

AMERICAN JOURNAL OF ECONOMICS AND BUSINESS INNOVATION (AJEBI)

ISSN: 2831-5588 (ONLINE)

Indexed in

doi

Crossref

Google

VOLUME 1 ISSUE 1 (2022)

PUBLISHED BY: E-PALLI, DELAWARE, USA



The American Journal of Economics and Business Innovation (AJEBI) is a blind peer-reviewed international journal publishing article that emphasizes research, development, and application within the fields of business, economics, finance, marketing, management, business analytics, etc. The AJBEI reviews papers within approximately one month of <u>submission</u> and publishes accepted articles online immediately upon receiving the final versions.

Frequency: Three issues per year

Area of publication: Business, economics, finance, marketing, management, business analytics, start-ups, business and financial innovations and technologies.

Editorial Team

Professor Dr. Constance Leyland Dean of Business & Accounting, American National University, USA Professor Dr. A. K. M. Ahasanul Haque Faculty of Economics and Management Sciences (KENMS) International Islamic University Malaysia (IIUM), Malaysia Dr. Gus Del Rivero Lecturer, California State University, Long Beach and Monterey Bay, USA Dr. Cansu TOR KADIOĞLU Associate Professor, Faculty of Applied Sciences International Trade and Logistics Department, Tarsus University, Turkey Dr. Lauren VanTalia Graduate Programs Faculty, Southern States University, San Diego, USA Dr. Hafizah Hammad Ahmad Khan Faculty of Business & Management, Universiti Teknologi MARA, Malaysia Dr. Razali Haron Associate Professor, IIUM Institute of Islamic Banking and Finance (IIiBF) International Islamic University Malaysia (IIUM), Malaysia Dr. Sejuti Mondal Texas State University, USA Dr. Nida Jafri Consultant, Green Empowerment, Portland, USA Dr. Marhanum Che Mohd Salleh Associate Professor, Faculty of Economics and Management Sciences (KENMS) International Islamic University Malaysia (IIUM), Malaysia Professor Dr. Wael Al-aghbari University President, International University of Technology Twintech - IUTT, Yemen Dr. Abdullah Sarwar Senior Lecturer, Department of Business Studies Multimedia University, Cyberjaya, Malaysia Dr. Md Aftab Anwar Associate Professor, Department of Business Studies State University of Bangladesh Dr. Sofia Binte Ehsan Department of Environmental Science University Kebangsaan Malaysia Contact: American Journal of Economics and Business Innovation (AJEBI) E-Palli LLC Address: 2055 Limestone Rd Ste 200C, Zip Code: 19808,

Wilmington, Delaware, USA Email: ajebi@e-palli.com

Phone: +1 3024070506 URL: https://journals.e-palli.com/home/index.php/ajebi



Volume 1 Issue 1, Year 2022 ISSN: 2831-5588 (Online) DOI: <u>https://doi.org/10.54536/ajebi.v1i1.144</u> https://journals.e-palli.com/home/index.php/ajebi

Study of Customer Satisfaction Towards E-Wallet Payment System in Bangladesh

Md Wasiul Karim1*, Mohammad Abdul Matin Chowdhury1, and AKM Ahasanul Haque1

Article Information

ABSTRACT

Received: January 31, 2022 Accepted: February 25, 2022 Published: February 28, 2022

Keywords

E-wallet, Customer satisfaction, TAM, Mobile payments, Bangladesh Payment systems have been enormously switched out by introducing a new dimension in fintech where e-wallets can be used in conjunction with mobile payment. The severe competition of e-wallet services has forced providers where satisfaction is of prime concern. A total of 480 data were obtained from the respondents living in Dhaka city. The structure of this study was developed by approaching the TAM model, and Structural Equation Modeling was applied to examine all the hypotheses. Results revealed that technology self-efficacy is one of the exigent factors of satisfaction where a positive relationship exists in between. All the hypotheses were found to be significant except the relationship between perceived usefulness and satisfaction. This study has validated external variables to contribute to the existing theory based on the previous literature. Lastly, in order to promote the enhancement of the mobile payment system, proposals for developing e-payments were made to increase the degree of satisfaction.

INTRODUCTION

The electronic wallet, also known as an e-wallet, has widely been used to reduce cash carriage hassling. An E-wallet is a form of an electronic card that is used via a digital device such as a smartphone or computer to make transactions online. In order to make purchases, it requires a debit or credit card to be linked with e-wallet applications (Digital Wallet, 2019). Consumers could use the new digital payment system to pay utility bills and move money to pay for financial transactions. In addition to debit or credit cards, electronic cards allow customers to store information about their physical cards and bank account numbers in order to make certain payment steps (Ray, 2017). For multi-channel transactions such as consumer-to-consumer (C2C), consumer-to-business (C2B), consumer-to-machine and consumer-to-online, consumers may use mobile wallets (Lee, 2019). The digital wallet concept is similar to the concept of mobile banking and online banking. A personal folder containing customer details required by service providers to ensure the protection of mobile transactions could be regarded as an electronic wallet (Chawla & Joshi, 2019). E-wallet transaction does not just offer a degree of ease and speed and gives customers a level of satisfaction and protection in transactions elsewhere and at any moment (Liébana-Cabanillas et al., 2014). The use of e-wallets provides financial transactions, even on a small scale, that is very easy to execute (Punwatkar & Verghese, 2018). Due to the existence of many e-wallets, such as bKash, Rocket, iPay and Nagad, mobile payments are becoming common in Bangladesh. As the economy of Bangladesh has developed rapidly and strongly recently, demand for services is growing substantially, especially in the finance sector. In Bangladesh, cashless transactions have seen

