An Empirical Investigation of Factors Impact on Consumers' Willingness to Adopt E-Wallet in Such Crisis of Pandemic

Abdullah Nabeel Jalal

Faculty of Business Management and Professional Studies, Management & Science University, Malaysia
abdullah_nabeel@msu.edu.my

Ali Q. Saeed

Information Technology Center, Northern Technical University. ali.qasim@ntu.edu.iq

Sultan Rehman Sherief

Faculty of Business Management and Professional Studies, Management & Science University, Malaysia
sultan_rehman@msu.edu.my

Abstract

E-Wallet payment method distinctly has played a vital role specially in crisis like the Novel Coronavirus (Covid 19). The tremendous benefits of such technological adoption in societies will significantly contribute in containing such a global situation like the pandemic and will also results in economic growth. E-Payments have reduced the physical interactions with consumers and made it even faster to carry out transactions. In a country like Iraq, yet to explore the consumers' willingness to adopt e-wallet platforms. Therefore, this study carries a descriptive analysis of interactivity and privacy that impact on consumers' willingness to adopt e-wallet in Iraq. The main aim of this study is to bridge the gap in the literature, lack of understanding the acceptancy level or willingness to adopt the new technology by individuals rather than understanding factors impacting the adoption only as the prior studies segregated the consumers point of view. This study has deployed the SEM in order to explain the relationships of the suggested model. Data were collected from 450 respondents to fulfill the study. In view of the findings, the study suggests that interactivity, privacy, perceived usefulness as well as perceived ease of use are significant factors that contribute to consumers' willingness to adopt the e-wallet platforms. The empirical findings of the study can be very useful to many organizations and practitioners willing to develop and establish an advanced technology like e-wallet in their organizations.

Keywords: E-Wallet, Interactivity, Privacy, Perceived Usefulness, Ease of Use;

1.   Introduction

Prior examinations have researched E-payment independently and separately, for instance installment cards (Lai and Zainal, 2015), smart cards, Internet banking (Burdge, 2014), e-wallet, portable payment. (Criteo in 2015) found that the with advent of such technological e-payment advancements it can contribute by 15% of the annual increase. The e-wallet

payment systems have played an important role specially during crisis and difficulties of current situations like Covid 19. It's quite clear that organizations are tending to utilize the payment cards and are facing serious challenges with adoption process. Prior studies have shown that number of limitations with the current payment systems, (Phonthanikitithaworn et al. 2015). In fact, there is an expanding enthusiasm for this matter from the consumers point of view, for example, lack of interactivity, security, ease of use and how fast they can perform their payments. E-payment platforms still need further advancements which every organization seeks to build and overcome for their consumers convenience (Lai and Zainal, 2015). Hence, there is huge interest in this area of research due to the fact that e-payment systems still lack proper design in terms of interactivity, security (Chong and Chan, 2012). Therefore, empirical investigation of the factors that impact on the consumer's willingness to adopt the e-wallet platforms is highly important. The new e-wallet systems will enable plenty of services to the consumers as well as the organizations. Technological e-payment services can be helpful in many different fields namely, transportations payment system, shopping, healthcare organizations, educational institutions and many other public services, (Liébana-Cabanillas et al. 2014). The integration of the new e-payment system no doubt shall result in significant improvements in such services and the lifestyle of communities (Lai, 2013). This study forces on the consumers based exploration direction, for example, buyers' expectation to accept the new e-payment system. Therefore, this study deployed the Technology Acceptance Model (TAM) (Davis, Bogozzi and Warshaw, 1989) to upgrade the capability of e-wallet system. The new framework will integrate the most influential factors such as interactivity and security. Thus, this study tries to understand the role of interactivity and privacy that impact on the consumers' willingness to adopt e-wallet platforms, (Shatskikh, A. 2013). Besides, this study also tries to explain the

relationship among the selected factors which namely are: Interactivity, Privacy, Perceived Usefulness, Ease of Use with consumers' willingness to adopt the new e-payment system.

