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A model of behavioural Intention on usage of e-Wallet amid the pandemic Covid – 19

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Abstract

This paper aims to understand and enquire the behavioural intention factors which affects the users' adoption intentions of e-wallet amid the COVID-19 pandemic. The factors of e-wallet adoption taken here for study is Government support, Perceived Risk, perceived usefulness and behavioural intention to use e-wallets . The research model has been empirically tested by collecting 424 responses through questionnaire survey conducted among the users of e-wallet in Chennai. This study integrated Technology Acceptance Model (TAM) with the variables Perceived use and Behavioral Intention to use E-wallet system, and two additional variables Perceived Risk and Government support. The results of the structural equation modelling analysis showed a significant effect of perceived risk caused due to physical usage of cash and perceived use of e-wallet system due to covid -19 which amplified the usage of e-wallet system and utilise government support. The outcome thus stated that, the Government support proves to be beneficial for e-payment platforms which could enhance the usage of e-payment system. The stakeholders can focus on taking advantage of the features of technology (such as the contactless characteristic of M-payment) corresponding to its benefits offered through Government support on this pandemic situation and optimize their experience, thereby increasing acceptance among the target population.

Keywords: COVID-19, Technology Acceptance Model, e-wallet, Structural equation modelling.

1.**Introduction :**

The rise of Covid -19 has affected the financial markets and global economy. Due to the effect of the crisis, people stayed inside their homes and establishments in Chennai . The entire country, India was under lock down. The impact of the pandemic on various sectors of the economy has been severe. It has affected the operations of various industries such as manufacturing, auto, retail, and aviation. The rapid growth of the digital payment apps such as Google Pay, Paytm, Freecharge, Mobikwik, Oxigen, mRuppee, Airtel Money, Jio Money, SBI Buddy, PayPal, itzcash, Citrus Pay, Vodafone M-pesa etc has been the reason for the robust growth of the smart phone users in the country. As of December 2019, there are more than 502.2 million smart phone holders in the country.

2.Theoretical Background:

Studies have shown that people's interest in technology is influenced by their personal preference or Perceived use. Khalilzadeh, J.et.al.,(2017) proved that the research model provided roughly 20% higher instructive power and prediction accurateness when compared with the actual UTAUT model and it demonstrated a strengthened proof of risk, security and trust on consumers' adoption intention to Mobile payment technology. This concept can be used to study the effect of external factors on the interest in a given technology. The main structure of the research model is Technology Acceptance Model, and the following variables: Behavioral intention to use and Perceived use are adopted from it. This study also includes two additional variables, namely government support and Perceived Risk. Few factors are expected to impact the e-wallet adoption intention amid the present pandemic. The psychological aspect of adopting a technology is also assessed when it comes to determine the consumer's intentions to use it. Kurniasih et al (2020) in his research analysed the factors which influenced the acceptance of a website using the TAM method. Chen et.al.,(2005) expanded the technology acceptance model and the innovation diffusion theory and proposed a research modle which examined the factors which determined the acceptance of mobile payment system. This study

proposes a model that can help consumers to explore their interests when it comes to e-wallet payment system.

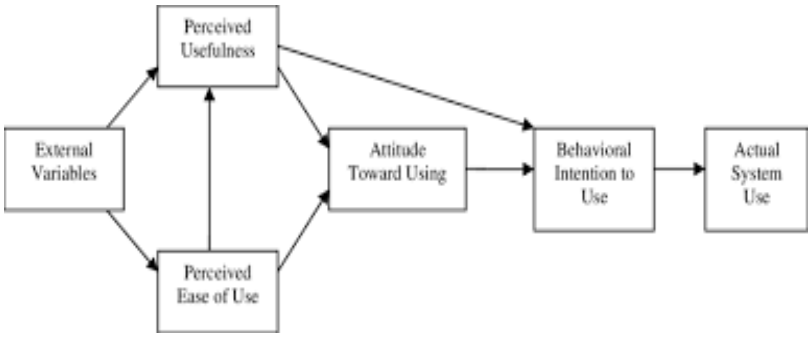

Figure 1 : Davis (1989) Technology Acceptance Model

3.Literature Review :