enormous growth. Since 2016, the country has witnessed tremendous growth in terms of digital transactions made by citizens. Since then, the transactions have been growing exponentially (The Daily Star, 2018). As digital financial transactions gain attention among the public, the Bangladesh Bank has granted a further payment service provider license to operate e-wallet facilities (Bangladesh Bank, 2020). When consumers become accustomed to performing online-based financial transactions, entrepreneurs sense the potential of business in the field and encourage entrepreneurs to take out licenses.A previous study was conducted by Uddin and Akhi (2014), explaining that the growth of electronic payment systems in Bangladesh was due to the implementation of internet banking. Mobile wallet usage has increased by replacing physical wallets, and cash-based transactions were shifted by cashless payments systems whereby people involved in transactions have shown their relative interest in digital payments. However, the behaviour among consumers regarding the use of e-wallets has not been found to be efficient as the technological ease of use is not the only factor that changes the behaviour of consumers (Amin et al., 2015). As the number of digital wallet service providers increases, consumers' satisfaction levels are therefore a matter of concern. A previous study by Amin et al. (2015) found that effortless technology is not only a reason to change behaviour rather, but it is also essential to understand gratification among people using technology. Additionally, the ability to use the particular technology is an important issue to opine. Self-confidence regarding the use of digital payment systems may satisfy consumers in order to attempt any behaviour. However, it is vital to consider information security and privacy because cases and issues of information infringement are growing

¹ Department of Business Administration, International Islamic University Malaysia

^{*} Corresponding author's e-mail: <u>wasiul45@gmail.com</u>



worldwide. A lack of information security expertise leads a cyber-attacker to violate someone's privacy, i.e., identity theft, credit card fraud and cybercrime (Barrett-Maitland et al., 2016). This paper aims to examine the factors that affect satisfaction among Bangladeshi consumers regarding the use of e-wallets as a transaction method. Five variables such as technology self-efficacy (TSE), perceived ease of use (PEU), perceived usefulness (PU), perceived trust and payment security (PS) were elected to investigate the relationship with satisfaction. Five parts of the remaining paper cover literature review, study methods, results and findings and limitations, as well as future research directions.

LITERATURE REVIEW

Extended Technology Acceptance Model (ETAM)

In order to understand the consumer's intention to use information system technology, several theories have been propounded. In various literature, the TAM model has been broadly studied (Davis, 1989), and it is actually the theory of information services that models how a specific technology is adopted and used by individuals (Dauda & Lee, 2015). The TAM model has been expanded by numerous researchers and applied to several different technologies, including e-learning (Cheung and Vogel, 2013; Al-Maroof and Al-Emran, 2018), mobile-based technology (Barry & Jan, 2018) and also short message services (SMS) advertising (Muk & Chung, 2015). According to Vijayasarathy (2004), TAM variables are ideally suited for a decision about embracing new technologies. TAM is regarded as a well-recognised expansion of academic research to study innovative technologies' acceptance and usage intention (Aydin & Burnaz, 2016). However, the original TAM variables may not accurately describe fundamental beliefs that influence consumers' attitudes towards technology use. In order to reinforce the model, researchers have further extended the TAM model by applying satisfaction to generate more clarity in the model. Phuong et al. (2020) studied the use of e-wallet payment methods where customer satisfaction was embedded to enhance the understanding of behaviour. Privacy and protection are some of the extended variables that have been shown to be useful in the use of modern technologies for behavioural purposes (Barry & Jan, 2018). Islam (2020) has examined the extended technology acceptance model (ETAM) to validate all the constructions to test satisfaction. However, the new ETAM model has adopted self-efficacy to portray the incorporation between self-efficacy and satisfaction regarding the use of new technology.

Technological Self-efficacy

Self-efficacy is viewed as one's judgment according to how well various courses of action can really be carried out with many unpredicted and challenging materials in different prospective circumstances (Bandura & Schunk, 1981). Earlier research focused more on the technical method to online learning, self-efficacy, e.g., computer self-efficacy (Jan, 2015; Pellas, 2014), internet self-efficacy (Lin et al., 2013; Kuo et al., 2014), information-seeking behaviour related self-efficacy (Tang & Tseng, 2013). According to the study of Islam (2020), self-efficacy was validated to describe the relationship with satisfaction. Satisfaction and self-efficacy were incorporated as intrinsic motivation attributes in ETAM. Several previous studies have scrutinised the relationship between self-efficacy and behavioural intention to use (Wu et al., 2008; Ahmad et al., 2010). Later, individual satisfaction was associated with self-efficacy (Huang, 2008). It is presumed that a connection exists between CSE and satisfaction through the mediating influence of the behavioural purpose of a person.

Self-efficacy plays a significant role in terms of its impact on perceived ease of use (Madorin & Iwasiw, 1999). A multivariate analysis carried out by Mutahar et al. (2018) posited that mobile-based technology is indeed important among Yemeni bank clients, and self-efficacy was found to impact perceived ease of use and perceived usefulness significantly. Self-efficacy is also considered as self-confidence among people involved in mobilebased technology such as mobile banking. In the mobile technology context, it requires skill, knowledge and ability for operating particular mobile technology so that it can intervene easily (Singh & Srivastava, 2018). Multiple empirical evidence showed a causal link between selfefficacy and perceived ease of use (Luarn and Lin, 2005; Jeong and Yoon, 2013; Sripalawat et al., 2011). Therefore, the following hypotheses are proposed:

H1: Technology self-efficacy has a positive impact on perceived usefulness.

