MOBILE BANKING REVOLUTION IN INDIA: A STUDY OF BEHAVIOURAL MATRIX THROUGH UTAUT2 MODEL

ABSTRACT

Aims: The study aims to comprehensively explores Mobile Banking Revolution in Odisha by utilizing the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model to analyze the behavioral matrix of individuals' adoption and usage patterns. It also aims to provide insights on what motivates people to use mobile banking services and what keeps them using it.

Sample: Data on individuals' demographic,including gender, age, and education, were recorded using descriptive parameters. 200 from 220 questions that were handed out were returned in complete form. But 192 surveys were reliable enough to use in the statisticalanalysis.

Study design: The study employs a quantitative research approach to investigate the adoption of mobile banking services in the context of India's financial sector.

Place and Duration of the study: Sample: Residents of Odisha. Between February 2023 to June 2023

Methodology: The study sampled 192 Odisha residents who used m-banking services as respondents using a questionnaire survey. SmartPLS software was used to analyse the primary data that had been gathered.

Results: All the factors have significant relation with intention in adoption. The application of the UTAUT2 model was demonstrated within the framework of the investigation.

Conclusion: This study focused on the state of Odisha and explored the rapidly changing environment of mobile banking usage in the context of India's financial industry. The study investigated the complex web of factors that influence consumers' behavioural intents and actions in accepting mobile banking services via the perspective of the expanded Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model.

Keywords: Mobile banking; UTAUT2; behavioural intention; technology; SEM

1. INTRODUCTION

The banking industry has evolved substantially during the previous decade. The evolution of e -banking services via different electronic channels has enabled the creation of a new kind of additional value for customers, particularly in the retail sector. Innovative service ways, such as ATMs and push-button telephones, are already displacing more traditional electronic channels. Because of the widespread availability of mobile phones, particularly WAP-enabled handsets, the migration of banking related apps to all the mobile phones has become a natural progression in e-bankings(Pousttchi & Schurig, 2004).It is a revolutionaryservice in banks available to customers by FI's such as banks, microfinance, and credit unions that allows them to perform financial transaction using a compact device such as a tablet, smartphone, or mobile phone at any time and from any location(Shaikh & Karjaluoto, 2015). In spite of the numerous advantages of using mobile phones for accessing bank services and performing transactions anywhere, the confidentiality of customers' private and financial information is crucial, &infractions of either, raise consumer distrust and reduce the level of m-banking service uptake.

Currently, the explosive development and related innovative technology, especially the adoption of mobiles, has generated a plethora of opportunities for potential businesses to capitalise on (Barnes & Corbitt, 2003). When it comes to financial advances, it is the breakthrough that made consumers' lives easierwith great flexible in the service usage and by providing them convenient access to banking facilities even in places with lower growth in the economy. (Oliveiria et al., 2014; Raza & Hanif, 2013; Van derBoor et al., 2014).Banks, aided by technologies, had reacted on the issues by adopting a new strategy that has focused on creating client happiness by offering improved quality service while simultaneously lowering operational costs(Sohail & Shanmugham, 2003).

The enhanced use of smartphones, in particular, has prompted a number of more banks, service providers, software firms, and microfinance institutions to offer this cutting-edge service alongside new combinations of applications and products built to improve overall customer reach, build customer loyalty, boost efficiency, increase market share, and create new job opportunities. (Shaikh & Karjaluoto, 2015)current rapid increase of the 5G mobile industry, the mobile delivering services has come as a viable option for firms aiming to gain commercial prospects. But, despite the rapid growth of many availablewireless services,the utilization ofmobilebanking services is far lessthan projected& is currently

underutilised(Cruz et al., 2010).(Huili & Zhong, 2011)states, the m - banking isstill quite modest as to total banking activities (Luarn & Lin, 2005); (Laukkanen, 2007; Yang, 2009).Despite the fact that mobile banking is likely the first mobile services commercially available, widespread acceptance and extensive usageofcellphones had minimal effect on widespread adoption & widespread use ofmobilebanking(Hoehle et al., 2012). It was first made available in the early 2000s via network accessprotocol and shortmessagingservice(Dasgupta et al., 2011).