3.1 Consumer Attitude:

Since March 25, 2020, Global Data is conducting a weekly consumer survey in 11 countries, including the US, China, UK, South Africa, and Germany. The survey aims to analyse the buying patterns and sentiment during the pandemic. The survey results revealed that even though the consumers' concerns regarding the COVID-19 outbreak decreased, they were still very concerned about it. The growth in global transaction banking (GTB) has come to a halt due to the COVID-19 crisis. During the first half of 2020, the revenues of the global transaction bank declined by 11 percent year-over-year. During the start of the pandemic, the corporates were in a rush for liquidity. The challenges that the economy has thrown at them have forced banks to adopt a cost-control mode. Zhao, Y.; Bacao, F. (2021) examined the factors of M-payment usage and its influence during the unprecedented pandemic crisis and came up with the outcome that the users show a positive perception when they are benefitted by the technology. Chen, L. Da. (2008) propose a model which examined the antecedents which determined the consumer adoption of mobile payment. Maroofiet.al.,(2013) investigated the antecedents of trust in e-banking inorder to find the influence of it on e-banking and user influence on mobile banking in Iran

3.2 Perceived risk :

According to Hasan et al., (2017) the risk of getting sick due to disease is higher for individuals infected with SARS or Anthrax. The use of e-wallet system can help prevent this risk. The usage of e-wallet system can help to prevent the risk associated with the usage of physical cash. There is perceived risk associated with usage of physical cash. This study shows that the higher the risk, the people feel, the greater they come forward to make use of e-wallet system . Jaruwachirathanakul, B. and Fink, D (2005) explored that the attitudinal factors that appear to encourage the adoption of internet banking are features of website and perceived usefulness. Kassim, N. M., & Ramayah, T. (2015) identified the risk factors which influenced the intention to continue using intent banking in Malaysisa. The outcome

showed that social risk, time loss risk, opportunity cost risk and perceived usefulness are significant factors towards intention to use internet banking, The perceived usefulness of an application system can influence users' decisions about how they should use it. For instance, if the system is perceived as useful, people tend to use it. The concept of policies for Indian citizens and the way to manage risks states that the beurocrats has a prominent place in the management of risk. At times of crisis, the government can take on the role of a manager. Aslam, W., Ham, M et.al., (2017) investigated the factors which affected the Thai commercial bank user's behavioral intention towards QR code payment system via mobile banking applications. The factors used in the study were compatibility attitude, adoption readiness, personal innovativeness, perceived risk and perceived trust. Bauer, R. A. (1960) utilized the Technology Acceptance Model and combined it with the perceived risk theory analysing the association among perceived network externalities and new product purchase intention. Hampshire, C. (2017) explored that perceived risk had a negative impact on perceived usefulness.and perceived usefulness had a positive impact on UK consumer attitude . Gupta, S.; Kim(2010) identified the perceived price and perceived risk which are antecedents of value and explained in what manner the antecedents affect online purchase decision.

Therefore the hypothesis can be formulated as

H1: Perceived risk have affirmative influence on government support for e-wallets

H2: Perceived risk have affirmative influence on perceived usefulness of e-wallets

H3: Perceived risk have affirmative influence on intention to use e-wallets.

3.3Provisions granted from governance for E-wallet transactions:

Baker(2009) have outlined the applications to the financial sector by bringing in reforms to the market-failure approach. Guidelines for the designing of a novel regulatory system, was provided thereby it can be a turn on to avoid such failures to happen in the down line. To help shape the post-Covid era, banks have come up with various initiatives that will encourage digital payments adoption. The government has provided immediate financial assistance to consumers through Direct Bank Transfer . As a part of its efforts to boost customer confidence, NPCI has also launched various initiatives such as online onboarding for both UPI and QR. The payment processing industry will be encouraged to improve its infrastructure and capacity. This will help minimize processing costs and increase customer satisfaction. Hendy Mustiko Aji et.al., (2020) investigated the differentiation between Indonesia and Malaysia in e wallet usage and identified the difference in the influence of government support on the adoption of e-wallets among the countries. The government's support for e-wallets have impact towards the consumers' perception on the usefulness of e-wallet system. Haderi, S. M. (2014) has proved the efficacy of novel technology antecedents in the government sector. It has magnificently came out with the outcome that organization culture, government support, subjective norm are significant antecedents which influence the acceptance and usage of technology.

Hence **the hypothesis :**

H4 : Government support for usage of e-wallets has affirmative influence on perceived usefulness of e-wallets.