H2: Technology self-efficacy has a positive impact on customer satisfaction.

H3: Technology self-efficacy has a positive impact on perceived ease of use.

Perceived Usefulness

Perceived usefulness refers to the degree to which a person assumes their performance will be improved by using a particular information system (Davis, 1989). Several previous studies have been conducted to portray the effect of perceived usefulness on satisfaction. Amin et al. (2014) have studied mobile communication technologies through which mobile payment methods and mobile commerce websites have gained tremendous attention. The study found that the usefulness of mobile technology directly affects customer satisfaction. Phuong et al. (2020) have empirically investigated the continuous usage intention to use an e-wallet and found a significant association between perceived usefulness and satisfaction. E-government services through digital platforms have also received a matter of concern whereby satisfaction is derived from perceived usefulness (Sachan, Kumar, & Kumar, 2018). Mobile-based technology has been improved and widespread throughout the Middle Eastern region like Bahrain. A quantitative analysis postulates that using mobile technology such as e-wallets motivates users to continue using through satisfaction (AlKubaisi & Naser,

2020). A similar study also classified the continuance intention to use e-wallets, but the most important factor in the new era of competitive markets is uttered to be consumer satisfaction. Based on the discussion above, the following hypothesis is approached:

H4: Perceived usefulness has a positive impact on customer satisfaction

Perceived Ease of Use

PEOU has been considered as the primary construct for assessing and analysing user acceptance of a specific technology, drawing from the literature on information technology (IT). A significant motivating factor for the use of technology by consumers is PEOU (Revels, Tojib, & Tsarenko, 2010). PEOU typically relates to the perception of users of whether it would require a mental effort on their part to complete a specific technical task (Fishbein and Ajzen, 1980; Rouibah et al., 2011). According to Amin et al. (2014), the PEOU for mobile networks would directly enhance personal innovation. Al-Maroof and Al-Emran (2018) performed research on undergraduate students who believe that it is easy and userfriendly to use web service technology, thus significantly impacting overall usefulness. The recent development of mobile-based technology, such as e-wallets, has gained tremendous attention in Malaysian markets. Empirical research on e-wallet usage behaviour postulates that the easier mobile technology is to use, the more it can be used in many forms or for practical reasons (Karim et al., 2020). Wasiul et al. (2020) provided empirical evidence of smart device applications' usage intention and found that PEOU and PU are positively associated. However, determining continuous usage, users' satisfaction with using an e-wallet is central to signifying the relationship between PEOU and continuation (Phuong et al., 2020). Mobile phones in the globalised market are pretty remarkable communication devices based on which usability and their user interface are the phenomena of satisfaction (Amin et al., 2014). Based on the above disputation, the following hypotheses are formed:

H5: Perceived ease of use has a positive impact on perceived usefulness.

H6: Perceived ease of use has a positive impact on consumer satisfaction.

Security System

Security is an important aspect when financial transactions are conducted through digital platforms. Therefore, this could become one of the main barriers to the implementation of electronic wallets, as personal or financial data could be revealed and used for fraudulent activities. Security was identified by Kalakota & Whinston (1997) as a threat involving an event linked to data theft, destruction, data alteration, fraud, breach and violence. Consumers may refuse to use mobile-based technology unless it is trustworthy because e-payments require additional privacy and security features (Gitau & Nzuki, 2014). Online transactions could increase the perceived risk of clients exposing private information. Therefore, in the e-wallet payment process, payment security features greatly affect consumer trust (Chawla and Joshi, 2019; Shao and Yin, 2019; Phuong et al., 2020). Users and business environments embrace highly secured systems, as business units' provision of facilities and procedures depend on easy access and satisfactory

payment infrastructure operations (Roozbahani, Hojjati, & Azad, 2015). Based on that, the following hypotheses are proposed:

H7: Security system has a positive impact on Perceived trust.

H8: Security system has a positive impact on consumer satisfaction.

Perceived Trust

Trust has been commonly exercised in prior studies, which defines the service holder's belief in the service provider in order to ensure the safety assessment of the use of the relevant information system (Komiak & Benbasat, 2004). Trust has previously been recognised as an essential factor in terms of mobile payment and shopping usage (Wang and Lin, 2016; Chong, 2013). Based on previous research, trust and satisfaction are two



Figure 1: Conceptual Framework of this study



closely related constructs (Liébana-Cabanillas., 2013; Zhu et al., 2014). Trust has previously been examined in the context of mobile technology and found that effective mobile web systems are required to be trustworthy and thus build customer satisfaction (Amin et al., 2014). A later study by Phuong et al. (2020) have highlighted the positive impact of trust on the continuance intention of using an e-wallet, but trust has also been examined to observe customer satisfaction with e-payments (Sutia et al., 2020). Based on that, current research proposed a hypothesis for e-wallet usage satisfaction:

H9: Perceived trust has a positive impact on customer satisfaction

Figure 1 displays the conceptual framework of this study.

