The Role of Mobile Payment Apps in Inclusive Financial Growth

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Abstract

In the age of technology, the usage of mobile payment apps is playing a significant role in financially strengthening urban areas. This research aims to identify the enablers affecting the use of mobile technology by the urban poor households in Pune, Maharashtra, India, and to identify the user behaviour in technology adaptation.

The published literature was thoroughly reviewed with respect to mobile payment, financial technology, and financial inclusion. The data was collected through a field survey. Simultaneously, a structural equation model is developed using Amos software, and SPSS is used to perform factor analysis. The theoretical framework is based on the Unified theory of acceptance and the use of technology (UTAUT-2) Model.

The enablers are Performance Expectancy (P.E.), Economic Benefit (E.B.), Convenience, Technical conditions (T.C.), Hedonic motivation (H.M.), and Behavioural intention (B.I.), Social influence (S.I.) are impacting the use of mobile apps related to finance under the mediating effect of behavioral intention, thereby supporting financial inclusion. Gender, education, occupation, and income are the control variables. Men are more frequent users of mobile payment apps.

This study is unique in the context of urban poor households regarding the use of m-payment app and to understand their behavior and actual usage pattern. The current study also has some implications for the banking and mobile technology industry. They may start new strategies for mobile industries, and certain factors such as security, convenience, and technical conditions can influence customer intention of using m-payment apps; hence, it needs proper consideration. Simultaneously, banks and technology industries must verify their privacy norms and make it easy for customers to use technology.

***JEL classification**:* G21

Keywords: Mobile Payment App, Urban Poor Households, Structural Equation Modeling, Unified Theory of Acceptance, Use of Technology (UTAUT-2)

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Introduction

Banking is considered the backbone of the Indian financial system. The number of smartphone users is increasing with the increased use of technology. Today, digital payments have taken the place of cash payments, which have been further aggravated due to demonetization that has led to a cash crunch in the economy. Most payments in the new normal are made through internet banking, mobile wallet, and mobile money. The use of mobile payment apps has been rapidly increasing in countries like China, Kenya, and Bangladesh. These countries have used electronic money transfer that contributes toward minimizing the cost of saving and payment service to the poor (Banerjee and Duflo, 2011). Financial technology solutions have a strong role to play in the attainment of Sustainable Development Goal 8 (SDG 8): Decent Work and Economic Growth and Goal 10 (SDG10): Reduced Inequality. Pandey et al. (2022) recently found that digitization, technology, and its usability can drive sustainable growth mediating through financial literacy. Mhlanga (2022) has found that financial inclusion through fintech solutions can drive climate change in the context of Industry 4.0

Lashitew et al. (2019) stated that Mobile payment contributes to financial inclusion. Some of the studies have identified that Mobile payment supports users in using transactions conveniently, thereby minimising the need to carry coins, Paper notes and bank notes (Hu, et al., 2008). Liebana-Cabanillas et al. (2019) explain that the use of mobile payment not only reduces the need to carry cash but also saves people from standing in long queues in ATMs.

JOMOPAY is defined as "a payment method using electronic money, whether by the customers using his account at a bank or by opening an e-wallet account in the company" (The Central bank of Jordan). In Jordan, mobile payment is referred to as Jordan mobile payment (JOMOPAY), which provides financial services to rural people who do not have access assess to bank accounts.

Mobile payment is an application that works on a smartphone, a tablet, or another mobile device. Consumers may purchase products, goods, and services with the help of mobile phones (smartphones/tablets).

Mobile payment is made using different apps, which are platforms such as Google pay and Apple pay, for making payments to individuals or businessmen. These apps act as an intermediary between a bank account and a credit/debit card. Huang (2017) discussed Micropayment, which refers to the small fund payment via the internet. Micropayment includes a transaction amount of less than 10 U.S. dollars. Yen et al. (2014) revealed that the micropayment method includes a large amount of a dozen U.S. dollars. Security is a key differentiation between micro and macro payment methods.

Mobile payment usage contributes to employment opportunities through the setting up of new ventures in the context of developing nations (GSMA, 2016). Some reports show mobile phone usage in the context of developed countries (Statistica, 2018). Owing to less availability of cash, the use of payment apps has spread rapidly along with the use of credit cards and cheques that contribute to a Cashless society (Makina, 2017). Mobile money services have enhanced financial inclusion in sub–Saharan Africa. Approximately 21% of adults hold mobile payment accounts in most countries across the world (Demirguc-Kunt et al., 2017).

Defining financial inclusion is a situation where an individual has suitable access to goods and services like savings, credit and insurance.

The Definition of Financial Inclusion by the Rangarajan Committee is "the process of ensuring access to financial services providing timely and adequate credit required by venerable groups such as weaker sections and low-income groups at an affordable cost" (Bhaskar,2013).

The study will examine the factors impacting the use of mobile payment in urban poor households. Simultaneously, the study tries to explore the intention of urban poor households to use mobile payment apps and identify the relationship with financial inclusion. The objective is to understand the direct and indirect relationship among constructs and behavioral intention behind the usage of mobile payment apps. This study has done an analysis of the usage of mobile payment apps through urban poor households in Pune, Maharashtra. This current research is based on UTAUT-2 model, which is a model for the user's acceptance of technology. There is a primary need to identify the usage pattern and user behaviour of mobile technology.

The study consists of the following sections. The second section discusses the literature on mobile payment. Subsequently, in the third section, a theoretical framework based on UTAUT-2 is presented, following the discussion on the research methodology section in the fourth section. The fifth section deals with data analysis and the results, followed by discussion and implications. The seventh section concludes the study along with a discussion on limitations and future recommendations.

The following are the research question of this study:

Q1. What is the percentage of urban poor using mobile payment apps?

Q2. Is the usage of mobile payment apps contributing to financial inclusion?

Q3. How many urban poor households have smartphone access or not?