(Cruz et al., 2010), considering the prevalence of mobile phone use, commercial bankshave a significant opportunity to provide m – banking servicesto those always livingin distant areas where just a few PCs are internet connected. Recognizing Internet banking's limitations in the face of heavy use ofmobile phones, (Dasgupta et al., 2011) highlighted that increase in mobile banking might provide financial institutions with a solid commercial chance to provide their services to rural individuals who do not have internet access.Distinction between mobile commerce and other types of electronic trade may have been due to the fact that (Dasgupta et al., 2011) observation that the major client profiles for mobile banking were not usually the same.

Mobile banking's rapidly rising popularity isn't just attributable to the fact that it allows for remote involvement in financial services, but also to specific characteristics of mobile devices used for mobile banking that support concerns about safety for individuals (Coetzee & Eksteen, 2011; Nadim & Noorjahan, 2008; Shareef et al., 2018). Furthermore, with a password and fingerprint ID check, a third party has minimal chance of stealing or breaking into the device. Such numerous confidentiality obstacles had made customers more dependent on their mobile devices when using m-banking, which has increased their willingness to employ a m-banking service on a regular basis.

2. THEORETICAL BACKGROUND

2.1 ACCEPTANCE MODELS

Earlier research attempted to examine individual acceptability of mobile banking using the rationale that technological aspect advance (Al-Jabri & Sohail, 2012). Five theoretical currents largely dominated in the field among the various models that have been put out up until (Venkatesha et al., 2003) introduction of the UTAUT(Hoehle et al., 2012). These includetheTPB(Ajzen, 1991), the TRA (Ajzen & Fishbein, 1975), the TAM(Davis, 1989), TPR(Featherman & Pavlou, 2003). Due to restrictions on behaviours over which persons had

limited control, TPB is an extensionofTRA(Ajzen, 1991). TAM is an easy-to-use conceptual model(Qingfei et al., 2008). The significance of perceived risk as an impediment to adoption has also been noted in prior studies on data systems and consumption patterns(Luo et al., 2010). TheUTAUT model, which was developedby the author(Venkatesh et al., 2003) and basedon 8 well-known theories, established a solid new framework for acceptance studies. This framework is briefly discussed in the following section.

2.2 PERFORMANCE EXPECTANCY

Relativeadvantage (IDT), Perceivedusefulness(TAM/TAM2),extrinsicincentives (MM), job-fit(MPCU), andoutcomeexpectation affect performance expectancy at UTAUT (SCT). (I. Brown et al., 2003)it has been demonstrated through empirical research that mobile banking adoption is more likely the greater the perceived proportional advantage (Amin et al., 2008; Dasgupta et al., 2011; Luarn & Lin, 2005; Riquelme & Rios, 2010; Sripalawat et al., 2011) recognised usefulness of perceptionasa significant element,(Yang, 2009) and(Püschel et al., 2010)by focusing on mobile technology adoption rather than mobile banking, it was discovered that relative benefits had great impact on people's propensity in using mobile banking. (Park et al., 2007)using 221 samples, researchers discovered that performance expectations greatly influenced customer's adoption of mobile devices. You can achieve the same result by employing mobile data services insteadofmobile financial services.UTAUTwasused as a research foundation, demonstrating that performance expectations have a significant impact on how individuals consume mobile service.

H_{01}: Expected performance has aninfluenceonbehavioural intenttouse mobile banking.

2.3 EFFORT EXPECTANCY

(Venkatesh et al., 2003) In order to represent effort expectations, the levelofeasinessattached withtechnology use, TAM/TAM2, complexity (MPCU), andease-of-use (IDT) characteristics were recorded. Previous empirical research on this service of banking through mobile uptake(Amin et al., 2008; Dasgupta et al., 2011; Luarn & Lin, 2005; Püschel et al., 2010; Sripalawat et al., 2011)consumers are influenced to utilise mobile banking by perceived simplicity of usage. According to UTAUT,(Park et al., 2007),to investigate what drives person intention to accept mobile technology and data services, three constructs were used:effortexpectancy socialinfluence, and performance expectancy. Both researchers found that human intentiontouse mobile technologies or services was highly influenced by effort expectation.

H_{02}: The likelihood of effort influences the behavioural purpose tousemobilebanking.

2.4 SOCIAL INFLUENCE

(Venkatesh et al., 2003),social influence was employed to reflect subjective norm, social elements and image inIDT. Social influence, according to their definition, is the idea that a person should use technology from the perspective of influential people. In a study of 158 respondentsof a large Malaysianbank, individuals intent tousem-banking (Amin et al., 2008) was proven to be significantly influenced by those around them empirically. (Singh et al., 2010) revealed that family and friends affected individual inclinations to embrace mobile banking services. (Püschel et al., 2010); (Riquelme & Rios, 2010; Sripalawat et al., 2011)showedthat the subject's standard had a big impact, while(Dasgupta et al., 2011; Laukkanen, 2007)it was shown that a person's perceived image had a substantial impact on how likely they were to use mobile banking.