METHODOLOGY

The target population of this current study were smartphone users in Bangladesh. Respondents were selected for questionnaire distribution using the purposive sampling technique. A total of 480 questionnaires were distributed through social media and face-to-face surveys in order to get at least 385 respondents, as per the suggestion of Glenn (1992). After the data screening and cleaning process, 402 valid data remain, representing

$n_0 = \frac{Z^2 pq}{e^2} = \frac{(1.96)^2 (.5) (.5)}{(.05)^2} = 385 \ respondents$

83.75% of the total questionnaire distributed. Four items from prior research (Islam, 2020) have been adapted to measure technology self-efficacy (TSE). Five items to measure perceived usefulness (PU), four items for perceived ease of use (PEU) and four items for security system (SS) were taken from Barry and Jan (2018). Meanwhile, perceived trust (PT), which consists of three items, were adapted from Al-Sharafi et al. (2016), and satisfaction (SAT) was adopted with three items and then adapted from Ghani et al. (2017). For measuring TSE, PU, PEOU, SS, PT and SAT levels, a five-point Likert scale, starting from 'strongly disagree' (1) to 'strongly agree' (5), was used. The structural equation modelling was also used to test the causal model and analyse the reliability and validity of the measurement model; confirmatory factor analysis (CFA) was conducted (Harrington, 2009). To validate the measurement items of the proposed model, twenty-five (25) sets of questionnaires were distributed to the users of smartphones living in Dhaka city for the purpose of the pilot test, and afterwards, a reliability test was undertaken, resulting in a total Cronbach alpha of >0.60.

RESULTS Demographic Profile

Measure	Items	Frequency	Percentage
Gender	Male	233	57.96
	Female	169	42.04
Age	below 20	31	7.710
0	Between 21- 30	196	48.76
	31 and above	175	43.53
Monthly Income*	Below BDT 20000	153	38.06
	Between BDT 20001-35000	146	36.32
	BDT 35001 and above	103	25.62
E-wallet I am using the most?	bKash	222	55.22
0	Rocket	108	26.87
	Nagad	53	13.18
	Others	19	4.73

*Note: 1 United States Dollar (USD) = 85 Bangladeshi Taka (BDT)

Table 1 displays the descriptive data where most of the participants are male (57.96%) and female, found to be 42.04%. In terms of age, the respondents were between 21-30, the most with the number of 196 respondents. However, considering income among respondents, most of them earn below BDT 20000. Respondents then were asked which e-wallet they use the most; bKash was found to be the most useful financial service with 55.22%, followed by Rocket at 26.87%.

Reliability Statistics

As suggested, the minimum threshold for Cronbach's alpha value is 0.60 (Nunnally, 1978). The reliability statistics of the figures range between .884 and .952, surpassing the minimum threshold. The overall value of 23 items' reliability was obtained at .923, Specifying

acceptable consistency.

Exploratory Factor Analysis (EFA)

EFA is one of the most widely used statistical methods mainly used to simplify data by identifying interrelationships within a variable set on the basis of strong correlations (Kline, 2013). KMO value obtained 0.866 and p-value for Barlett's Test of Sphericity obtained .000, where it is essential to follow the minimum value of >0.60 for KMO and p-value (p<0.05) is required (Tabachnick & Fidell, 2007). The total variance in the six factors explained was 83.539. The Eigenvalue is generally used to measure the number of variables, and a cut-off value of 1 is usually used to define factors that are dependent on Eigenvalues. Accordingly, the eigenvalues for the six factors were 8.604, 3.411, 2.793, 1.767, 1.524 and 1.114.



Confirmatory Factor Analysis (CFA)

In order to test the hypotheses, the measurement model was tested first for goodness-of-fit indices and for important and appropriate factor loadings. The hypothesised measurement model (Figure 2) was assessed using AMOS and presumed the association of five latent constructions. According to the modification indices given by AMOS, no indicators were withdrawn from the measurement model as the loads of each item were 0.7 or higher. Hair et al. (2010) designated that any loading value of less than 0.5 shall be considered insignificant. Table 2 displays the overall fit model to ensure that the model suits well. The five fit indices (good-of-fit) were evaluated.



Figure 2: Measurement Model

Table 2: Goodness	of	fit
-------------------	----	-----

Category	Required value	Obtained value
Absolute fit	RMSEA≤0.08	0.071
Incremental fit	CFI≥0.90	0.949
Parsimonious fit	Chisq/df≤3	2.083

According to Hair et al. (2010), the value of CFI is suggested to be more than 0.90, and RMSEA should be less than 0.08 in order to be well-suited. For x^2/df , the value below three was considered to be fine and appropriate. The 23-item scale indicates that the model suits well and is appropriate for the agreed minimum thresholds. Convergence and discriminatory validity have been carried out in order to test the measurement model. Composite reliability was measured for the assessment of convergence validity. In order to achieve good composite reliability, a predetermined threshold value of 0.7 was suggested by Chin (1988). In addition, the average variance extracted (AVE) value should be at least 0.5 or higher, as recommended by Hair et al. (2006). Present AVE-calculated study giving a good sign. Standardised loads of each item were also used to measure AVE, where the total of the squared standardised loads was divided by the number of indicators. AVE was found to be between

0.659 and 0.875, which was higher than the recommended threshold of 0.5. The paper also demonstrates CR samples ranged from 0.810 to 0.965, which surpassed the given threshold of 0.7. Therefore, it would be necessary to show, in an attempt to uphold discriminatory validity, that the steps that should not be related are not probably connected (Hair et al., 2013). Table 3 shows the high validity of discriminants as it illustrates that each factor's square AVE exceeds all its correlations with the other factors (Fornell & Larcker, 1981).

