

THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

E-wallet Usage Intention during COVID-19 in Jeddah, Saudi Arabia

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Abstract:

During COVID-19 outbreak World Health Organization (WHO) has encouraged customers to do contactless activities, including payment transaction to prevent the transmission of the virus through physical money. As a result of countries governments encouraged their citizens to use contactless payments. It drives them to shift to e-wallet. In the light of recent COVID-19 events, there are now considerable concerns about e-wallet usage intention. This paper seeks to address the effect of perceived risk, government support, and perceived usefulness on customers' intention to use e-wallet during COVID-19 outbreak. To achieve this aim, the research relied on a survey to collect data. The data was collected from a sample of 534 respondents from Jeddah. The research findings show that from the customer's perspective, there is a positive correlation between perceived risks, perceived usefulness and government support on the customers' intention to use e-wallets. Also, results show that there is a positive relationship between perceived risk and government support which confirmed what was already revealed by previous studies.

Keywords: E-wallet, cashless economy, COVID-19, governmental support, to use

1. Introduction

The world is anticipating a big global loss due to epidemic and pandemic situations (Fan et al., 2018). The Corona Virus Disease 2019 (COVID-19) outbreak is a special issue that requires a global effort to address its impact on society. Even if we cannot prevent COVID-19 viruses from emerging, we should prepare to weaken its effects on human life. COVID-19 drastically changes the global customer behavior and even the way of the life. It is clear that there is no unaffected country around the world so scares spread among people who try to avoid to interact with others. Moreover, World Health Organization (WHO) advised the physical distancing policy which encourage customers to contactless activities. Physical distancing and self-quarantine policy hold people at their homes. Consumers tried to do anything contactless. They avoid purchasing at groceries and malls. Online food deliveries and game demand are escalated (Aji et al., 2020). Physical money can be the medium for the virus when it is touched by an infected person. Therefore, the WHO suggested using digital money when possible (Brown, 2020). As a result, many retailers and merchants stimulate customers to make payments by using e-wallets.

Consequently, different countries encourage cashless economy to avoid physical touch. In Saudi Arabia has announced nationwide lockdown in different phases to eliminate the spread of the virus in the country as early as possible. All of these factors encourage the use of e wallet in most of transactions in Saudi Arabia. E-wallet facilitates the payment transactions for customers with the help of mobile applications instead of physical transactions. E-wallets and other electronic fund transfer methods are very useful especially, during pandemic conditions and lockdown periods (RBI Governor 2020). E-wallet is a type of e-money (Aji et al., 2020) where the money is stored in a server, not in a chip card. Apple Pay, Google Pay, PayPal, Banking Mobile Wallet applications are the most famous digital wallet service providers to customers in Saudi Arabia. Although many researchers are interested in studying COVID-19 effects on different aspects of societies, there is a lack of study on investigating the significant effect of perceived risk, government support, and perceived usefulness on customers' intention to use e-wallet during COVID-19 lockdown period in Jeddah. The aim of this paper is to focus on studying the e-wallet usage intention during COVID-19 in Jeddah. The remainder of this paper is organized as follows: In section 2, we give a brief overview of previous studies and develop our research hypotheses. Research methodology is outlined in section 3 along with the data collection procedure and the variables and the way in which we measure and validated them. Finally, discussion and analysis of research results is presented in section 4.

2. Literature Review

Earlier studies showed that there are numerous types of risks related with online transaction. (Im et al., 2008) referred to perceived risk as the perceived uncertainty in a purchase situation. (Marria, 2018) demonstrated that mobile payment transaction is associated with certain criminal threats such as account theft and fraud. In general, most of researchers have been published on the negative effect of perceived risk on behavior (Marafon et al., 2018). During COVID-19, situation is different, customer faced a greater disease risk. As mentioned, there is a high-risk possibility of COVID-19 transmission in physical money. (Aji et al., 2020) defined perceived risk as the situation where the customers are

uncertain of novel coronavirus droplets on the physical money. The risk dimension associated with this study is more connected to cognitive and disease risk. (Aji et al., 2020) investigated that perceived risk associated with virus transmission is positively affected customers' intention to use e-wallet.

As mentioned, many governments around the world inspire its citizen to use e-wallets as a method to follow whose advice during outbreak to decrease the spread of disease among them. Previous researches clarify that government support significantly affects customers' intention to use mobile payment in the context of internet banking (Rambocas & Arjoon, 2012), mobile commerce, and government service (Dawi, 2019; Mandari et al., 2017). (Sheikh et al., 2020) stated that government is responsible for people's health. (Aji et al., 2020) clarified that government play a vital role in disease risk management and government support for e-wallets is influenced by potential COVID-19 risk associated with physical money. According to (Aji et al., 2020), government support can be translated into the network infrastructure, policy packages, speed of access, and security guarantees in digital transactions. In consequence, as customers received government support, they possess a greater intention to use e-wallet. (Riquelme & Rios, 2010) addressed that most of customers are familiar with physical money; however, mobile payment as a new alternative can be acquired when customers recognize main advantages. declared that perceived usefulness is the degree of confidence that emphasizes the extent to which customers believe that using a particular system can improve his or her performance. Technically, e-wallets are a great substitution for physical cash to support the government reducing the spreading risk of COVID-19. (Aji et al., 2020) demonstrated that perceived usefulness drive to intention to use e-money.

