Consumer Intention To Use Mobile Payment Post COVID 19: An Empirical Study In Bangalore

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Abstract

Restrictions imposed and protocols followed during COVID 19 has made people to adapt to "New normal" way of life. When there was a risk of the covid-19 virus spreading through cash and card transactions, many Indians opted for contactless payments. It was made possible by usage smart cards and mobile payment apps. Marketers and consumers realized that few habits followed during pandemic are not transitory. This study intends to develop an integrated framework based on the Unified Theory of Acceptance and Use of Technology to assess the user intention to the use of mobile payment in Bangalore post COVID-19 pandemic. The conceptual model was proposed and empirically justified using structural equation modelling based on a survey of 387 samples from Bangalore. Perceived Trust, Performance Expectancy, Effort Expectancy, Social influence, facilitating conditions and perceived enjoyment are found to have notable positive association with the Consumer intent for using of mobile payment technologies post pandemic. The findings contribute to the addition of new perspectives to the literature and provide insights for digital payment service providers to prioritise building consumer trust and making their services clear, understandable and simple to use.

Keywords: Contactless payment, Unified Theory of Acceptance, Use of Technology, cashless transaction, mobile payment.

DOI Number: 10.14704/NQ.2022.20.13.NQ88066 **Neuro Quantology 2022; 20(13):486-493**

1. Introduction:

According to Netscribes January 2020 report, E-payment Solutions Market in India 2020 (Part-I). The Indian digital payments market was valued at INR1,637.49 trillion in FY 2020 and is expected to reach INR4,323.62 trillion by FY 2024, growing at a compound annual growth rate (CAGR) of 23% between FY 2020 and FY 2024. Innovation in technology have boosted the industry. In the last decade, the country has witnessed many unique and cutting-edge product innovations in the digital payment industry. Younger population of the country is more adept with mobile phones which surged the faster adoption of digital payments. 24x7 accessibility and availability of services, instant payment, seamless transactions are major drivers for the development of mobile payment ecosystem in India than 25 other countries, including the Japan, China and UK (Digital Payment Industry in India, IBEF, January 2019). Government of India COVID 19 protocols on safety and preventive measures has also boosted digitization of banking and financial services. Consumers preferred digital transactions as it was seamless, instant and safe (Aji et al., 2020). FinTech has been gaining significant attention over the globe, amid digitalization and the growing need for faster transactions. India has the highest fintech adoption rate of 87% in the world (IBEF, 2020). Unified Payment Interface (UPI) of The National Payments Corporation of India's (NPCI) was the most used and sought-after platform for mobile payment, clocking upto 452.78 crore transactions worth Rs. 8.29 lakh crore (US$

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Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any: commercial or financial relationships that could be construed as a potential conflict of interest.
Received: **Accepted:**

108.23 billion) through the February end (IBEF, March 24, 2022). Bharat Interface for Money-Unified Payments Interface (BHIM-UPI), Immediate Payment Service (IMPS), pre-paid payment instruments (PPIs), and the National Electronic Toll Collection (NETC) system were the Digital payment modes which have grown multifold and the digital payment ecosystem has been transformed.

A digital payment is a monetary transaction made using a portable electronic device such as a cell phone through a mobile application to transfer money or to purchase a product or service. The payment app requires users to create a profile, which is then linked to their bank accounts. Many like Google pay, Phone pay, Paytm, Amazon pay are the most used digital payment apps in India in 2022 (Statista,2022).

Inline with the above discussion, this research study aims to assess the consumer intent to make payment through mobile phones post pandemic. The findings of this study will contribute to the literature and provide pertinent information for the digital payment companies to develop appropriate strategies to persuade users to continue using mobile payments apps.

2. Literature review:

Unified Theory of Acceptance and Use of Technology (UTAUT):

Venkatesh et.al (2003) developed Unified Theory of Acceptance and Use of Technology (UTAUT) model that discusses attributes like performance expectancy, effort expectancy, social influence and facilitating conditions on behavioural intention of using new technology and user behaviour. UTAT has been widely used model to discuss various technology adoption context (Bacao & Zhao, 2021). Many additional variables have been added to UTAT model illustrate user intention (Cao & Niu, 2019). Prior studies by Khalilzadeh et al,(2017) included trust and security attributes, which significantly affects the users to adopt contactless payment at restaurants. Marinković et al. (2020) added Perceived trust and Satisfaction to UTAT model when the model was used to asses Consumer behavior intention of using e commerce. There are also studies integrating UTAT model and Health belief model discussing consumer's perception about using contactless payment as health protective measure (Nguyen,2021). It would interesting to assess the attributes that influences the users to continue preferring contactless payments post COVID 19 pandemic.