$$* AVE = \frac{\Sigma \lambda_i^2}{\Sigma \lambda_i^2 + \Sigma_i Var(\varepsilon_i)} \quad * CR = \frac{(\Sigma \lambda_i)^2}{(\Sigma \lambda_i)^2 + \Sigma_i Var(\varepsilon_i)}$$

Table 5. Reliability and valenty test										
Variables	AVE	CR	TSE	PU	PEOU	SS	PT	SAT	_	
TSE	0.783	0.935	0.885							
PU	0.748	0.937	0.434	0.865						
PEOU	0.659	0.885	0.297	0.466	0.812					
SS	0.808	0.944	0.245	0.188	0.369	0.900				
PΤ	0.777	0.913	0.441	0.171	0.201	0.286	0.801			
SAT	0.875	0.954	0.408	0.366	0.501	0.617	0.381	0.935		

Table 3: Reliability and Validity test

*AVE= Average variance extracted

*CR= Composite reliability

Structural Model

Structural equation modelling is a popular method, particularly for multivariate analyses. It has been used for marketing (Karim & Chowdhury, 2021), business (Karim et al., 2021), and finance studies (Salleh et al., 2020). This study consisted of nine (9) hypotheses which were tested to identify the causal pathways. The results demonstrated good fit indices of the model approach. In this case, the normed Chi-square ($\chi^2/df = 2.315$). RMSEA is 0.078, which is below the cut-off level of 0.08, and CFI 0.936>0.90. Based on the hypothesised structural model, the results of hypothesis testing are listed in Table 4. Eight of the nine hypotheses were tested and found statistically significant (p < 0.05), and the remaining hypothesis was not found to be significant. We have evaluated the R2 value. In explaining perceived ease of use, technology self-efficacy accounted for 8.8 percent of variance (R2= 0.088) and 31.4 percent of variance (R2= 0.314) in illustrating perceived usefulness. Meanwhile, 45.1 percent of the variance (R2=0.451) was accounted for by technology self-efficacy, perceived ease of use and perceived usefulness in describing customer satisfaction with e-wallet systems. Lastly, perceived trust was explained by 8.2 percent (R2=0.082) of the variance of the security system. Results of nine hypotheses were evaluated, from which H1 was found to be significant. It signifies

the positive relationship between technology self-efficacy and perceived usefulness which was supported based on $\beta = 0.324$; SE = 0.057; CR = 4.764. Similarly, H2 and H3 were supported on the basis of the β value, showing 0.147 respectively for H2 and 0.296 for H3. H2 also indicates the importance of SE= 0.056; CR= 3.245, and significant P, which showed that self-efficacy of technology had a positive and significant effect on satisfaction. For H3, where SE= 0.049; CR= 4.010, H3 was also helped by demonstrating that there is a positive relationship between the self-efficacy of technology and the perceived ease of use. H4, on the other hand, indicates that there was no significant relationship between perceived usefulness and satisfaction. The hypothesis (H4) was not accepted with a value of $\beta = 0.104$; SE = 0.073 and CR = 1.506 and a p-value greater than 0.05. Based on the p-value (p < 0.05), H5 was found to be statistically significant, which suggests a positive relationship between perceived ease of use and perceived usefulness. H6 is identified with a positive relationship between perceived ease of use and satisfaction. The outcome of H6 is therefore supported on the basis of β = 0.248; SE=0.092, and CR=3.641. Similarly, H7, H8 and H9 are supported on the basis of the above criteria, where a C.R. value greater than \pm 1.96 (C. R.= $> \pm 1.96$) is needed to be considered significant for a particular element (Hair et al., 2010).



Figure 3: Structural Model



DISCUSSION

This study proposes a model for customer satisfaction to use e-wallets on the basis of the technology acceptance model. In addition, to explore the applicability of TAM from a Bangladeshi point of view in the satisfaction of e-wallets, the current study also investigated those factors, for instance, technology self-efficacy, perceived usefulness, perceived ease of use, system security, perceived trust and satisfaction towards the use of e-wallet payment system. Firstly, hypothesised (H1) model of technology selfefficacy on perceived usefulness was examined. The study found a positive association between TSE and PU. Since mobile technology has widely been spread throughout the Middle Eastern regions, their IT usage capabilities enhanced the understanding of its usefulness. The current study is in line with the previous findings of Mutahar et al. (2018). The study then examined the relationship between technology self-efficacy and perceived usefulness (H2). The hypothesis was found to be significant based on the model validation of Islam (2020), where self-efficacy on satisfaction stands validated. In terms of technology

Table 4: Hypotheses Testing

self-efficacy on perceived ease of use (H3), it was found to have a positive relationship in between, thus, in line with the previous study (Luarn and Lin, 2005; Jeong and Yoon, 2013; Sripalawat et al., 2011). It is noteworthy that throughout the analysis, PU was found to have no major influence on SAT (H4), while PU was validated as a major factor influencing the intention of users to implement different technologies in both the original and the extended TAM. It can be asserted that since the majority of respondents are young adults (between 21 and 30 years of age), Mobile technology is becoming more and more useful for the younger generation, so they are now willing to explore the ease of use because they no longer want to prioritise its performance over the easy use of mobile technology. However, a significant relationship was found between PEOU and PU, and the finding (H5) was consistent with the prior study (Phuong et al., 2020; Wasiul et al., 2020). Similarly, H6 was also supported by explaining that a positive relationship was associated between PEOU and SAT; thus, the finding was congruent with Amin et al. (2014).