H_{03}: The behavioural purpose to accept m-banking is influenced by social influence.

2.5 FACILITATING CONDITIONS

Consumers' certainty of the existence of amenities and assistance systems to employ an innovation isreferredtoas a facilitative condition(Venkatesh et al., 2003). According to research on older clients, absorbing new or complicated information can be more difficult for them, which can hinder their ability to acquire new technology(Morris et al., 2005). More knowledge structures and acquaintance with the technology can result through experience, which can help users learn(Alba & Hutchinson, 1987).

H_{04}: The behaviouralintentionto usem-banking is influencedbyfacilitatingcircumstances.

2.6 HEDONIC MOTIVATION

The satisfaction derived from employing a technology is referred to as hedonic motivation. (S. A. Brown & Venkatesh, 2005). In the study, this Performance Expectance idea is considered to impact user adoption and usage of an invention(Van der Heijden, 2004); (Thong et al., 2006).Hedonic motivation has become recognised as a crucial element in the development and implementation of technology in the client environment (for instance, see S. A. Brown & Venkatesh, 2005). Age, experience and gender, can all have a mitigating influence on the effect of hedonic incentive on intention to adopt as a result of variations in customer novelty seeking, innovativeness and perceptions of a given technology's originality. When customers first start using a new technology, they are more interested in its

originality(Holbrook & Hirschman, 1982). Technology is used by users for more beneficial purpose as their experience grows.

H_{05}: The behavioural intention for use of mobile banking is affected by hedonic motivation.

2.7 PRICE VALUE

Price Value is described as a person's rational trade-off investigation that compares the perceived advantage to the economic cost of utilising a certain innovativeservice or technology for more pragmatic goals(S. A. Brown & Venkatesh, 2005). The term is described asanindividual's rational trade-off investigationas toperceived advantage to the economic cost of usinga certaininnovation or technology for more pragmatic goals(Zeithaml, 1988). When the value of the product outweighs the financial cost, new technologies seem to be more likely to be embraced by people. Price Value is valued differently by men and women, and by younger and older people, according to social role theories(Deaux & Lewis, 1984).

H_{06}: The Behavioural Intention is influenced by price value to adopt m-banking.

2.8 HABIT

(Limayem et al., 2007) states that the automation of behaviour from thenascent stage oflearning to frequent usageofthe technology is referred to as a habit. In terms of normal practise, the habit impacts technology use (Kim et al., 2005) in connection with behavioural intention by diversifying the influence of actual use of technology (Limayem et al., 2007). Habit is a potent indicator of upcoming technology use, as is past usage(Kim et al., 2005).As people get older, gender disparities in learning of technology was observed over the period. The ability to process information declines with age. Aging causes a decrease in information processingcapability. Women perceive data more precisely and delicately than men (Darley & Smith, 1995).

H_{07}: The Behavioural Intention is influenced by habit to use mobile banking.

2.9 BEHAVIORAL INTENTION

Users' projected likelihood touse something in a specific context is what is meant by Behavioural Intention. Users' intentions toadoptornot to accept the newly developed system & use it are significantly influenced by their knowledge of the new system's operations, benefits, features, &howother people perceive thisnewsystem(Liu et al., 2019).

3. DATA AND METHODOLOGY

Comment [HE1]: Author should consider to add conceptual framework.

The study's target audience consisted of Odisha residents who used m-banking services. The target group for the data collection was the population of Odisha who owns 1 or maybe more

smart phones and has one or even more accounts with a state or the nationalised bank thatprovides web-based & m-based banking related services. The decision to adopt mobile banking services in a consumer setting is made entirely voluntarily.

