolli. *Delle Vicende Dell'agricoltura in Italia; Studio e Note Di C. Bertagnolli.*, 13(3), 319–340. <https://doi.org/10.5962/bhl.title.33621>
- Chawla, D., & Joshi, H. (2020). The moderating role of gender and age in the adoption of mobile wallet. *Foresight*. <https://doi.org/10.1108/FS-11-2019-0094>
- Deng, Z., Mo, X., & Liu, S. (2013). Comparison of the middle-aged and older users' adoption of mobile health services in China. *International Journal of Medical Informatics*, 83(3), 210–224. <https://doi.org/10.1016/j.ijmedinf.2013.12.002>
- 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. 1–33.
- Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial Management and Data Systems*, 117(3), 442–458. <https://doi.org/10.1108/IMDS-04-2016-0130>
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management and Data Systems*, 116(1), 2–20. <https://doi.org/10.1108/IMDS-09-2015-0382>
- Islam, M. M. (2015). An Investigation of Consumers' Acceptance of Mobile Banking in Bangladesh. 6(September), 16–32. <https://doi.org/10.4018/ijide.2015070102>
- Kavandi, H. (2020). Factors that affect health information technology adoption by seniors : A systematic review. December 2019, 1–16. <https://doi.org/10.1111/hsc.13011>
- Koenig-Lewis, N., Marquet, M., Palmer, A., & Zhao, A. L. (2015). Enjoyment and social influence: predicting mobile payment adoption. *Service Industries Journal*, 35(10), 537–554. <https://doi.org/10.1080/02642069.2015.1043278>
- Larasati, I., Havidz, H., Kefan, X., Aima, M. H., & Ali, H. (2018). Intention to adopt WeChat Mobile Payment Innovation toward Indonesia Citizenship Based in China. *International Journal of Application or Innovation in Engineering & Management (IIAEM)*, 7(6), 105–117.
- Limantara, N., Jingga, F., & Surja, S. (2018). Factors Influencing Mobile Payment Adoption in Indonesia. *Proceedings of 2018 International Conference on Information Management and Technology, ICIMTech 2018, September*, 373–377. <https://doi.org/10.1109/ICIMTech.2018.8528143>
- Mittal, S., & Kumar, V. (2018). Adoption of Mobile Wallets in India : An Analysis. XIV(1), 42–58.
- Office, D. O., Statistics, N., & Okereke, D. (2017). Factors Driving Mobile Payment Adoption : Factors Driving Mobile Payment Adoption : July, 0–38. <https://doi.org/10.13140/RG.2.2.24752.25603>
- Pathirana, P. A., & Azam, S. M. F. (2017). Factors influencing the use of mobile payments — A conceptual model. 2017 National Information Technology Conference (NITC), 67–74. <https://doi.org/10.1109/NITC.2017.8285656>
- S, K. K., Society, E., Shanmugam, S., & Society, E. (2018). INTENTION TO USE MOBILE WALLET : EXTENSION OF TAM. March, 4–11.
- Ullah, N., Al-Rahmi, W. M., Alzahrani, A. I., Alfarraj, O., & Alblehai, F. M. (2021). Blockchain Technology Adoption in Smart Learning Environments. *Sustainability*, 13(4), 1801. <https://doi.org/10.3390/su13041801>
- Sayaf, A. M., Alamri, M. M., Alqahtani, M. A., & Al-Rahmi, W. M. (2021). Information and Communications Technology Used in Higher Education: An Empirical Study on Digital Learning as Sustainability. *Sustainability*, 13(13), 7074. <https://doi.org/10.3390/su13137074>
- Seetharaman, A., Kumar, K. N., Palaniappan, S., & Weber, G. (2017). Factors Influencing Behavioural Intention to Use the Mobile Wallet in Singapore. *Applied Economics and Business Research*, 7(2), 116–136. [http://www.aebrjournal.org/uploads/6/6/2/2/6622240/joaebrjune2017\\_116\\_136.pdf](http://www.aebrjournal.org/uploads/6/6/2/2/6622240/joaebrjune2017_116_136.pdf)
- Seetharaman, A., Nanda Kumar, K., Palaniappan, S., & Weber, G. (2017). Factors Influencing Behavioural Intention to Use the Mobile Wallet in Singapore. *Journal of Applied Economics and Business Research JAEBR*, 7(2), 116–136. [http://www.aebrjournal.org/uploads/6/6/2/2/6622240/joaebrjune2017\\_116\\_136.pdf](http://www.aebrjournal.org/uploads/6/6/2/2/6622240/joaebrjune2017_116_136.pdf)