H4 a: Government support has affirmative influence on intention to use e-wallets

H4 b: Perceived usefulness mediates the effect of government support on intention to use e-wallets

3.5 Perceived Usefulness and Intention to use E-wallet system

1989 was the year when Davis developed the concept of technology acceptance model. This model helped in predicting the intended use of various technology. Perceived usefulness is a concept that states that an individual's belief in the capabilities of a particular system or technology will enhance their job performance. Amit Shankar & Biplab Datta, (2018) identified the antecedents of mobile payment (m-payment) usage intention through model based on technology acceptance model (TAM). The outcome proved the efficacy of perceived usefulness on m-payment adoption intention. This finding supports the notion that perception of usefulness is a significant antecedent of word processing user behavior. The perceived usefulness of e-wallets is related to the various features that the consumers desire and need to be fulfilled. And hence the hypothesis

H5 : Perceived usefulness has affirmative influence on intention to use e-wallets

4. Research Methods:

A technology can be successful only if it's potential users are ready to adopt it. The study is carried out using proportional sampling technique. The aim of the paper is to determine the relationship between the antecedents that are perceived as useful and unfavourable for e-wallet adoption. The instrument used in this study is a questionnaire that measures perceived risk and usefulness. Here an analysis on the perceived support from the government and from various agencies for promoting and improving electronic wallet system amid the Covid-19 crisis is being done.

Research Model :

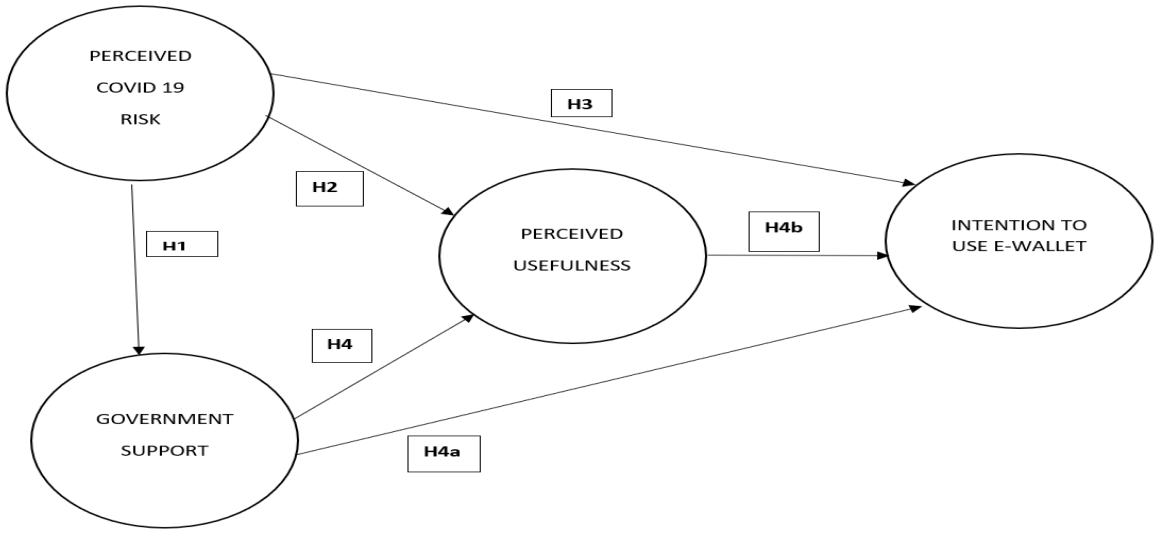

Figure 2 Research Model

4.1 Data collection and sampling technique:

This study aims to collect quantitative feedback about the usage of e-wallet system in Chennai. Based on the total infected cases caused due to Covid -19, Chennai is selected. Some of the e-wallets in India , are Amazon Pay, Google Pay, PhonePe, BHIM, and many more.

4.2 Items measurement:

Section A includes items such as gender, age, occupation, where as Section B consists of Likert Scale measurement questions which ranged from strongly disagree (1); to strongly agree (5) to assess the intention to use e-wallet system. It is assessed by questionnaire survey.

Demographic Analysis can be seen in Table 1.

Table 1		
Demographic Variables	**N**	**Percentage**
Gender		
Male	237	56
Female	187	44
Age		
18 -30 years	280	66
Less than 40 years	59	14
Less than 50 years	76	18
Less than 60 years	9	2
Occupation		
Educator	120	28
Entrepreneur	99	23
Government Employee	101	24
Private Employee	60	14
Student	44	10

Table 2.
Test for Convergence and construct reliability

Items	**Code**	**Loadings**	**CR**	**AVE**
I have concern that I would be infected with covid -19 while usage of cash	PR1	0.72	0.758	0.6288
My convenience in usage of cash amid the pandemic is nil	PR2	0.74		
My approach towards the usage of cash amid the pandemic is scary.	PR3	0.88		