Literature review

Tamilselvi and Balaji (2019) conducted an empirical study to understand the behavior of the customer in the usage of mobile money and to explore the factors affecting behavioral intention. The results indicated that banks should make efforts for digital awareness, and customers should engage in installing apps such as Phonepay, Bhim, etc. Bhuvana and Vasantha (2017) discussed the relationship between the factors and behavioral intentions of rural people regarding the adoption of mobile banking. The current research is built on the Unified theory of acceptance and the use of the technology model (UTAUT-2). The variables explaining behavioral intention are perceived ease of use, perceived risk, trust and perceived usefulness while adopting mobile banking. Chen et al. (2022) explained barriers related to traditional image, risk and value to check the antecedents of mobile ticketing application usage. The result showed that intention ticketing express applications are negatively affected owing to innovation resistance theory.

Hassan and Shukur (2021) included the design of e-wallet apps and the functioning of security considered a key element of e-wallets. Reaves et al. (2017) analyzed 46 android mobile money apps across 246 mobile money providers from the year 2015 and observed that apps failed to provide security to financial services. Arslan et al. (2021) found a significant contribution of mobile money in reducing uncertainty in businesses. Financial technology helps in increasing the social value of the base of pyramid entrepreneurs. Madwanna et al. (2021) discussed the functioning of UPI and the prevailing security loophole in Bhim 1.0 App.

Akanfe et al. (2020) examined the privacy policy of a mobile wallet and remittance apps. This study used multivariate analysis to develop a digital financial score.

Digital payment is an important part of the financial system (World bank report,2017a). A Mobile wallet and remittance help in decreasing transaction costs and are considered an important part of the digital payment system (UNSGSA 2017; WBG 2017a).

A mobile wallet and remittance system allows customers to share information and payment transactions efficiently. Unified Payment Interface (UPI), and bank transfers are examples of the Mobile payment system (MPS). A Mobile Wallet and remittance system can be installed easily on a mobile phone. It helps in transferring money on a mobile wallet and can be registered using details and email addresses. Ly et al. (2022) analyzed the usage of mobile wallets and their determinants in Vietnam during Covid-19 using PLS-SEM to examine the conceptual Model based on UTAUT-2. The constructs considered in the study are Behavioural intention, Continuance usage, trust, and price-saving orientation.

Theoretical framework and hypothesis formation

This study focuses on the factors impacting the use of mobile payment and examines the Behavioural intention (B.I.) of urban poor households for the use of mobile payment apps. Before reviewing the UTAUT-2, it is a requirement to study UTAUT theoretical background. Theoretical models such as the Theory of planned behavior (TPB), Innovation diffusion theory (IDT), Theory of reasoned action (TRA), Social cognitive theory (SCT), and Technology acceptance model (TAM) are the most effective instruments for examining the use of technology and behavioural intentions of individuals. The earlier UTAUT model has four fundamental constructs social influence (S.I.), Effort expectancy (E.E.) Facilitating condition (F.C.) and Performance expectancy (P.E.). Venkatesh et al (2012) upgraded the Model UTAUT to UTAUT-2 with the inclusion of three constructs, i.e., Hedonic motivation (H.M.), Habit and Price value (P.V.). Finally, these constructs formed the new Model for UTAUT2.

Control variables

The Unified theory of acceptance and Use of technology (Venkatesh et al., 2012) considers age, gender, and occupation as control variables that influence users' acceptance nature of technology. Prior studies (Haselhuhn, 2015) have identified gender differences in e-commerce risk, trust and perception. Clemes (2014) stated that a higher income for consumers motivates them to use technology rather than a lower-income level. Vasudeva and Chawla (2019) defined gender as a moderating variable while using the mobile application. Age has been considered as one of the moderating variables in using the mobile application (Chawla & Joshi, 2018). With change in age, consumer needs and tastes change (Trabelsi-Zoghlami et al., 2020). Venkatesh et al. (2003) as well as Gefen and Straub (1997) examine the role of gender on other person perception and attitude. Jayawardhana et al. (2009) recognised the difference in views among males and females during acceptance of newer technology. Belanger et al. (2004) and Hsbollah (2009) have found no impact of gender on technology acceptance. Laukkanen and Pasanen (2008) defined the importance of age and gender and showed that a young consumer is more inclined toward using the latest technology. Control variables such as age, gender and education etc., influence technological inventions and the adoption of technology (Porter & Donthu, 2006).

H1(a): Gender has a positive impact on risk.

H1(b): The impact of gender on behavioral intention with the mediating effect of risk.

H2(a): Education has a positive impact on risk.

H2(b): The impact of education on behavioral intention with the mediating effect of risk.

H3(a): Occupation positively impacts risk.

H3(b): Occupation positively impacts behavioral intention with the mediating effect of risk.

H4(a): Income positively impacts risk.

H4(b): Income positively impacts behavioral intention with the mediating effect of risk

Enabler

Performance expectancy (P.E.), economic benefit (E.B.), convenience, social influence, technical condition, and hedonic motivation are the enablers. These are considered as enablers that help in using of mobile payment apps and increase the usage through urban poor households. These are based on a conceptual model of UTAUT2 and identified literature.

Performance expectancy

Performance expectancy (P.E.) is the most important determinant in using technology Venkatesh et al. (2003). P.E. "is a belief and perception regarding usage of a particular technology will enhance the performance of a customer (Venkatesh et al;2003,2012). Earlier studies show that P.E. positively influences B.I. while adopting technology (Putri, 2018; Venkatesh et al;2003,2012). It is important to find out the perception behind using mobile technology. Chopdar et al. (2018) defined P.E. as a form of influence on people's behavioral intentions.

Economic benefit

Light (2013) suggested that if the consumer is satisfied with technology, use and services, they share the benefits with society. According to Dahlberg et al., (2007), consumers make use of a new technology repeatedly, in the case that they receive help, benefit, and satisfy their needs. The use of mobile technology is secure and time-saving. Consumers make transactions through online mode using smart phones, wherein technology is fulfilling their needs.