A team of information systems academics developed an English questionnaire based on the study model and examined it for content validity. It was divided into two parts: (i) UTAUT2 data components, and (ii) generic information and demographics. The (Venkatesh, 2006; Venkatesh et al., 2003) measures and elements were modified for the UTAUT2 constructs. Eachoftheconstructs or elements wasmeasured with a 5-pointLikertscale, rangingfrom "Strongly disagree" - "Strongly agree". The behavioural variables include people's prior performance as well as their present and upcoming goals. The study chose Odisha m-banking users using a non-probability sampling approach. The likelihood of acquiring accurate and trustworthy information regarding the topic under study is increased by the snowball sampling approach, which was deemed to be the best sampling strategy for this study. Additionally, it enables the researchers to select respondents who are qualified and experienced to provide their opinion on mobile banking. The source of data collection isprimary data, which is collected from respondents via structured questionnaires. Data on individuals' demographic,including gender, age, and education, were recorded using descriptive parameters. 200 out of the 220 questionnaires that were handed out were completed and returned. But 192 surveys were reliable enough to suggest the application of statistical tools.(Fornell & Bookstein, 1982) states from his finding there is extensive use of statistic at the initial stages of research in social science and humanities.

Nearly 52.3% of those who responded were male, 38.4% were between the ages of 25 and 35, and 54.7% had a bachelor's degree. Table 1 displays comprehensive descriptive information on the traits of the respondents.

TABLE 1: DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Measure	Value	%
Gender	Male	52.3
	Female	47.7
Age	< 25 years	25.6
	25 to 35 years	38.4
	36 to 45 years	26.7
	>45 years	9.3
Education	Lower than bachelor	3.5
	Bachelor	54.7
	Master or higher	41.9
Income	Upto 2.5 lakhs	27.9

	2.5 lakhs- 5 lakhs	40.7
	Above 5 lakhs	31.4
Locale of residence	Urban	54.7
	Rural	45.3

Source: Compiled from collected data

4. DATA ANALYSIS AND RESULTS

Comment [HE2]: The author further improves the results and discussion section.

Relate to previous studies and critically evaluate them based on the findings of your paper.

The author should also add some foreign comparisons.

(Venkatesh et al., 2003& 2010)states that PLS provides a platform for original investigation of UTAUT.ThePLS, created by Herman World in the 1960s, isused for exploratory studyalong with MLR (Multiple Linear Regression).(Wold et al., 1984). It is especially helpful for building predictive models where there may be collinearity among factors.

4.1 MEASUREMENT MODEL

Theconvergentvaliditywas evaluated usingfactorloadings, compositereliability, & the averagevarianceextracted (AVE), as suggested by (M.-C. Lee, 2009; Yu, 2011), whilethe discriminantvaliditywasevaluated bydetermining whetheror notthe squareroots ofAVE exceed the correlationsbetweenconstructs, as suggested by(Venkatesh et al., 2003). As allfactorloadingswere larger than 0.7, all composite reliability surpassed theacceptable threshold of 0.6, & all AVEswere higher than 0.5, T-4 demonstrates every components of themodelfit had satisfactoryconvergentvalidity andreliability.Thesquarerootsof AVE are used as thediagonalelements in Table 5, and correlations between other constructs are used as theoff-diagonalelements.Thediscriminantvalidity&reliabilityweresupported because Table 5 shows that all parameters were greater thantheoff-diagonalelements in the correspondingrows & columns and that allComposite Reliability values are above 0.727.

TABLE 2: FACTOR LOADINGS

Model constructs	Items	Loadings
PE (Performance Expectancy)	PE-1	0.910
	PE-2	0.828
	PE-3	0.851
	PE-4	0.803
EE (Effort Expectancy)	EE-1	0.897
	EE-2	0.821
	EE-3	0.929

	EE-4	0.879
SI (Social Influence)	SI1	0.724
	SI2	0.856
	SI3	0.656
FC (Facilitating Conditions)	FC1	0.886
	FC2	0.872
	FC3	0.749
	FC4	0.658
HM (Hedonic Motivation)	HM-1	0.870
	HM-2	0.911
	HM-3	0.919
H (Habit)	HB-1	0.872
	HB-2	0.847
	HB-3	0.902
PV (Price Value)	PV1	0.623
	PV2	0.734
	PV3	0.883
	PV4	0.994
BI (Behavioural-Intention)	BI-1	0.848
	BI-2	0.737
	BI-3	0.859

Source: Compiled from collected data

TABLE 3: COMPOSITE RELIABILITY & AVE

Model Constructs	AVE	Composite Reliability
Performance-Expectancy	0.712	0.914
Effort-Expectancy	0.779	0.935
Social-Influence	0.563	0.805