2. Literature Review and Theoretical Framework

Technology Acceptance Model

In the past two decades, many researchers have shown some theoretical contributions based on TAM in both fields of IS and IT. TAM was rooted in the theory of reasoned action. TAM presumes that usefulness and ease of use are always the main determinants of IT adoption in organizations. There are number of theories in the field of IT and IS, among these theories, the technology acceptance model (TAM) is accepted generally and widely, and compelling in clarifying IT/IS adoption behavior (Davis, 1989). According to TAM, these two determinants serve as the basis for attitudes toward using a particular system, which in turn determines the intention to use, and then generates the actual usage behavior. Perceived usefulness is defined as the extent to which a person believes that using a system would enhance his or her job performance. Perceived ease of use refers to the extent to which a person believes that using a system would be free of mental effort (Davis, 1989). A key purpose of TAM is to provide a basis for discovering the impact of external variables on internal beliefs, attitudes, and intentions.

Based on critical analysis of many literatures related to technological adoption and acceptance at individual level, TAM, which was developed by Davis (1986) is one of the most widely used model. The main reason is that TAM is considered as one of the most comprehensive models that looks into the elements of each technology in which it should be developed and established. Number of organizations try to further advance their communication and interactions with their consumers yet they face huge challenges in

meeting the consumer's expectations and needs. This mainly because the misperception of the deployed models which explains the development and design of the new technology and to what extend it fits in their business and fulfil their objectives, (Amoroso et al. 2012). The dimensions of every possible technology should be well developed and assessed. TAM is well established theory and has the needed underlying attributes of every possible new technology into the field of business and how individuals perceive it (Lee et al. 2013). This study has considered TAM model due to the fact that most prior studies concerned with technology acceptance and willingness to adopt was through TAM which has been cited abundantly, (Lai and Zainal, 2015). Moreover, this study has selected and integrated two highly important and recommend factors namely, Interactivity and Privacy which should be considered specially in a context such as banking. Banking industry must provide the best of interactive platforms such as e-wallet which enables users carry out their transactions and payments effectively with no limitations, (Crowe et al. 2012). On the other hand, privacy plays and important role as the whole content is web based which means consumer's private data and information is at highest risk of exposure to the public. Nevertheless, web applications and online shopping have dominated most businesses. Specially during such crisis like Covid 19, where people are encouraged to avoid f2f interactions. The main reason of such an integration of two factors into TAM, is duly to the fact that most studies have focused on the adoption factors not to the acceptance or willingness to adopt the technology by individuals. Thus, this study tries to bridge the gap in such context. They following sections will further explain the two selected factors and formulate the suitable hypothesis.

Interactivity

Interactivity in this study is defined as the interaction features of the new platforms, and to what extend it support the users in interacting with those platforms

with system functionalities (Kim, et al. 2010) such advancements that can be integrated into those systems will with no doubt attract the consumers attention and further build trust of e-wallet platforms. The interactive nature of those platforms can be seen in the consumer interaction and attachment into those payment systems. The interactivity in design will enable consumers enjoy using these platforms as web platforms and applications. Thus, the interactivity is very important element to be considered to enable such an interactive features that provide more convenience. Interactivity in e-wallet platforms can indeed reduce the unnecessary repetitions of procedures and maintain consumer's retention.

Privacy

Privacy is plays a vital role in consumer's decision to use or not to use the new e-wallet platforms. Privacy is described as the state of which the consumer feels protected or safe from risks. Hence, privacy in this study comprises of the following dimensions reliability and safety. Most consumers concerns with their safety and security when they carry out some cash of thefts. Therefore, consumers must feel secured and have enough degree of privacy on the electronic payment in order to accept and perform transactions with e-wallet platforms, (Dash et al. 2014). Privacy is without doubt associated with initiatives provided by the organizations and most services for the consumers to feel the reliability of those platforms then only they can accept and use in their daily interactions. Nevertheless, in e-wallet new platforms there are standards which should be considered when further advancing the privacy features of those platforms, (Alalak et al, 2010). Trust of the consumers can only by obtained and that can be gained from the reliability of those platforms and the others' recommendations based on their experiences. Consumers concerned with their data and private information will be shared with others or tampered by others while they are doing their payments. Thus, privacy plays an important role in

such technologies where information must be protected and well controlled. Hence, the following hypothesis was formulated to understand the role of privacy in the consumers' willingness to adopt e-wallet.