Due to a lack of study on this topic, the present study contributes to the literature by examining the effect of perceived risk, government support and perceived usefulness on customers intention to use e-wallet during COVID-19 outbreak in Jeddah. Based on the literature review of previous studies, author formulate the following four hypotheses:

- H1: Perceived risk positively affects government support for e-wallets
- H2: Perceived risk positively affects intention to use e-wallets
- H3: Government support positively affects intention to use e-wallets
- H4: Perceived usefulness positively affects intention to use e-wallets

3. Methodology

3.1. Instrument and Measurement

The goal of the research is to clearly find the effect of perceived risk, government support, and perceived usefulness on customers' intention to use e-wallet during COVID-19 outbreak. The research was conducted using quantitative methods. The main instrument used to collect data in this study was a questionnaire. It was prepared by the researcher based on a questionnaire of (Ajiet al., 2020). It contains two parts. The first part was used to collect the participant's demographic information, and it consisted of five questions, and included: name (optional), gender, age, occupation, and the used e_wallet methods. The second part used the 5-point Likert Scale, ranging from 'strongly agree' to 'strongly disagree', where: strongly agree=1, agree=2, neutral=3, disagree=4 or strongly disagree=5, to measure the intention to use e-wallet. This part was about human errors, personal efficacy, creativity, and flexibility. This part contained twenty-two questions. The questions were organized as follows:

Variable	Questions
Perceived risk	4 questions
perceived usefulness	5 questions
Intention to use	3 questions
government support	3 questions

Table 1: Organizing of the Questions

The theory of planned behaviour (TPB) was proposed by (Ajzen, 1991) as an extension of the theory of reasoned action (TRA) (Ajzen and Fishbein, 1980). In this model, behavioural intention is hypothesized to be the most influential predictor of behaviour (Ajzen, 1991). Behavioural intention is influenced by attitudes towards the behaviour, subjective norm and perceived behavioural control. The technology acceptance model (TAM) is proposed by (Davis et al., 1989) to measure technology acceptance of users for various technologies has been found more powerful to predict behavioral intention than TRA and TPB models. According to the TAM, perceived usefulness is the degree to which a person believes that using a particular system would enhance his or her job performance. According to Davis, perceived usefulness is defined as the customer's realization that the usage of new technology will result in performance improvement (Mousa and Al-Omari, 2019). Likewise, Mathwick identified perceived usefulness as the degree to which a customer considers a certain system to increase the performance of work (Jahangir and Begum, 2008). This paper identified perceived usefulness as the extent to which the customer believes that conducting payment transactions using e-wallets during COVID-19 can help in putting a stop to the transference of the virus. Risk issues were first introduced into the consumer behaviour research field by Bauer (Maciejewski, 2011). The definition of Bauer concentrated on any behaviour of the customer that possibly results in an uncertain outcome, and some of which are supposed to be troublesome. In this paper, perceived risk is defined as the condition where the customers are doubt of transmission of COVID-19 while using cash money. Intention is an indicator to demonstrate the factors that impact an appropriate behavior. Intention to use is based on Fishbein and Ajzen's definition of behavioral intention: 'the strength of one's intention to perform a specified behavior'. It also indicates how much effort an individual would commit to performing a behavior (Ajzen and Fishbein, 1980).

Consequently, intention to use reflects a user's desire to use technology (Teo and Zhou, 2014). Throughout this paper intention to use term is used to refer customers' intention to use e-wallet during COVID-19 pandemic. Throughout this paper Government support term is used to refer to the recognized support from the government in regard to enhancing infrastructure to facilitate the usage of e-wallets during COVID-19. All of these measurements are adapted based on (Aji et al., 2020).

The questionnaire originally was written in English and translated into Arabic and back -translated to ensure semantic equivalence. It was then administered in both the English and Arabic versions. Prior to the main data collection, the questionnaires were pre-tested with several experts and some prospective respondents. During the pre-testing exercise, the experts and the prospective respondents were requested to make constructive comments on various aspects of the questionnaire such as sentence structure, diction, format, and length. Based on their feedback, the questionnaire was refined and revised accordingly. Subsequently, the questionnaire was pilot-tested with 25. Using IBM SPSS version 20, we analyzed the responses of these 25 customers to assess the reliability of the measurements. The recorded Cronbach α values for all the variables with multi-items were well above 0.7, which suggests that the questionnaire was reliable.

3.2. Participants

This study was conducted in Jeddah, Saudi Arabia. The study used a random sample approach since the research community is very large. Questionnaire was published for three months on the Internet, starting from August 2020. We collected 541 questionnaires responses of which 7 were incomplete such that we discarded them. The final sample subjected to analysis consisted of 534 questionnaires- a sample size considered appropriate for establishing validity and reliability in the context of the present research study (Costello & Osborne, 2005).