Convenience

Muzurura and Chigora (2019) stated that developing a nation's convenience may be an enabler, and it is an attempt to reduce travel time. According to the above study, convenience can be considered as one of the important enablers that initiate a consumer's adoption of mobile money. Convenience can be reported as a cause of using mobile payment by 45% of consumers (Federal Reserve Board,2016). Dass and Pal (2011) observed that mobile banking saves the time and effort of standing in long queues and travel costs. McMurtry and Downey (2012) stated that functionality and adequate availability of mobile banking could be a greater initiative toward the use of mobile banking technology. Mostly, consumers lack awareness regarding mobile banking technology (Shankar et al., 2020).

Social Influence

Social influence (S.I.) is the degree to which customers are affected through a response received in their social surroundings or through their relatives (Venkatesh et al;2003). The current study examines S.I. in the context of urban poor households in Pune and found that S.I. is an important element that affects the B.I. of urban poor households while using mobile payment apps. Ajzen (1991) stated that a person's decision to adopt technology depends on the belief and opinions of others. Venkatesh et al. (2012) focused on the fact that SI is a significant predictor in the original UTAUT model to examine the B.I. of consumers and later revalidated it in the revised UTAUT2 model. Al-Somali et al. (2009) explained the importance of S.I.; for instance, reference groups, subjective norms, and opinion leaders enhance the use of mobile technology and behavioral intentions.

Technical Conditions

Venkatesh et al. (2012) suggested that technical conditions (T.C.) consist of the availability of infrastructural and technical support for the intention of using technology. T.C. is a belief or

perception that the accessibility of resources will enhance their use of technology. The use of mobile banking apps needs skills and technical structures, for instance, knowledge of using mobile apps, the installation of apps, and security features (Baptista and Oliveira,2015). The UTAUT2 Model consists of both adoption and use behavior.

Hedonic motivation

Hedonic motivation (H.M.) is one added factor out of three in the extended UTAUT-2 Model. Venkatesh et al. (2012) highlighted that H.M. is a user's perception regarding technology use that will be entertaining, delightful, and attractive. An individual, upon deriving satisfaction from using technology, desires to use it again. Nevertheless, if people do not derive pleasure from using technology, they can avoid using technology. Perceived enjoyment can be considered as a hedonic motivation and is assumed to be a delight or entertainment from using a particular technology (Al-Okailyet al, 2020). For instance, during the time of coffee and tea breaks, users may prefer mobile channels and use internet facilities (Peters,2007). Perceived enjoyment positively impacts e-commerce (Pandey, 2020), and it is observed from prior research that the usage of mobile services has been perceived to be more interesting, enjoyable, and pleasant for urban poor households in Pune. Thus, it can be hypothesized that,

H5. Enablers positively impact the Behavioral intention.

H6. Enabler positively impacts the usage of m-finance.

H7. Information source has a positive impact on behavioral intention.

H8. Social influencers positively impact behavioral intention.

H9. Social influencers positively impact the use of m-finance.

H10. Information sources positively impact the use of m-finance.

*H11.*Social influencers impact the use of finance with the mediating effect of behavioral intention.

Risk

Security can be considered as a key aspect in the use of mobile transactions (Hartmann, 1999). Bestavros (2000) explained that online system customers do not share their information. Studies by Daniel (1999), Sathye (1999), as well as Chiou and Shen (2012), focus on the issue related to security and privacy, which are key to the use of mobile technology. Pavlou (2003) concluded that perceived risk is a perception of losing money in the use of technology. Abubakar et al. (2019) explained the risk involved in building the online mode of transactions. Liébana-Cabanillas et al. (2019) showed the impact of perceived risk on the usage of mobile payment apps (Chopdar et al., 2018), so it can be hypothesized that,

H12(a). Risk positively impacts the behavioral intention.

H12(b). Risk positively impacts the use of m-finance.

Behavioral Intention

Davis (1989) defined B.I. as the degree to which it helps customers in preparing a plan regarding their behavior to respond or not. Venkatesh et al. (2012) found a significant difference between behavioral intention and the actual use of technology. Ajzen (2002) considered B.I. as a probability regarding the user's involvement in behavior. Some studies (Chopdar et al,2018; Macedo,2017) show a positive relationship between B.I. and the actual use. Simultaneously, some previous studies (Tobbin & Kuwornu, 2011; Narteh et al., 2017;Upadhyay & Jahan-yan, 2016; Chauhan, 2015) have