- Singh, N., & Sinha, N. (2020). How perceived trust mediates merchant's intention to use a mobile wallet technology. *Journal of Retailing and Consumer Services*, 52(March 2019), 101894. <https://doi.org/10.1016/j.jretconser.2019.101894>
- Singh, Nidhi, 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(May 2019), 191–205. <https://doi.org/10.1016/j.ijinfomgt.2019.05.022>
- Suyoto, Megadewandanu, S., & Pranowo. (2016). Exploring Mobile Wallet Adoption in Indonesia Using UTAUT2. 2016 2nd International Conference on Science and Technology-Computer, ICST, 11–16. [https://www.researchgate.net/publication/315363828\\_Exploring\\_mobile\\_wallet\\_adoption\\_in\\_Indonesia\\_using\\_UTAUT2\\_An\\_approach\\_from\\_consumer\\_perspective](https://www.researchgate.net/publication/315363828_Exploring_mobile_wallet_adoption_in_Indonesia_using_UTAUT2_An_approach_from_consumer_perspective)
- Tun, P. M. (2020). An Investigation of Factors Influencing Intention to Use Mobile Wallets of Mobile Financial Services Providers in Myanmar. *The Asian Journal of Technology Management (AJTM)*, 13(2), 129–144. <https://doi.org/10.12695/ajtm.2020.13.2.3>
- Venkatesh, V., Thong, J. Y. L., Statistics, B., Xu, X., & Acceptance, T. (2016). Unified Theory of Acceptance and Use of Technology: A Synthesis and the Road Ahead. *Jais*, 17(5), 328–376. DOI: 10.17705/1jais.00428
- Wirtz, B. W., & Göttel, V. (2016). Technology acceptance in social media: Review, synthesis and directions for future empirical research. *Journal of Electronic Commerce Research*, 17(2), 97–115. <http://web.csulb.edu/journals/jecr/issues/20162/Paper1.pdf>
- Zhong, J. (2015). Coopetitive Service Innovation in Mobile Payment Ecosystems. [https://www.researchgate.net/publication/292150871\\_Coopetitive\\_Service\\_Innovation\\_in\\_Mobile\\_Payment\\_Ecosystems/stats](https://www.researchgate.net/publication/292150871_Coopetitive_Service_Innovation_in_Mobile_Payment_Ecosystems/stats)
- Gogan, I. C. W., Zhang, Z., & Matamba, E. D. (2018). Impacts of gratifications on consumers' emotions and continuance use intention: An empirical study of Weibo in China. *Sustainability*, 10(9), 3162. <https://doi.org/10.3390/su10093162>
- Bandura, A. (2006). Guide for constructing self-efficacy scales. *Self-efficacy beliefs of adolescents*, 5(1), 307-337. <https://doi.org/10.1037/t12559-000>
- 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, 191-205. <https://doi.org/10.1016/j.ijinfomgt.2019.05.022>
- George, A., & Sunny, P. (2021). Developing a Research Model for Mobile Wallet Adoption and Usage. *IIM Kozhikode Society & Management Review*, 10(1), 82-98. <https://doi.org/10.1177/2277975220965354>
- Garrouch, K. (2021). Does the reputation of the provider matter? A model explaining the continuance intention of mobile wallet applications. *Journal of Decision Systems*, 1-22. <https://doi.org/10.1080/12460125.2020.1870261>
- Raimee, N., Maheswaran, L., Appannan, J. S., & Radzi, N. M. (2021). Adoption of Digital Wallet: Influencing Factors among Undergraduates in Malaysia. *International Journal of Business and Technology Management*, 3(2), 34-43. <https://doi.org/10.15405/epsbs.2020.12.05.26>
- Xavier, P. S., & Zakkariya, K. A. (2021). Factors Predicting Consumers' Continuance Intention to Use Mobile Wallets: Evidence from Kerala, India. *Colombo Business Journal*, 12(1). <https://doi.org/10.4038/cbj.v12i1.73>

### ***Acknowledgements***

*Extensive appreciation goes to the King Saud University's Deanship of Scientific Research for providing the funds for this research via the Research Center.*



**Wasef MATER**

ORCID ID: <https://orcid.org/0000-0002-5957-6552>

**Nasim MATAR**

ORCID ID: <https://orcid.org/0000-0003-3559-4163>

**Omar A. ALISMAIEL**

ORCID ID: <https://orcid.org/0000-0002-5016-7875>

**Moteeb A. AL MOTERI**

ORCID ID: <https://orcid.org/0000-0002-0346-9061>

**Ibrahim Youssef AL YOUSSEF**

ORCID ID: <https://orcid.org/0000-0002-5112-6813>

**Waleed Mugahed AL-RAHMI**

ORCID ID: <https://orcid.org/0000-0002-0980-7439>

Make your research more visible, join the Twitter account of ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES:  
@Entrepr69728810

---

Copyright © 2021 by author(s) and VsI Entrepreneurship and Sustainability Center

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