The Study Hypothesis Development

The study viewed and selected different factors as shown if in figure 1. were considered from the literature based on their higher impact in such technological context tin order to explain the willingness to adopt the e-wallet platforms. Therefore, the following hypothesis were formulated as shown below.

| No	Hypothesis
H1a	Interactivity has positive relationship with perceived usefulness.
H1b	Interactivity has positive relationship with perceived ease of use.
H2a	Privacy has positive relationship with perceived usefulness.
H2b	Privacy has positive relationship with perceived ease of use.
H2c	Privacy has positive relationship with consumers' Willingness to Adopt E-Wallet.
H3	Perceived ease of use has positive relationship with perceived usefulness.
H4	Perceived usefulness has positive relationship with consumers' Willingness to Adopt E-Wallet.
H5	Perceived ease of use has positive relationship with consumers' Willingness to Adopt E-Wallet.
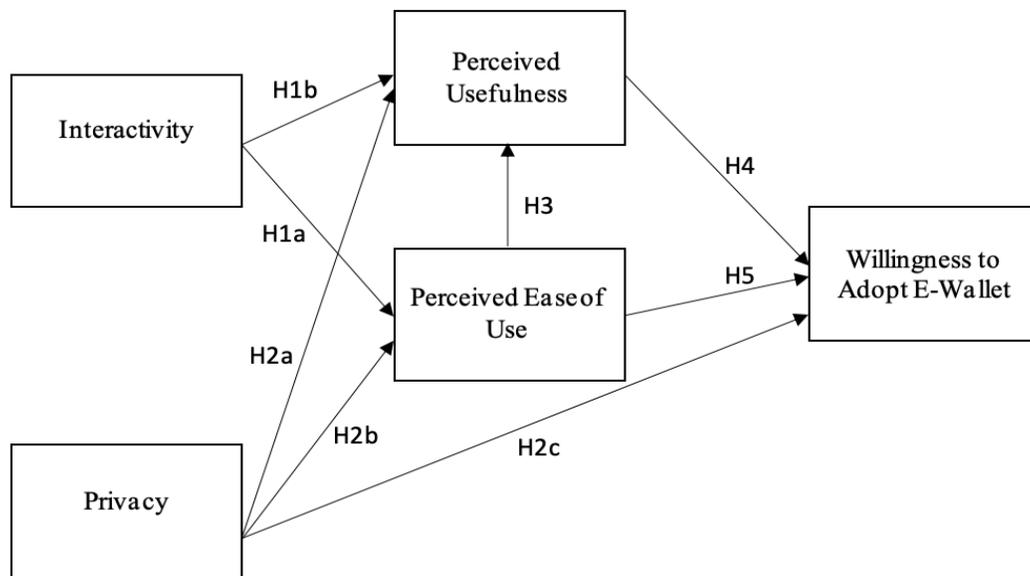
Figure 1. E-Wallet Framework with integrated Interactivity and Privacy into TAM Model

Methodology
Sampling
This study targeted population who have used web based or mobile applications for payments for the last one year with total respondents of 570 from companies

databases. The survey was carried out online using google forms in order to cover and obtain much possible of responses form the targeted respondents. The survey was held over three months in a row. However, invitations were given twice during the

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period of those three months in order to obtain sufficient number of responses, (Soper, D. 2016). The study targeted 570 at the first attempt, however with data cleaning and filtering the researchers were able to obtain 450 which were valid and usable to fulfil the purpose of the study. The data validity and reliability were applied and achieved in this study. Proper five point scaling Likert was applied to the questionnaire so that the respondents can be able to answer to the different subjects provided. The respondents demographics were analyzed and reported in table 1 below. The table shows different levels of single and married, levels of education and occupations, ages, job positions and the industries they work in.

Measurement Model

In order to determine the construct validity, this study has checked the convergent validity prior to the construct validity. This study applied standardized factor loadings. The factor loading of the CFA ranged from .77 to .97 for the indicators of perceived usefulness and perceived ease of use. All indicators in the consumers' willingness to adopt were statistically significant as all factor loading were more than .50 in order to get a convergent validity, (Hair et al., 2010). The indicators goodness of the model satisfied the requirements of this study as per demonstrated in the validity assessment of the CFA model. As explained by Hair et al., (2006). In absolute fit indicator, the goodness of fit index (GFI) was 0.92, well higher than 0.90. Similarly, comparative fit was also high and accepted with a value of 0.98, which is above the 0.90, (Hu and Bentler 1999). Finally, (RMSEA) is recommended at value below 0.08 and hence the RMSEA of this study was at .07, (Byrne 1998). Overall, measurement model has indicated good fit model.