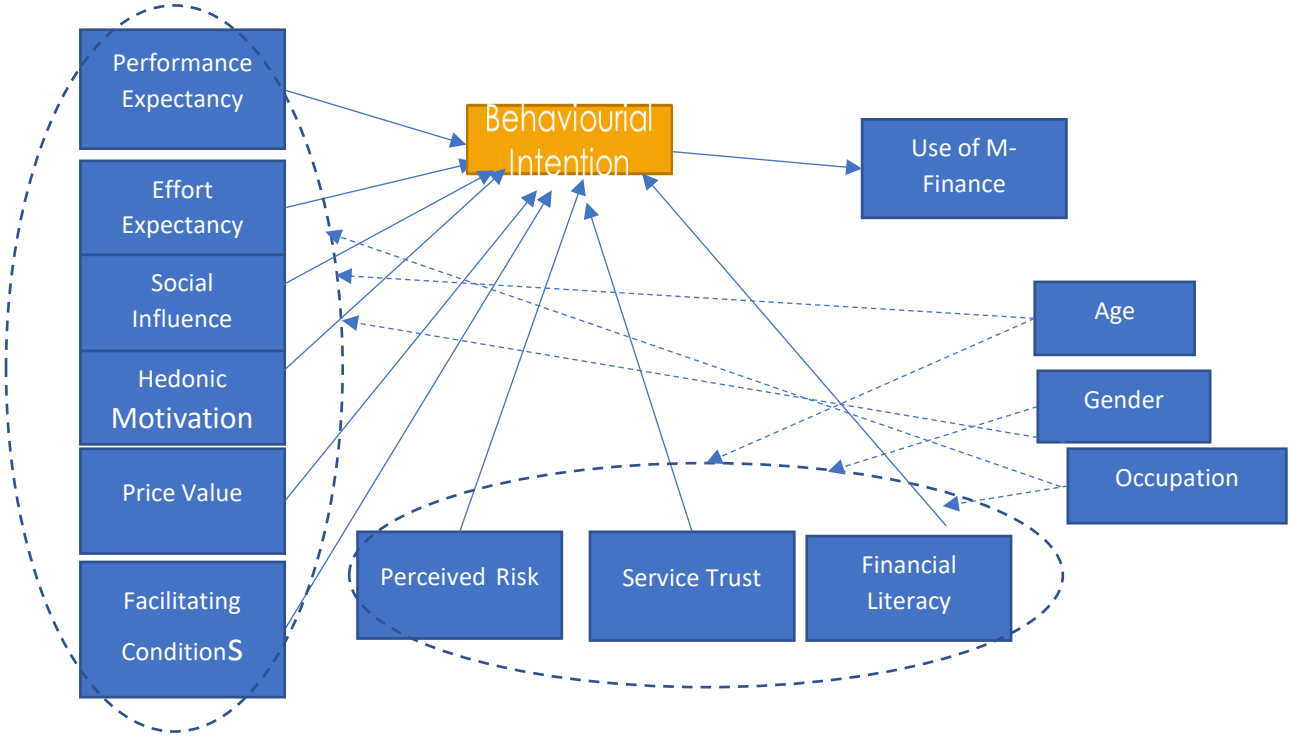
considered B.I. as the main outcome variable. Venkatesh et al. (2012) discussed about the difference between B.I. and the proper use of technology. Thus, there is a need to establish the relationship between B.I. and actual use. Depending on the theoretical advances so, it can be hypothesized that,

H13. B.I. positively impact the use of mobile finance.

This research is based on the UTAUT-2 Model, which is an extended form of the original model UTAUT. A theoretical framework is a tool for analyzing research work to demonstrate a broader picture. A theoretical framework records originality and makes it easy to use. Rafi et al. (2019a, 2019b) stated that a theoretical framework explains the theory behind investing in the problem. A theoretical framework has been adopted in this research based on the existing literature to conduct a quantitative study. It has helped in developing a reliable structural model. In UTAUT2, the control variables, for example, occupation, gender, education, and income, have been considered. Figure 1 below presents the conceptual Model. Some constructs have been added such as economic benefit (E.B.), convenience, and social influencer, to test the structural Model.

Figure:1 Conceptual Model based on UTAUT 2 (Unified theory of acceptance and use of technology)

Source: Venkatesh et al; (2012)



Research Methodology

Data collection

For conducting this research, a qualitative method has been adopted to test the proposed theoretical framework. After reviewing the existing papers, a comprehensive research instrument was developed to identify the usage of mobile financial technology in urban poor households. A structured survey questionnaire was developed that consisted of 36 questions as items under 11 constructs. We used a six-point Likert scale based on a survey questionnaire (1 strongly disagree to 6 strongly agree) for collecting data. The Likert scale helps in reducing the survey questionnaire length and makes it effective in terms of cost, which increases the interest of respondents (Bartikowski et al.,2010). The overall data was We collected data from 300 respondents belonging to the urban poor household of two clusters, Balewadi and Dapodi, of Pune. Out of 300, 210 were considered for final analysis. The questionnaire survey was developed in both Hindi and English language, but the Hindi questionnaire was administered in the field survey for easy understanding of the respondents from urban poor households. Convenience sampling was used to draw the sample from Balewadi and Dapodi areas, and the data was collected from Patil Wasti in Balewadi and Mahatma Phule Nagar in the Dapodi area. For this study, we collected data from 150 respondents from Balewadi and 160 respondents from Dapodi.

Data analysis & Results

A pilot study was primarily conducted after collecting data through a primary survey. A statistical package of social sciences is used for further analysis. The questionnaire was tested to check the reliability (Cronbach's alpha) value of the items. Further, KMO (Kaiser Meyer Olkin test) was conducted to check the sample adequacy. Simultaneously, the demographics were calculated, and IBM SPSS Amos was used to evaluate the regression weights and make the structural Model.

Table 1 shows that males constitute 59.5% of the population, and the rest are females. About 25.7% of urban poor households were illiterate, and 28.4% of respondents had some secondary education. Simultaneously, in the context of occupation, respondents with paid employment were the highest (86.7%), self-employed respondents constituted 7.6%, respondents searching for work was 1%, respondents looking after their home was 1.4%, and others constituted 3.3%. In the case of income, 69% earned more than Rs. 8500, 25.7% had income between 2000-8500, and 5.2% had less than 2000 earnings.

Table 1 Profile of the Respondent's
Source: Author's Survey

Category	Coding	Frequency	Percentage
Gender	Male	125*	59.5**
	Female	85	40.5
	Total	210	100.0
Education	University level	10*	4.8**
	Intermediate	33	15.7
	High school	36	17.1
	Some secondary Edu	52	24.8
	Complete primary Edu,	13	6.2
	Some primary Edu	12	5.7
	No Edu	54	25.7
	Total	210	100.0
Occupation	Self employed	16*	7.6**
	Paid employed	182	86.7
	Search for work	2	1.0
	Looking after home	3	1.4
	Others		
	Total	7	3.3
	Less than USD 25	210	100.00
Income	Per month	11*	5.2**
	USD 25 to 104, Per month	54	25.7
	More than USD 104, Per month	145	69.0
	Total	210	100.00

Notes: A Single bold asterisk (*) depicts frequency and double asterisk (**) depicts the percentage

Findings based on Demographics

In this study, the respondents were chosen based on the monthly household income. **Source (lasi wave 1 2017-18).**

Table 2 shows the percentage of male and female responses and the accessibility of a smart phone depending on income categories.