I believe the taboo that there exists a presence of covid virus on cash.	PR4	0.74		
Amid COVID-19, usage of e-wallets is effectual.	PU1	0.87	0.938	0.728
Amid COVID-19 , usage of e-wallet is easy	PU2	0.84		
Amid COVID-19 , usage of e-wallet system can increase productivity	PU3	0.84		
Amid COVID-19 , e-wallet system are useful for my jobs	PU4	0.72		
Amid COVID-19, the government encourages payment transaction using e-wallet system	GS1	0.75	0.754	0.632
Amid COVID-19 , the government ensures e-wallet systems server facilities	GS2	0.83		
Amid COVID-19, the government encourages payment innovation via mobile	GS3	0.89		
Amid COVID-19 , I found the stringent controllance from governance over e-wallet system operations	GS4	0.73		
I will use mobile for payment transactions during COVID-19.	INT 1	0.74	0.823	0.634
I prefer using mobile payment transactions amid COVID-19 .	INT2	0.84		
I plan to use e-wallet system for transactions in the down line	INT3	0.76		

4.3 Results:

Respondents demographics :

The data was collected from 424 users of e-wallets from Chennai between 1st December 2020 and 28th February 2021. According to the data collected, male respondents (237 or 56%) , female (187 or 44%). And the age group between 18 and 30 (280 or 66 %), the age group between 31 and 40 (60 or 14%), and 41 – 50 (76 or 18 %) and in the 51-60 age group respondents (8 or 2 %).

Table 4
Descriptive Analysis

Variables	Mean	SD	Perceived risk	Government support	Perceived Usefulness	Intention to use E-wallet system
Perceived Risk	3.72	0.93	0.880			
Government Support	3.64	0.76	0.326	0.812		
Perceived Usefulness	3.99	0.78	0.432	0.616	0.843	

Intention to use E-wallet system	3.56	0.85	0.521	0.546	0.741	0.823

Note: **p-value< 0.01; *p-value< 0.05; ns=not significant.

** denotes the level of significance at 99% while * 95% significance level.

5.1 Measurement model test

Structural Equation Modelling (SEM) has been proved to be very effectual as direct and indirect effects can be tested (Huh et al., 2009).The AVE and factor loadings is used here to assess convergence, and discriminant validity is also assessed. In Table 4, it is depicted that all items have more than 0.70 with AVE score >0.50, CR score is >0.70, and hence the reliability of the constructs are met Hair et al., 2014 .

5.2. Structural model test—hypothesis testing:

Table 5: Over all effects

Path	Proposed Research Model		Conclusion
	Direct	Indirect	
Perceived risk -> Government support	0.60**	-	H1 is accepted
Perceived risk -> Perceived usefulness	0.88**	-	H2 is accepted
Government support -> Perceived usefulness	0.59**	-	H3 is accepted
Government support -> Intention to use e-wallet system	0.10 ns		H3a is rejected
Government support -> Perceived usefulness -> Intention to use e-wallet system		0.41	H3b is accepted
Perceived risk -> Intention to use e-wallet system	0.18 **		H4a is accepted
Perceived risk -> Perceived usefulness -> Intention to use e-wallet system		0.35**	H4b is accepted
Perceived usefulness -> Intention to use e-wallet system	0.41**	-	H5 is accepted