Table 1. Respondents Demographic Characteristics

Gender		
Male	243	54.0
Female	207	46.0
Marital Status		
Single	244	54.2
Married	206	45.8
Age		
<25	172	38.2
26–40	169	37.6
41–55	82	18.2
>55	27	6.0
Education		
Secondary/High school	129	28.7
College/university	259	57.6
Graduate school	62	13.8
Job position		
Top Management	12	2.7
Middle Management	156	34.7
Junior Management	33	7.3
Professional	43	9.6
Other	206	45.8
What industry you work in		
Education	207	46.0
Banking/Finance/Manufacturing/ICT	122	27.1
Retail/Hypermarket	65	14.5
Other	56	12.4

Structural Equation Model

In view of the finding of SEM, it's clear that the data was well analyzed and with proper regression and excellent model fit. The table below demonstrates the values as per analyzed with good level of acceptance of each and every hypothesis, (Bagozzi et al. 2012). Relationships were measured and judged based on the accepted level. Relationships were well linked and explained from the analysis.

Table 2. Goodness-of-fit statistics for measurement model.

Goodness-of-fit Statistics		Level of Acceptance	Index Value
Absolute fit Measures			
Chi-square	X^2	$p > 0.05$	5.651 ($p = 0.06$)
Degree of freedom	df	≥ 0	2
Root mean square error of approximation	RMSEA	<0.08	0.064
Goodness of fit index	GFI	>0.90	0.995
Incremental fit measures			
Comparative fit index	CFI	>0.90	0.998
Parsimonious fit measures			
Relative Chi-Square	X^2/df	<5	2.825

Table 3. Structural Model Weight

Hypothesis	Standardized Regression Weights			S.E.	C.R.	P	Results
H1a	Interac	→	PEU	0.02	50.18	***	Significant
H2a	Priv	→	PEU	0.03	6.49	***	Significant
H1b	Interac	→	PU	0.05	3.12	0.002	Significant
H2b	Priv	→	PU	0.03	3.80	***	Significant
H2C	Priv	→	W	0.04	15.80	***	Significant
H3	PEU	→	PU	0.05	14.50	***	Significant
H4	PU	→	W	0.06	2.81	0.005	Significant
H5	PEU	→	W	0.06	2.92	***	Significant

Overall, the findings have indicate an important and significant relationships among the selected variables in this study. H1a has strong relationship with PEU with Critical Ratio C.R 50.18 and p 0.00 (p < 0.001) which was the most significant among the other hypothesis. That indicate the role of interactivity in the new framework. H2 in all relationships was positive and should be taken into consideration while developing those platforms. The findings also demonstrated that the integrated interactivity and privacy both can be controlled and by the PUE and PU and have vital role on those platforms from the consumers point of view.

Discussion
Interactivity has shown a significant impact on the consumers willingness to adopt the new e-payment platforms. Moreover, interactivity has positive relationship with both PEU and PU. Which means the more interactive platforms the higher acceptance of consumers to those platforms. Interactivity is and based element of each PEU and PU while providing the e-wallet platforms. Another significant fact is that privacy seemed to play a vital role towards the acceptance. Based on the findings privacy can with no doubt motivate the users to accept the new payment system. From the consumer point of view those platforms have to be well maintained and controlled. Consumers concern is with their private information and data on web and might be misused or tampered with others. Nevertheless, the study has support both interactivity and privacy which were integrated to the TAM model. The significant findings of this study show that all relationships were supported. Furthermore, the privacy can also be controlled and observed by both PEU and PU towards the consumers.

Empirical Implications and Research Limitations

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With the emerge of E-Wallet platforms, most of the organizations seem to have the vital challenges in motivating their consumers to adopt those platforms. Due to the fact that consumers play the role in the organizational technological advancement if they tend to accept such technology like e-wallet. It's at utmost importance that the organizations look into the consumers points of view and their acceptance level to adopt e-wallet platforms. The study has provided grounded framework which can be considered in many different industries. With the given risky nature of such technology, privacy has shown an significantly important role for the consumers to accept and adopt e-wallet platforms. Another interesting finding is that the interactivity has also a vital role to the willingness of consumers to adopt as they demand a high-end platform in which they can interact independently. Interactivity gives such excitement to the users and keep them coming back to use, with well enabled features and a very productive and straight forward in multimedia enabled platforms. This study has a significant contribution and guidelines for most companies who are facing misleading information on the acceptance of e-wallet adoption. Few limitations to this study, namely the data collected were at one point which might differ or change over time due to different situations, followed by the respondents we web based users. Thus, its highly recommend extending the study to no web users to have their perspectives in this regard. Last but not the least, the study was done and limited to Iraqi community which cannot be generalized to other regions.

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