Table 2. A Description of % of Urban poor using a smart phone or not based on income Categories

Source: (The Author's Calculation)

Income category	No. of people (%)	Male No.& (%)	Female No.& (%)	Occupation No.&%	A Smart phone having No.& (%)	A Smart phone not having (%)
Less than USD 25 per month	11 (5.2)	5 (2.38)	6(2.85)	Self-employed-2(0.95) Paid employed-7(3.33) Search for work-0(0) Looking after home- 1(0.47) Others- 1(0.47)	6(2.85)	5(2.38)
USD 25-104 per month	54(25.7)	28(13.33)	26(12.38)	Self-employed-3(1.42) Paid employed-45(21.4) Search for work-1(0.47) Looking after home- 1(0.47) Others- 4(1.90)	22(10.47)	32(15.23)
USD more than 104 per month	145(69)	91(43.33)	54(25.71)	Self-employed- 11 (5.23) Paid employed-130 (61.90) Search for work-1(0.47) Looking after home- 1(0.47) Others- 2 (0.95)	59(28.09)	86(40.95)

Summary of Exploratory Factor analysis (EFA)

Table 3 describes the Exploratory factor analysis after excluding the irrelevant data collected by the researcher. The EFA was analyzed in the first phase after the pilot study based on 32 items/questions that adopted the Varimax rotation method in the study. Principal component analysis in EFA was performed, and the results showed a factor loading higher than 0.7. Thus, It is considered excellent, and factor extraction with an eigenvalue greater than 1 was taken into account (Devi Juwaheer et al.,2013). SPSS software was used to measure the accuracy and feasibility of the data. Hair et al. (2013) suggested that AVE for each construct should be greater than 0.50 to meet the requirement of convergent validity.

Structural Model

Table 4 shows accurate figures and measures the feasibility and quality of the data set. Santos (1999) stated that statistical analysis through Spss software was conducted to check the Cronbach alpha (C.A.), and the internal consistency meets the required value (0.7). The results are such as the critical ratio value (C.R.) is 0.7 (table 5), average variance extracted (AVE) is 0.5 and factor loading is above 0.7 (table 4), thereby meeting the model reliability standards (Voorhees et al., 2016). The values of factor loading were checked to confirm the reliability of the indicator, and C.R. was calculated to confirm the reliability of the design (Formell and Cracker, 1981). Further, the confirmatory factor analysis (CFA) was performed to check the dataset. The CFA analysis has been adopted in empirical studies to investigate the relationship between observed and predicted variables. Waaland (2013) suggested that for sample adequacy, the Kaiser -Mayer- Olkin (KMO) a test value should be 0.902 and Barlett's test of sphericity should be less than 0.005. After excluding the inappropriate items from the questionnaire, the KMO value achieved 0.910 and Bartlett's test of sphericity with a probability value ($P<0.0001$) acts as an indication for further analysis (Nandru and Rentala, 2019).

Table 4 Factor Loadings of Items of first Level and second Level constructs

Items	Constructs	Estimate	AVE	Composite Reliability
PE	Enablers	0.497	0.723	0.850
EB		0.587		
Convenience		0.976		
SocialInf		0.979		
Techcond		0.990		
Hedmotiv		0.925		
Habit	Risk	0.597	0.207	0.707
Finrisk		0.320		
LegalRisk		0.399		
Risktaker		0.457		
PE2	Performance Expectancy	0.997	0.800	0.887
PE1		0.778		
EB3	Economic Benefit	0.871	0.641	0.838
EB2		0.907		
EB1		0.585		
C3	Convenience	0.719	0.826	0.933
C2		0.988		
C1		0.992		
SI2	Social Influence	0.666	0.351	0.515
SI1		0.508		

TC3	Technical Conditions	0.941	0.901	0.965
TC2		0.976		
TC1		0.930		
HM1	Hedonic Motivation	0.771	0.706	0.878
HM2		0.846		
HM3		0.899		
H3	Habit	0.666	0.758	0.902
H2		0.985		
H1		0.928		
FR1	Financial risk	0.907	0.901	0.948
FR2		0.990		
LR1	LegalRisk	0.583	0.530	0.769
LR2		0.775		
LR3		0.806		
RTB2	Risktaker	0.864	0.664	0.798
RTB1		0.763		

Results of Hypothesis testing

After conducting exploratory factor analysis (EFA), some of the items/questions from the questionnaire were dropped out, towing to a low factor loading and the Cronbach alpha value of less than 0.5. Previously, the number of questions was 45, but the number decreased to 36 later. Structural equation modeling (SEM) was conducted for the final analysis, as given in table 4.

Table 4 Parameter estimates of the measurement model

Criterion Variable	Predictors	Estimate	S.E.	C.R.	P
BehavInt	Enablers	-0.209	0.036	-5.844	<0.0001
BehavInt	Risk	-0.304	0.149	-2.033	0.042
Use of m-finance	BehavInt	2.083	0.297	7.014	<0.0001
Use of m-finance	Enablers	-0.319	0.147	-2.165	0.03
Use of m-finance	Risk	-3.218	1.016	-3.167	0.002
Use of m-finance	Influencer	0.23	0.112	2.049	0.04
Use of m-finance	Information source	-0.004	0.048	-0.075	0.94

In table 5, the direct, indirect and total effect and the mediation indirect effect have been presented.