3.Hypothesis Formulation:

3.1 Performance Expectancy (PE):

Performance expectancy is found to be the prime factor of the Unified Theory of Acceptance and Use of Technology model. Venkatesh et al., (2012) describes speed, accuracy and system efficiency in task completion are the major determinants of performance. During pandemic due to government protocols, users started using digital payments for daily routine (Economic times, 2019), eventually due to established infrastructure by fintech tech companies, digital transactions were more accurate and payment was settled immediately (Statista 2022). Users developed optimistic attitude towards mobile payments as it was seamless compared to cash/ credit transactions (Arvidsson, 2014). Therefore, user's inclination towards usage of mobile payments due to accuracy is evident. Hence, we hypothesize that:

H1: Performance expectancy positively influences the consumer's behavioural intent to use mobile payment service post pandemic

3.2 Effort Expectancy:

According to UTAUT, Venkatesh et al., (2003) explains effort expectancy is defined as "the degree of ease related to system use". Effort expectancy has a greater impact on users' behavioural intention to adopt mobile payment than performance expectancy (De Luna et al., (2019), Pal et al., (2015). Due to faster adoption of digital payments In India, many companies have customised their user interface in regional language to increase user's ease of usability (IBEF 2020). Previous studies by De Luna et al., (2019); Alalwan et al., (2017) have depicted the positive associated between effort expectancy and performance expectancy in various technology adoption scenarios. Thus the following hypothesis is proposed:

H2: Effort expectancy has positive association with the Consumer's behavioural intention to use mobile payment service post pandemic

3.3 Perceived Enjoyment:

While Performance expectancy, effort expectancy are considered to be extrinsic motivation, perceived enjoyment is considered as intrinsic in nature. Intrinsic motivation is described as "doing something which is interesting and

enjoyable" (Ryan and Deci, 2000). Besides performance outcome from a technology use, perceived enjoyment is defined as the degree to which the consumer enjoys and have fun and pleasure in using the specific technology (Venkatesh et al., 2002). Furthermore the earlier literature suggests that rewards associated with use of technology motivates consumers to use it (Parasuraman, Igbaria, & Baroudi, 1996)

In line with earlier literature, it is suggested that Perceived enjoyment can serve as a precursor of effort and performance expectancy, implying that technology which is interesting and enjoyable is also easier to use and more useful (Venkatesh et al., 2012; Van Der Heijden, 2004; Agarwal & Karahanna, 2000). So the following are the hypotheses:

H3: Perceived enjoyment positively influence the Consumer's behavioural intent to use mobile payment service post pandemic

3.4 Perceived Trust:

According to Dahlberg et al., 2003, Perceived trust is an extent to which user believes that specific technology is safe and secure. Numerous qualitative study suggests that consumers trust in service providers greatly influences their intention to use mobile payments services (Arvidsson, 2014; Linck, Pousttchi, & Wiedemann, 2006). Recent report of NPCI 2020, states that consumers are willing to adopt new services provide by reliable operators, Brand name, trust and reliability matters most for a consumer when they decide to use a particular mobile payment service (Mallat, Rossi, Tuunainen, & örni, 2008; Zhou, 2013).

Availability of 24x7 customer service, self help sections like FAQ (Frequently Asked Questions), User manual in app, instant problem solving, quick updates amount transaction and bank updates makes consumer trust the service provider (Economic Times, September 2022). It strongly influences the user intentions to use their mobile payment services. Hence we hypothesize that:

H4: Perceived trust has significant positive association with Consumer's behavioural intention to use mobile payment service post pandemic

3.5 Social Influence:

Ajzen (1991) describes social influence as pressure from peers and immediate society to exhibit a specific behaviour. Generally stronger the social influence results in stronger urge to engage in the behaviour (Ajzen, 1991). Mallat et al. (2008) postulates that social pressure, that is pressure from family, friends, colleagues play a critical role in influencing adoption of mobile payment services. Moore and Benbasat (1991) adds another perspective for social influence, it is defined as the extent to which use of new technology, elevates the perception about one's image and system in a social set up. Hence the following hypothesis is proposed:

H5: Social influence positively affects the Consumer's behavioural intention to use mobile payment service post pandemic

3.6 Facilitating conditions:

Thompson et al (1991) states that facilitating conditions are those attributes that facilitates user guidance to use the specific technology. Any new degree of innovation in technology should be congenial with all features, aspects, convenience and provide better experience and technical support (Moore & Benbasaat, 1991). Availability and nonavailability of resources and opportunities that aids in ease or hinder the user intention. Thus, it shows level of difficulty involved in performing an action (Ajzen & Madden, 1986). Consumers in all probability is likely to engage in a behaviour if they believe they have adequate resources and opportunities. Mobile payment services require mobile devices, wireless network and skill to understand technology. Hence facilitating conditions are the key element in influencing user intention. Thus we hypothesize that :

H6: Facilitating conditions positively influence the behavioural intention to use mobile payment service post pandemic.