Н	AVE	SRW (β)	S.E.	C.R.	p- value	Decision
H1	PU←TSE	0.324	0.057	4.764	***	Supported
H2	SAT ← TSE	0.147	0.056	3.245	0.02	Supported
H3	PEOU←TSE	0.296	0.049	4.010	***	Supported
H4	SAT←PU	0.104	0.073	1.506	0.132	Not Supported
H5	PU←PEOU	0.371	0.091	5.168	***	Supported
H6	SAT←PEOU	0.248	0.092	3.641	***	Supported
H7	PT←SS	0.286	0.064	3.987	***	Supported
H8	SAT←SS	0.487	0.067	7.871	***	Supported
H9	SAT←PT	0.144	0.071	2.438	0.015	Supported

The study then examined the security system on perceived trust (H7), which signifies the existence of a positive relationship in between. Consumers perceive that the more the system is secured, the more it is trustworthy. Prior research by Roozbahani et al. (2015) revealed the satisfaction level of Iranian consumers toward e-payment where system security was found to have the strongest determinant; thus, H8 was supported in current research based on the prior study. Lastly, perceived trust is a factor that every consumer wants, at least for safety purposes. Sutia et al. (2020), in their non-parametric study, exposed that trust is an essential part of every cashless transaction based on which satisfaction level is determined. So, the current hypothesis (H9) is also in line with the previous study where perceived trust was found to influence customer satisfaction positively.

IMPLICATIONS

The current study has two implications, namely theoretical and managerial. Firstly, this study provided tremendous support to the TAM in the sense of customer satisfaction with the usage of e-payment through e-wallets. These present results also contribute to the established research body by analysing the impact of user satisfaction. In addition, the model of the current study was validated by explaining previous related literature. The new validation of the extended TAM model rectifies the prior study model by approaching the technological sense where cognitive skills are required to operate a particular system. For E-wallet providers, this research has many practical consequences. Service providers should concentrate on building the trust of their customers and obtaining their satisfaction on the basis of our findings. For operators of Bangladeshi e-payment apps, the study offers few management implications. This analysis will assist the team involved in the management and administration of the service to follow the best policy to gain access to broader customers. On the other hand, building confidence by providing its customers with suitable services will lead an organisation to achieve a comparative edge. In addition, the main factors that decide whether to attempt or to refuse are satisfaction among customers.

LIMITATIONS AND FUTURE RESEARCH

The study has a few limitations as well. First of all, researchers only selected respondents from the Dhaka city area, which may not be considered the best representation of Bangladesh; thus, the study should be carried out



other than in Dhaka city as the number of e-payment services are spreading nationwide. Secondly, respondents were mostly chosen from the university area where students' "voluntary participation" assisted in completing the survey, but few responses were unexpected. It may be a reason for haste or any urgency of the respondents. Thirdly, researchers must take precautions when selecting samples. A little formal education is a precautionary step that must be observed. However, the current study has adopted and followed the variables which were previously suggested by TAM, TAM2 and UTAUT models with other additional factors. Thus, additional predictors are highly recommended as the rapid switch in mobile phone technology has taken part. As per the suggestion of Phuong et al. (2020), self-efficacy has been employed in the current study and explored by conducting factor analysis to validate extending the TAM model. Future research could adopt performance expectancy (Zhou, 2014) to evaluate customer satisfaction which could be influenced by other social factors and other social influences. However, excessive usage of e-wallets perhaps intensifies consumers' expectations of what discounts or bonuses and promotions to give out. Consequently, the perceived benefit should be selected to determine how significantly these affect the continuation or user satisfaction with e-wallet payment systems.

REFERENCES

- Ahmad, T., Madarsha, K. B., Zainuddin, A. H., Ismail, N., & Nordin , M. S. (2010). Faculty's acceptance of computer-based technology: Cross-validation of an extended model. *Australasian journal of educational* technology, 26(2)., 268-279.
- AlKubaisi, M. M., & Naser, N. (2020). A Quantative Approach to Identifying Factors that Affect the Use of E-Wallets in Bahrain. *Journal of Siberian Federal University. Humanities & Social Sciences, 13(11),* 1819-1839.
- Al-Maroof, R. S., & Al-Emran, M. (2018). Students acceptance of Google classroom: An exploratory study using PLS-SEM approach. *International Journal* of Emerging Technologies in Learning (iJET), 13(06), 112-123.
- Amin, M. K., Azhar , A., Amin , A., & Akter, A. (2015). Applying the technology acceptance model in examining Bangladeshi consumers' behavioural intention to use mobile wallets: PLS-SEM approach. 2015 18th International Conference on Computer and Information Technology (ICCIT) (pp. 93-98). IEEE.
- Amin, M., Rezaei, S., & Abolghasemi, M. (2014). User satisfaction with mobile websites: the impact of perceived usefulness (PU), perceived ease of use (PEOU) and trust. *Nankai Business Review International*, 5(3), 258-274.
- Amin, M., Rezaei, S., & Abolghasemi, M. (2014). User satisfaction with mobile websites: the impact of perceived usefulness (PU), perceived ease of use (PEOU) and trust. *Nankai Business Review International*,

5(3), 258-274.