Table 5: Description of Direct/Indirect/Total effect

	Direct	Indirect	Total	% Mediation
Enabler>BehavInt> Use of m-finance	-0.319	-0.435	-0.754	57.69231
Risk>BehaveInt> Use of m-finance	-3.218	-0.633	-3.851	16.43729

Table 6 depicts the mediation effect examined using the Sobel test. The result showed the relationship between the use of mobile finance and enabler, and the use of finance and risk were significantly mediated by (T = -4.472 and -1.959, P = 0.000 and 0.050). The result of the Sobel test indicated a significant mediation effect.

Table 6: Hypothesis Testing Analysis of Indirect Effect (Sobel Test)

Constructs relation	**T-Statistics**	**Std.Error**	**P-value**
Enabler→ Beh. Int→The Use of m-finance	-4.47215791	-4.47215791	0.00000724
Risk →Beh. Int→ Use of m-finance	-1.95905716	-1.95905716	0.05010609

Table 7 presents the results and hypothesis relationship. The study observed that the impact of education on risk is positively significant (b=-0.103, t=3.386, p=000); hence, H1 is supported. The impact of gender on risk is also found to be significant (B=-0.212, t=-2.962, p=0.003), thereby supporting H2. Occupation is found to have no impact on risk, (B=-0.016, t=-0.898, p=0.369). Hence, not supporting H3. Income is found to positively impact risk (B=-0.106, t=--1.98, P=0.048), thus supporting H4. Further, the information source is found to impact behavioural intention (b=0.023, t=-1.929, P=0.054), and the influencer is found to impact behavioural intention (b=0.031, t=1.102, P=0.27). Hence, not supporting H5 and H6, respectively. Enabler and risk are found to impact BI (b=-0.209, t=-5.844, P=000; P=0.304, t=-2.033, p=0.042), respectively, thereby supporting H7 and H8. Behavioral intention (B.I.) impacts the use of m-finance (b=2.083, t=7.014, p=000), hence H9 is supported. Enabler and risk impact the use of finance (b=-0.319, t=-2.165, P=0.03; B=-3.218, t=-3.167, P=0.002), thereby supporting H10 and H11. An influencer is found to impact the use of finance (P=0.23, t=2.049, P=0.04); hence, H12 is supported. Lastly, the information source is found to impact the use of finance (P=-0.004, t=-0.075, P=0.94), thus unsupported H13. The enablers are Performance expectancy (P.E.), economic benefit (E.B.), Convenience, social influence (S.I.), Technical conditions (T.C.), Hedonic motivation (H.M.), and habit in the structural Model. Behavioral intention (B.I.) acts as a mediator.

Table 7: Hypothesis testing results (P>0.05)

Hypothe-Sis	Hypothesized relation	Path coefficient(B)	Standard Error (S.E.)	T-statistics	P value	Decision
H1	Education →Risk	-0.103	0.03	3.386	000	Supported
H2	Gender → Risk	-0.212	0.071	-2.962	0.003	Supported
H3	Occupation→ Risk	0.016	0.018	0.898	0.369	Unsupported
H4	Income→ Risk	-0.106	0.054	-1.98	0.048	Supported
H5	Information source →BehavInt	-0.023	0.012	-1.929	0.054	Unsupported
H6	Influencer →BehavInt	0.031	0.028	1.102	0.27	Unsupported
H7	Enabler → BehavInt	-0.209	0.036	-5.844	000	Supported
H8	Risk→ BehavInt	-0.304	0.149	-2.033	0.042	Supported
H9	BehavInt → The Use of finance	2.083	0.297	7.014	000	Supported
H10	Enabler →The Use of finance	-0.319	0.147	-2.165	0.03	Supported
H11	Risk →The Use of finance	-3.218	1.016	-3.167	0.002	Supported
H12	Influencer → Use of finance	0.23	0.0112	2.049	0.04	Supported
H13	Information source → Use of finance	-0.004	0.048	-0.075	0.94	Unsupported

Table 8 discusses the mediation relation and P value. From the table, it can be understood that education, gender, and income positively impact B.I. through risk, thereby supporting H1, H2, and H4. However, occupation does not have significant impact on B.I. through risk; hence, H3 is unsupported. Further, the influencer does not have a positive impact on the use of m-finance through B.I.; thus, H5 I is not supported.

Table 8: Hypothesis showing the mediating relationship

Hypothe-Sis	Hypothesized relation	Path coefficient(B)	Standard Error (S.E.)	T-statistics	P value	Decision
H1	Education>Risk>Behaveint	0.103	0.03	3.386	000	Supported
H2	Gender >Risk>Behaveint	-0.212	0.071	-2.962	0.003	Supported
H3	Occupation>Risk>Behaveint	0.016	0.018	0.898	0.369	Unsupported
H4	Income >Risk>Behaveint	-0.106	0.054	-1.98	0.048	Supported
H5	Influencer>Behave Int>use of m-finance	0.031	0.028	1.102	0.27	Unsupported

Discussion

Model fit summary of the structural Model

A researcher used a structural equation modeling (SEM) to analyze the collected primary data using a structured survey questionnaire. SEM represents the causal relationship among the variables and confirms the fitness of the evaluated Model. In table 9, the Model fit measures have been discussed such as chi-square (CMIN/DF)(<5.00 is recommended), Probability value(P-value), CFI, TLI, IFI, NFI, RFI, AGFI, GFI (>0.90 is recommended), RMSEA (<0.06 is recommended),RMR(<0.08 is recommended) and after analysis, the values are found as TLI (A Tucker Lewis index) =0.749; IFI (Incremental fit index) =0.783; NFI (Normal fit index);0.729; CFI (Comparative fit index)=0.772; RFI (Relative fit index) =0.69; Adjusted goodness of fit indexed (AGFI)=0.938; Goodness of fit index (GFI)=0.638; Root mean a square error of approximation (RMSEA)=0.118; and Root mean residual (RMR)=0.408.It can be concluded that the p-value of chi-square is 3.915, thereby meeting the recommended level. The AGFI and RMR also meet recommended level. Moreover, the values of CFI, GFI, NFI, RFI, IFI and TLI are closer to 0.90, which represents the Model is approximately good fit. Thus, it is concluded that the measurement model fits perfectly, thus indicating that there is sufficient covariance and correlation between the manifest with latent variables, which is a necessary condition for SEM (Hair et al.,2010; Preacher & Hayes, 2010).