3.7 Behaviour Intention

Attitude can be described as one's feeling towards use of technology about its adoption and continued usage (Taylor and Todd 1995a, 1995b; Davis et al. 1989; Fishbein and Ajzen 1975), Venkatesh et.al (2003) postulates the significance of positive attitude affecting user intention. Consumer's attitude towards technology and belief about benefits of technology are the two prime components that determine an user attitude (Kim, D.J. et.al

(2001); Brock, D.B et.al (1991); Tornatzky, L.G et.al (1982)). From the above discussions, it is evident that consumer attitude towards technology affects their intention to use. Hence we hypothesize that:

H7: Behavior intention positively affects the consumer behavioural intent to use mobile payment service post pandemic

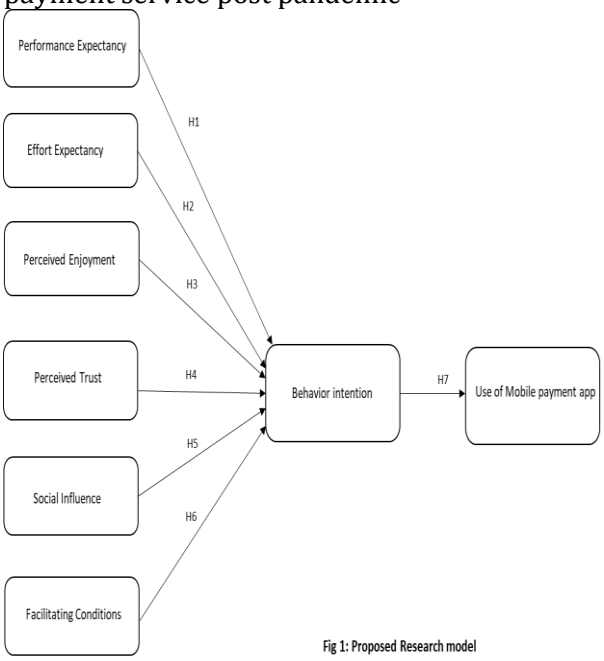

Fig 1: Proposed Research model

4. Research Methodology:

Structural Equation modelling is used to assess the proposed conceptual model. Web survey was conducted with the help of a structured non-disguised questionnaire. Responses were collected from mobile payment users in Bangalore, India post pandemic, after the government had completely lifted lockdown and relaxed covid protocols. A total of 29 items for questions were extracted from previous literature review with modifications suitable for the context of this study. 4 items each were measured for performance expectancy and effort expectancy, Perceived enjoyment, perceived trust was measured using 3 items each, social influence was measured using 6 items, facilitating conditions were measured using 4 items and behavioral intention was measured using 5 items. Five point Likert scale ranging from 1 – "Strongly disagree" to 5- "strongly agree" were used. Total of 427 online questionnaire were shared, out of which rejecting the incomplete questionnaire, total of 387 questionnaires were considered for analysis for this study.

4.1 Measurement model:

Factor loadings, construct reliability, internal consistency, convergent validity, and discriminant validity were performed to confirm the measurement model of this study, the results are tabulated in Table 1 & 2. Internal consistency was tested using Cronbach's alpha test. As per the rule Cronbach alpha value greater than 0.7 indicates strong reliability. The average variance extracts (AVE) for each construct is more than 0.5. The square root of the Average Variance Extract should be larger than the square of correlation among the constructs and the remaining constructs, this condition is true for all the variables considered and shown in Table 1.

Table 1: Measurement Model

Factors	Item	Loading factor	Composite Reliability	Cronbach's Alpha	AVE
Performance Expectancy	4	0.8055 - 0.8633	0.824	0.714	0.681
Effort Expectancy	4	0.7051 - 0.7634	0.806	0.762	0.603
Perceived Enjoyment	3	0.8127 - 0.8305	0.832	0.755	0.627
Perceived Trust	3	0.7124 - 0.7426	0.814	0.798	0.533
Social Influence	6	0.7253 - 0.7233	0.721	0.736	0.567
Facilitating Conditions	4	0.8325 - 0.8438	0.833	0.813	0.542
Behavioural Intention to Use	5	0.8013 - 0.8639	0.844	0.834	0.568