- Aydin, G., & Burnaz, S. (2016). Adoption of Mobile Payment Systems: A Study on Mobile Wallet. *Journal* of Business, Economics and Finance, 5(1), 73-92.
- Bangladesh Bank. (2020). Payment and Settlement Systems. Retrieved from Bangladesh Bank: https://www. bb.org.bd/fnansys/paymentsys/paysystems.php
- Barrett-Maitland, N., Barclay, C., & Osei-Bryson, K. M. (2016). Security in social networking services: a valuefocused thinking exploration in understanding users' privacy and security concerns. *Information Technology for Development 22(3)*, 464–486.
- Barry, M., & Jan, M. T. (2018). Barry, M., & Jan, M. T. (2018). Factors Influencing the Use of M-Commerce: An Extended Technology Acceptance Model Perspective. *International Journal of Economics, Management and Accounting, 26(1)*, 157-183.
- Chawla, D., & Joshi, H. (2019). Consumer attitude and intention to adopt mobile wallet in India–An empirical study. *International Journal of Bank Marketing*, 37(7), 1590-1618.
- Chawla, D., & Joshi, H. (2019). Consumer attitude and intention to adopt mobile wallet in India–An empirical study. *International Journal of Bank Marketing*, 37(3), 1590-1618.
- Cheung, R., & Vogel, D. (2013). Predicting user acceptance of collaborative technologies: An extension of the technology acceptance model for e-learning. *Computers* & education, 63, 160-175.
- Chin, W. W. (1988). The partial least squares approach to structural equation modeling. *Modern methods for business research, 295(2),* 295-336.
- Chong, A. Y. (2013). Predicting m-commerce adoption determinants: A neural network approach. Expert Systems with Applications, 40(2), 523-530.
- Dauda, S. Y., & Lee, J. (2015). Technology adoption: A conjoint analysis of consumers' preference on future online banking services. *Information Systems*, 53, 1-15.
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13(3)*, 319-340.
- Digital Wallet. (2019, February 13). Retrieved from Wikipedia: https://en.wikipedia.org/wiki/Digital_ wallet
- Fishbein, M., & Ajzen, A. (1980). Understanding Attitudes and Predicting Social Behaviour. Preventive-Hall. *Inc., Englewood Cliffs.*
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50.
- Ghani, M. A., Rahi, S., Yasin, N. M., & Alnaser, F. M. (2017). Adoption of internet banking: extending the role of technology acceptance model (TAM) with e-customer service and customer satisfaction. *World Applied Sciences Journal*, 35(9), 1918-1929.
- Gitau, L., & Nzuki , D. (2014). Analysis of determinants of m-commerce adoption by online consumers.



International Journal of Business, Humanities and Technology, 4(3), 88-94.

- Glenn, D. I. (1992). Determining Sample Size. Tarleton State University.
- Hair, J. F., Black, W. C., Babin , B. J., Anderson , R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (Vol. 6). Pearson Prentice Hall: Englewood Cliff, NJ.
- Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate data analysis: A global perspective*. Pearson Upper Saddle River: NJ: Person Prentice Hall.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long range planning*, 46(1-2), 1-12.
- Harrington, D. (2009). *Confirmatory factor analysis*. New York: NY: Oxford university press.
- Huang, E. (2008). Use and gratification in e-consumers. Internet Research, 18(4), 405-426.
- Islam, A. (2020). Viability of the extended technology acceptance model: An empirical study. *Journal of Information and Communication Technology*, 10, 85-98.
- Jeong, B. K., & Yoon, T. E. (2013). An empirical investigation on consumer acceptance of mobile. *Business and Management Research*, 2(1), 31-40.
- Kalakota, R., & Whinston, A. B. (1997). *Electronic commerce: a manager's guide*. Addison-Wesley Professional.
- 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.
- Karim, M. W., & Chowdhury, M. A. M. (2021). Antecedents of customer loyalty towards private commercial banks in bangladesh. *Management and Accounting Review*, 20(2), 35–57. https://doi.org/10.24191/MAR.V20i02-02
- Karim, M. W., Chowdhury, M. A. M., Al Masud, M. A., & Arifuzzaman, M. (2021). Analysis of factors influencing impulse buying behavior towards e-tailing sites. *Contemporary Management Research*, 17(2), 97–126. https://doi.org/10.7903/CMR.20457
- Kline, R. B. (2013). Assessing statistical aspects of test fairness with structural equation modelling. *Educational Research and Evaluation*, *19(2-3)*, 204-222.
- Komiak, S. X., & Benbasat, I. (2004). Understanding customer trust in agent-mediated electronic commerce, web-mediated electronic commerce, and traditional commerce. *Information technology and management*, 5(1-2), 181-207.
- Lee, W. J. (2019). Evaluating Perceived Smartness of Product from Consumer's Point of View: The Concept and Measurement. *The Journal of Asian Finance, Economics and Business, 6(1),* 149-158.
- Liébana-Cabanillas, F., Muñoz-Leiva, F., & Rejón-Guardia, F. (2013). The determinants of satisfaction with e-banking. *Industrial Management & Data Systems*, 113(5), 750-767.
- Luarn, P., & Lin, H. H. (2005). Toward an understanding

of the behavioral intention to use mobile banking. *Computers in human behavior*, 21(6), 873-891.