Table 9: Description of Model fit the assessment

Fit indicators	Overall Model	Recommended thresholds	Recommending authors
Chi - square/D.F. (x2/d.f.)	3.915	⩽5.00	Hooper et al. (2008)
CFI (Comparative fit index)	0.772	⩾0.90	Hair et al. (2006)
TLI (Tucker Lewis index)	0.749	⩾0.90	Hair et al. (2006)
IFI (Incremental fit index)	0.783	⩾0.90	Hair et al. (2006)
NFI (Normated fit index)	0.729	⩾0.90	Hair et al. (2006)
RFI (Relative fit index)	0.69	⩾0.90	Hair et al. (2006)
RMSEA (Root mean square error of approximation)	0.118	⩽0.06	Hu and Bentler (1999)
AGFI (Adjusted goodness of fit index)	0.938	> 0.90	(Daire et al., 2008)
GFI (Goodness of fit index)	0.638	>0.90	(Hair et al. 2006)
RMR (Root mean residual)	0.408	<0.08	

For verifying the data, CFA is applied to the data set. CFA using SEM is widely adopted in existing empirical research. It is used to investigate the relationship between the observed and predicted variables. The single arrow shows the influence of one variable on another variable. Ullmanana Bentler (2013) explains the covariance between a variable highlighted through the double arrows.

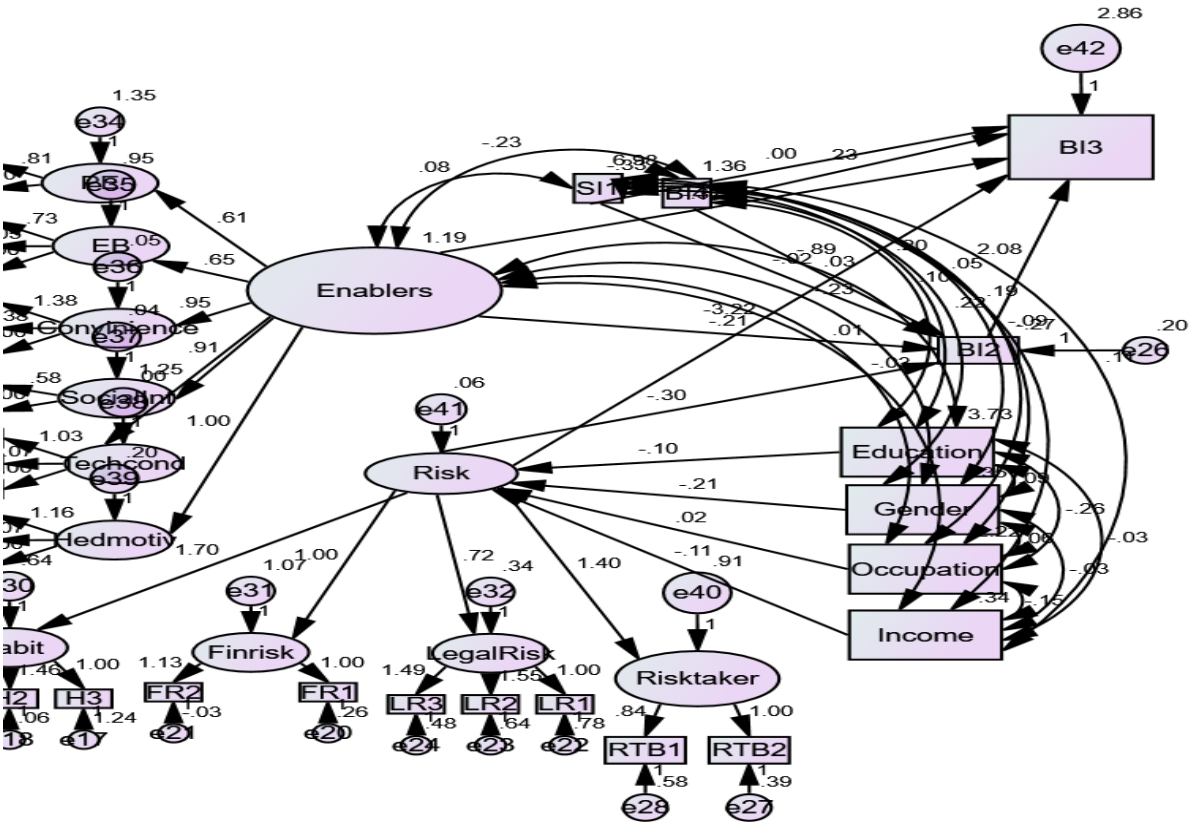


Figure:2 Representation of a Confirmatory factor analysis (CFA) MODEL

An empirical study was conducted to align with the research question and research objective. Venkatesh et al. (2012) propounded the UTAUT2, i.e., the extended Model of UTAUT to understand the deeper knowledge of technology use and acceptance in the context of urban poor households using mobile payment apps in Pune, Maharashtra. UTAUT2 predictors were PE. E.E., SI, H.M., F.C., P.V., and B.I. P.E., SI, H.M., and B.I. were considered along with some new constructs such as Economic benefit (E.B.), Convenience (C), Technical conditions (T.C.), Habit (H), Financial Risk (F.L.), Legal Risk (L.R.), Social Influencer (S.I.) and Risk-taking behavior (RTB) were also examined. Our findings showed that enablers (PE, EB, SI, C, T.C., H.M.) are the strong predictors that significantly affect the use of mobile finance under the mediating effect of B.I., thereby contributing to financial inclusion. Simultaneously, risk was significantly affecting the use of m-finance with the mediating effect of B.I.; and hence, supporting financial inclusion. Our results showed that the relation of occupation with risk, S.I. with B.I., and information source with B.I. and the use of m-finance was not supported. Simultaneously, the mediating role of B.I. in the relation of occupation with risk and influencer with the use of m-finance was also not supported. It shows that the above- constructed relation was not contributing to the use of mobile technology.