Table 2: Discriminant Analysis

Item	PE	EE	PEN	PT	SF	FC	BI
PE	0.825						
EE	0.138	0.708					
PEN	0.112	0.045	0.754				
PT	0.152	0.124	0.523	0.736			
SF	0.322	0.301	0.414	0.564	0.822		
FC	0.257	0.384	0.623	0.376	0.122	0.778	
BI	0.152	0.273	0.365	0.792	0.182	0.307	0.843

4.2 Structural Equation model:

Structural model is examined by assessing path coefficient. Path coefficients indicates the degree of association between dependent and independent variables and path coefficients are estimated (Chin et al. 2003). The path coefficient result can be accepted, if the value of β is > 0.2, if the β value >0.3, path coefficient result is desirable (Chin ,1999).Table 3 shows the standardized path coefficients of the relationship between performance expectancy, effort expectancy, perceived enjoyment, perceived trust, social influence, facilitating conditions and behavioural intentions. Results of Structural equation model (SEM) shows that model was fit and thus t-test was used to test the hypotheses.

Table 3: Model's Path Coefficient

Hypothesis	Paths	Path Coefficient (β)	t Value	Result
H1	PE → BI	0.091	4.12	Supported
H2	EE → BI	0.154	3.43	Supported
H3	PEN → BI	0.134	3.25	Supported
H4	PT → BI	0.208	6.67	Supported
H5	SF → BI	0.382	2.17	Supported
H6	FC → BI	0.176	2.72	Supported
H7	BI → UMP	0.121	4.46	Supported

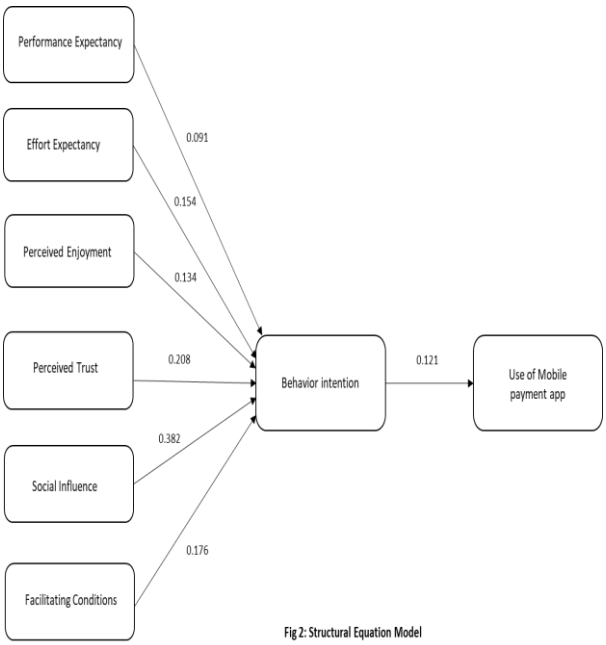

Fig 2: Structural Equation Model

5. Conclusion:

This study discusses the attributes that influences the consumer's intention to use mobile payment apps for financial transaction. Performance expectancy, effort Expectancy, perceived trust, ease of use, perceived enjoyment and facilitating conditions are found to significantly influence the user intention to use mobile payment app. QR codes introduced by PayTm, now adapted by most of the fintech companies are the game changer driving mass people to adapt mobile payment, due to its low cost set up and payment convenience. Fintech companies providing various utility services like bill payments, recharges, money transfer, travel, entertainment in single app provides user better and hassle free experience (KPMG, 2019). To further enhance the usage of mobile payment apps, service providers can still improvise security, increase privacy from data breach, reduce transaction error (KPMG 2019). The shift in consumer behaviour towards payment transformation has brought sea change in financial service sector. Though government of India was promoting cashless economy, the amalgamation of smartphones, financial services and mainly the unprecedent COVID pandemic has sky rocketed the digital transactions leap and bounds. Consumers are now accustomed to this new mode of payment facility because of its convenience and other added advantages. This trend will seemingly stay in for longer period and more advancements can be expected in technology, mobile app payment and in user behaviour.

Limitations and future scope:

This study is limited to Bangalore, it can be extended to other parts of India. Further study can be conducted to assess intention and actual use of mobile app for payment transaction with demographic factors like age gender, education qualification, occupation, income as moderating factors. Voice enabled mobile services for rural consumers and last mile consumers and their usage intention mobile payment transactions can be analysed. This study would provide more interesting insights and might provide different perspectives to the researchers and mobile service providers. This would be rich addition to literature review for fintech companies and mobile service app providers.

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