4. Results

4.1. Respondents Demographics

After exclusion of incomplete questionnaire, the total number of accepted participations in the survey was 534. The sample characteristics were: 88.5% female. Most of participants are between 25 and 45 years old with 77% of the total participants. 11.5 % of participants are less than 25 years old, the other 11.5% are 45 and above. Half of respondents are business company employees, and 23.1% are no workers, 19.2% are students, and others are governmental employees. According to responses, 52% of respondent use Apply Pay, 40% use banking mobile wallet applications, 8% use PayPal, and no one uses Google Pay.

4.2. Validity and Reliability Measurement

The exploratory factor analysis is achieved by using Varimax rotation with Kaiser Normalization and maximum likelihood with a cutoff of 0.60 to recognize items that loaded substantially on a factor. The factor loading value above 0.7 also supports the convergent validity, as shown in Table 2.

To assess the validity and reliability of the items, we assessed the composite reliability (CR) and average variance extracted (AVE). With regard to CR, all the scores are above the cutoff value of 0.6 recommended by (Hair et al., 2010). The conditions for establishing discriminant validity were also met: Table 3 shows that the value of the square root of the AVE is well above the correlation values with all the other variables and the maximum shared variance (MSV) for each construct lower than the AVE. This result suggests that the measurement has adequate convergent and discriminant validity. In addition, the model's goodness of fit is also examined to determine the fit between the data and the model. It indicates that the CMIN/ DF = 2.581 (p -value < 0.01), CFI = 0.957, GFI = 0.956, NFI = 0.932, RMSEA = 0.051. Therefore, it can be concluded that the model is fit (Hair et al., 2010; Hooper et al., 2008).

Constructs	Measurement Items	Factor Loading	CR	AVE
Intention to Use	IU1	0.760	0.840	0.637
	IU2	0.762		
	IU3	0.670		
Perceived Risk	PR1	0.725	0.811	0.518
	PR2	0.714		
	PR3	0.754		
	PR4	0.750		
Perceived Usefulness	PU1	0.77	0.895	0.685
	PU2	0.82		
	PU3	0.81		
	PU4	0.76		
	PU5	0.77		
Government Support	GS1	0.89	0.869	0.691
	GS2	0.88		
	GS3	0.70		

Table 2: Convergent Validity Results

	AVE	MSV	Intention to Use	Perceived Risk	Perceived Usefulness	Government Support
Intention to Use	0.676	0.580	0.890			
Perceived Risk	0.518	0.461	0.754	0.776		
Perceived Usefulness	0.732	0.321	0.542	0.484	0.746	
Government Support	0.613	0.301	0.473	0.345	0.623	0.812

Table 3: Discriminant Validity Results

Note: Correlations of the Constructs Are below the Diagonals

4.3. Hypotheses Testing

The results of the standardized path coefficient (β) of the structural model are shown in table 4. It demonstrates that all hypotheses are supported at $p < 0.01$. The results show the effect of the perceived risk on government support is supported since the $\beta = 0.409$, significant at p -value < 0.01 which means that H1 is supported. The results also supported H2 which indicates the relationship between the perceived risk and the intention to use e-wallets ($\beta = 0.673$, p -value < 0.01). In addition, H3 which states that government support positively affects intention to use e-wallets is also supported ($\beta = 0.165$, p -value < 0.01). Finally, the results implies that the effect of the perceived usefulness on Intention to use e-wallets is supported since the $\beta = 0.287$, significant at p -value < 0.01 which means that H4 is also supported.

Hypothesis	Path	(β)	Conclusion
H1	Perceived risk -> Government support	0.409**	supported
H2	Perceived risk -> Intention to use e-wallets	0.673**	supported
H3	Government support -> Intention to use e-wallets	0.165**	supported
H4	Perceived usefulness -> Intention to use e-wallets	0.287**	supported

Table 4 Testing Results

Note: ** p -value < 0.01 ; the ** indicates significance level at 99%

4. Conclusion

This paper aimed to assess customers' intention to use e-wallets during COVID-19 pandemic by identifying the impact of perceived risk, government support, and perceived usefulness on the customers' intention to use e-wallets. Findings of statistical tests show that the intention to use e-wallets is affected by perceived risks, government support and perceived usefulness. As previously mentioned, COVID-19 droplets might be easily transmitted from physical cash. Consequently, the WHO guided and motivated the usage of on-line payment. The results supported the findings of (Aji et al., 2020) except in one hypothesis. (Aji et al., 2020) results did not support the hypothesis that government support affects the customers' intention to use e-wallets while this study supports it. Moreover, previous studies confirmed that there is a negative relationship between perceived risk and intention (Marafon et al., 2018). In this study context, perceived risk of COVID-19 significantly impacts customers' intention to use e-wallet. According to our analysis, this study concluded that perceived risk and perceived usefulness directly affected intention to use e-wallets during COVID-19 outbreak. In summary, this study highlighted that COVID-19 might drive customers' intention to use e-wallets. Finally, the present study is based on only one city in Saudi Arabia. So, the outlined findings cannot be generalized to all countries. Moreover, this paper assesses only four measurements while more variables have been identified by (Aji et al., 2020). Hence, more extensive research using a range of models and approaches is required in order to investigate further.

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