- Madorin, S., & Iwasiw, C. (1999). The effects of computer-assisted instruction on the self-efficacy of baccalaureate nursing students. *Journal of nursing education*, 38(6), 282-285.
- Muk, A., & Chung, C. (2015). Applying the technology acceptance model in a two-country study of SMS advertising. *Journal of Business Research, 68(1)*, 1-16.
- Mutahar, A. M., Daud, N. M., Thurasamy, R., Isaac, O., & Abdulsalam, R. (2018). The Mediating of Perceived Usefulness and Perceived Ease of Use: The Case of Mobile Banking in Yemen. *International Journal of Technology Diffusion (IJTD)*, 9(2), 21-40.
- Nunnally, J. C. (1978). *Psychometric Theory*: 2d Ed. New York: McGraw-Hill.
- Phuong, N. D., Luan, L. T., Dong, V. V., & Khanh, N. N. (2020). Examining Customers' Continuance Intentions towards E-wallet Usage: The Emergence of Mobile Payment Acceptance in Vietnam. *The Journal of Asian Finance, Economics, and Business, 7(9)*, 505-516.
- Punwatkar, S., & Verghese, M. (2018). Adaptation of e-Wallet Payment: An Empirical Study on Consumers' Adoption Behavior in Central India. International Journal of Advanced in Management, Technology and Engineering Sciences, 1147–1156.
- Ray, A. (2017, November 8). What are the different types of e-commerce payment systems? Retrieved February 13, 2020, from Amazon Services: https://services. amazon.in/resources/seller-blog/different-types-ofe-commerce-payment-systems.html
- Revels, J., Tojib, D., & Tsarenko, Y. (2010). Understanding consumer intention to use mobile services. *Australasian Marketing Journal (AMJ)*, 18(2), 74-80.
- Roozbahani, F. S., Hojjati, S. N., & Azad, R. (2015). The role of E-payment tools and E-banking in customer satisfaction case study: Pasargad bank E-payment company. *International Journal of Advanced Networking* and Applications, 7(2), 2640-2649.
- Rouibah, K., Abbas, H., & Rouibah, S. (2011). Factors affecting camera mobile phone adoption before e-shopping in the Arab world. *Technology in Society*, 33(3-4), 271-283.
- Sachan, A., Kumar, R., & Kumar, R. (2018). Examining the impact of e-government service process on user satisfaction. *Journal of Global Operations and Strategic Sourcing*, 11(3), 321-336.
- Salleh, M. C. M., Chowdhury, M. A. M., Nasarudin, A. F. B. M., & Ratnasari, R. T. (2020). The Impact of Cognitive Factors on Individuals' Financial Decisions. *Management & Accounting Review*, 19(3), 69–88.
- Shao, Z., & Yin, H. (2019). Building customers' trust in the ridesharing platform with institutional mechanisms. *Internet Research*, 29(5), 1040-1063.
- Singh, S., & Srivastava, R. K. (2018). Predicting the intention to use mobile banking in India. *International Journal of Bank Marketing*, 36(2), 357-378.



- Sripalawat, J., Thongmak, M., & Ngramyarn, A. (2011). M-banking in metropolitan Bangkok and a comparison with other countries. *Journal of computer information systems*, 51(3), 67-76.
- Sutia, S., Fahlevi, M., Saparudin, M., Irma, D., & Maemunah, S. (2020). Should e-Payment trust be e-Commerce Implemented as a Consumer Satisfaction Factor? *E3S Web of Conferences, 202* (p. 16002). EDP Sciences.
- Tabachnick, B. G., & Fidell, L. S. (2007). Experimental designs using ANOVA. Belmont, CA: Thomson/ Brooks/Cole.
- The Daily Star. (2018, April 5). *The Daily Star.* Retrieved from Cashless shopping & Dining: https:// www.thedailystar.net/frontpage/digital-paymentsystem-in-bangladesh-cashless-shopping-anddining-1558312
- Uddin, M. S., & Akhi , A. Y. (2014). E-wallet system for Bangladesh an electronic payment system. *International Journal of Modeling and Optimization*, 4(3), 2016-2019.
- Vijayasarathy, L. R. (2004). Predicting Consumer Intentions to Use Online Shopping: The Case for an Augmented Technology Acceptance Model. *Information and Management 41 (6)*, 747-762.
- Wang, E. S., & Lin, R. L. (2016). Perceived quality factors of location-based apps on trust, perceived privacy risk, and continuous usage intention. *Behaviour & Information Technology*, 36(1), 2-10.

- Wasiul, M., Arije, M., & Huda, M. N. (2020). Determining Intention to Use Smartphone Banking Application among Millennial Cohort in Malaysia. *International Journal of Management*, 9(1), 43-53.
- Wu, W., Chang, H. P., & Guo, C. J. (2008). An empirical assessment of science teachers' intentions toward technology integration. *Journal of computers in Mathematics and Science Teaching*, 27(4), 499-520.
- Zhou, T. (2014). Understanding the determinants of mobile payment continuance usage. *Industrial Management & Data Systems*, 114(6), 936-948.
- Zhu, Q., Yin, H., Liu, J., & Lai, K. H. (2014). How is employee perception of organisational efforts in corporate social responsibility related to their satisfaction and loyalty towards developing harmonious society in Chinese enterprises? Corporate Social Responsibility and Environmental Management, 21(1), 28-40