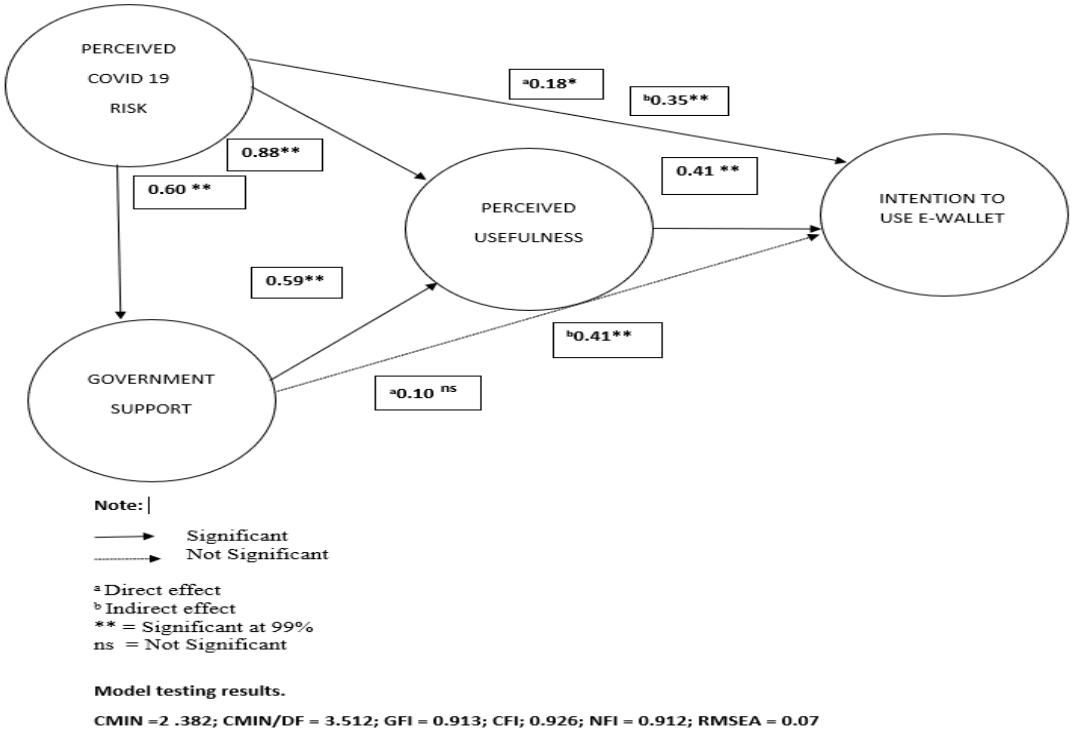

Figure : 3 . Structural model test

Note: **p-value< 0.01; *p-value< 0.05; ns=not significant.

** denotes 99% of significance while * denotes 95% significance .

Table 5 results depicts that there is effect of perceived risk on government support since the β = 0.60, significant at p-value < 0.01) and H3b (β indirect effect = 0.41, p-value < 0.01) . This states a partial mediation among perceived risk-perceived usefulness-intention to use e-wallet system. H3a reflects the impact of government support on intention to use e-wallet system is not supported (β direct effect = 0.10, p > 0.05). H3b states the mediator perceived usefulness on government support-intention to use e-wallet system is supported (β indirect effect = 0.41, p-value < 0.01). Hence the mediator role of perceived usefulness is asserted. So government support on intention to use e-wallet system can be elucidated by the perceived usefulness of e-wallet system. The influence of perceived usefulness on intention to use e-wallet system also have significance. CMIN/ DF = 2.382 (p < 0.01), CFI = 0.92, GFI = 0.91, NFI = 0.91, RMSEA = 0.07. Hence the model is fit Hair et al., 2014.

5. Discussion:

The results show that Covid-19 outbreak has made customers worried about getting infected by the virus that can be possibly transmitted through physical money. As mentioned, The droplets containing coronavirus might easily land on inanimate objects (Ather et al., 2020). Based on this possibility, the WHO advised and encouraged the use of digital payment when possible (Brown, 2020). In this study context, perceived risk of COVID-19 significantly affects customers' intention to use e-wallet system. However, the government exists to support people (Sani & Hara, 2007). Another interesting finding revealed that the insignificant effect of government support on the intention to use e-wallets is fully explained by perceived usefulness. The support from the government without the perception of benefit does not trigger them to use e-wallet system. Thus, this finding provides the input for any other governments to strengthen support for the people as well as focusing on measurable benefits, so that the people may directly feel it. It is useful for encouraging them to use e-wallet system, and hopefully stopping the transmission of novel coronavirus. The Indian Government have regulated the Large-Scale Social Restriction (PSBB). It restricts the people from having a crowd. But still many people do not adhere to the regulations and so they refuse to stay at home and used to go out (live mint.com). This may be the cause for the effect of government support on the intention to use to e-wallets is not significant.

6. Conclusion :

The pandemic, covid-19 had caused a grim situation, which has lead the Nation to lock down. As the scenario is of grave impact, circumstances have forced to bring Standard operating protocol and it has called for social distancing norms . This led to the robust usage of e-wallet system , even though it was prevalent, severe surge aroused due to the pandemic. World Health Organization (WHO) has imposed physical distancing policy and the consumers could do contactless payments with ease. As the pandemic has escalated, government authorities in various countries have made their citizens know about the significance of contactless payments. The citizens of all countries have the fear in them that the physical money can also be the carrier of the Novel Corona virus. This has caused a turn on for the people to shift to e-wallet system. This research paper asserted that COVID-19 may intensify customers' intention to use e-wallet system. Added to the results the study puts forth the recommendations before the researchers and the stakeholders on analysing the behaviour of users towards the usage of e-wallet system during the pandemic. As the result states that users having an intentional usage towards e-wallet , the users can be provided with awareness about secured transactions as well and the benefits provided to them.

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