H1(a) and H(b) significantly affect risk and is aligned with prior study (Vasudeva & Chawla, 2019). H2(a) and H2(b) significantly affect risk and are aligned with the earlier studies (Chawla & Joshi, 2018; Trabelsi-Zoghlami et al., 2020). H3(a) positively impacts B.I., and H3(B) impacts the use of m-finance aligning with studies (AL-Okailyet et al., 2020; Peters, 2007; Pandey, 2020). Venkatesh et al;2003 and Ajzen ;1991 discussed the role of S.I. in technology adoption. Simultaneously, Mcmurtrys Downey (2012) and Shankar et al. (2020) discussed convenience as an important construct for technology adoption and (Venkatesh et al. (2018) and Chopdar et al. (2018) showed a significant impact of P.E. on technology adoption. The result indicated that 59.5% of males and 40.5% of females are using mobile payment apps. It shows that females are less aware and less capable of using mobile payment apps compared to males.25.7% are illiterate, and 24.8%

have some secondary education, thus showing that people lack knowledge about using mobile payment apps. In the case of income, 69% of people earn more than USD 104 per month, and 5.2% of people earn below USD 25 per month. Using mobile payment by urban poor households leads to financial inclusion. The current research has explained the factors/enablers influencing the use of Mobile payment apps and contributing to financial inclusion in the Indian context. The key findings stated that a high percentage of male use mobile payment apps compared to females. 28.09% of the people have a smart phone while 40.95% of the people do not have a smart phone earning more than USD 104 monthly household income so it shows that most of the urban poor are not able to adopt mobile payment apps due to the unavailability of a smart phone. The direct effect of enabler on the use of m-finance and the indirect effect of enabler on the use of m-finance through B.I. is significant. Simultaneously, the direct effect of risk on the use of m-finance and the indirect effect of risk on the use of m-finance through B.I. is also significant. The significant contribution of the study is that latent variables such as Enablers and Risk through operationalising the observed variables namely P.E., E.B., Convenience, SI, T.C., H.M., Habit, F.R., L.R. and Risk taker have been considered in this study, which is a new contribution to the existing literature. The control variables for this study are gender and age are similar to the theory of UTAUT2, while occupation, education and income are the added control variables working as a moderator. B.I. plays the role of mediator in a structural model.

Implications, Limitations and recommendations

This research contributes to mobile payment, business and future research also. Our conceptual Model explains the relationship of constructs with a mediator (BI) and the use of m-finance. The structural Model has proven the relation of constructs or enablers with the use of finance under the mediating effect of B.I. This study is unique in the context of urban poor households for m-payment app use and to understand their behaviour and actual usage pattern. Further, the demographics are the control variables that influence the user's behaviour regarding the use of mobile technology. The current study also has some implications for the banking and mobile technology industry, as the study observed that certain factors such as security, convenience, and technical conditions influence customer intention to use m-payment apps; so, it should be considered properly. Simultaneously, banks and technology industries must verify their privacy norms and make it easy to use technology for a customer.

This research has examined the factors impacting the use of mobile payment applications. Gender, education, and Income positively influence risk. Our research findings depict that enablers (P.E., E.B., SI, Convenience, T.C.) support the usage of mobile payment apps with the mediating effect of B.I. Simultaneously, perceived risk positively influences the use of m-finance with the mediating effect of B.I. Thus, it is identified that enablers of mobile use and perceived risk significantly affect the use of mobile finance under the mediating effect of the role of B.I., thus supporting financial inclusion. There are 2.5 billion people in the world who transact only through cash, because of unawareness and technological issues. Digital financial inclusion can reach underserved people at the low cost of transaction from the perspective of both customers and service providers with reduced cost. Economic benefits, convenience of use, perceived effectiveness of digital instruments are the enabling factors that, when realized by end-users, may generate intention for the use of these products. Sustainable Development Goal 10 speaks about the attainment of social and economic equality for all sections of society. M-Finance can be one of the means of attainment of this goal, provided the financially excluded people are aware of its benefits, and find it convenient to use and perceive to be less risky. It has the potential to ensure economic empowerment of urban and rural poor and women, contributing towards the overall economic development of the nation. Thus it can facilitate the attainment of Sustainable Development Goal 8. The research supports the hypothesis stating the involvement of people in using mobile payment apps and supporting financial inclusion bringing out the demand side of digital financial inclusion. This study provides motivation for

future researchers to look at the same issues in other settings. Research can also be done on other dimensions of technology such as Internet banking, Mutual funds, National Electronic Fund Transfer (NEFT) and so on.

There are some limitations of the study. Firstly, the data is collected from the urban poor households only in the specific context of the Pune region. Thus, the study cannot be generalized to other settings. It is a suggestion for future researchers to work on other developing nations too. Secondly, research has been conducted during Covid -19 pandemic, so future researchers can look at issues, fears, and protocols after the Covid-19 pandemic through including some relevant factors.

Conclusion

The study has identified from the literature that mobile banking and electronic banking help in accessing financial services and support financial inclusion. This research explores some factors as an enabler that significantly affects the use of mobile payment apps and supports financial inclusion. It is also found that the male percentage is greater in the use of mobile technology as compared to the female percentage. So, the government or NGOs should look toward this issue. The government should start some literacy and awareness programs for poor and uneducated people and enable them to be financially strong to use mobile payment apps. Simultaneously, NGOs can initiate some training programmes for illiterate women in their organizations to earn some money. The findings demonstrate that the structural Model is an approximately good fit. Finally, the enabler impacting the use of finance under the mediating effect of B.I. supports financial inclusion.

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