Facilitating-Conditions	0.635	0.884
Hedonic-Motivation	0.810	0.928
Price-Value	0.889	0.915
Habits	0.764	0.907
Behavioural Intention	0.667	0.861

Source: Compiled from collected data

TABLE 4: DISCRIMINANT RELIABILITY

	BI	EE	FC	HB	HM	PE	PV	SI
BI	0.816							
EE	0.803	0.882						
FC	0.820	0.834	0.797					
HB	0.831	0.596	0.667	0.874				
HM	0.817	0.726	0.712	0.729	0.900			
PE	0.789	0.917	0.731	0.491	0.632	0.849		
PV	0.836	0.809	0.782	0.527	0.728	0.830	0.821	
SI	0.689	0.698	0.783	0.548	0.762	0.627	0.769	0.750

Source: Compiled from collected data

Using(i) Fornell-Larcker and (ii)cross-loadings criterion, discriminant validity wasexamined. In Table 3, the squarerootoftheAVE is displayed inbold along the diagonals, supporting the claim made by(Fornell & Larcker, 1981) that it must be bigger than the correlation between constructs.

For the variations explained by behavioural intention, the R^2 adjusted was 0.933.The empirical findings substantially validate the modified UTAUT2 inpredictingindividual intents & behaviours of mobilebankingadoption, and this work therefore illustrates the application of UTAUT2 to a mobile banking scenario.

4.2 STRUCTURAL MODEL AND HYPOTHESES TESTING

Based on a study of standardised paths, correlations between hypotheses and constructs were analysed.Following the Rule of the Thumb technique, a thorough bootstrapping procedure was conducted to verify the importance of the structures.Path coefficient values with a 10% probabilityerrorwere deemedstatisticallysignificant for this investigation.A 93.8% of the difference in behavioural intention is explained by the model.All the hypotheses were shown

to be statistically supported by the findings that effortexpectation (EE), performance expectancy (PE), pricevalue (PV), facilitatingconditions (FC), socialinfluence (SI), habit (HB) andhedonicmotivation (HM)were statistically significant in explaining behaviouralintention.

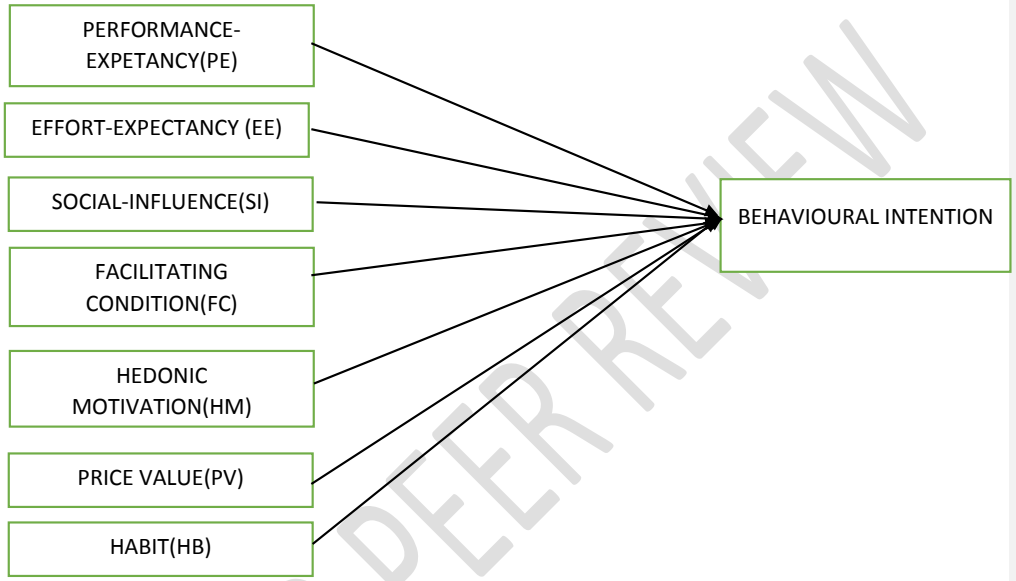

Figure:1- UTAUT2 model Source:(Venkatesh et al., 2012)

Table 5: Path co-efficient

MODEL CONSTRUCTS	P- VALUES	DECISION
EE->BI	0.000	SUPPORTS
FC->BI	0.000	SUPPORTS
HB->BI	0.000	SUPPORTS
HM->BI	0.000	SUPPORTS
PE->BI	0.000	SUPPORTS
PV->BI	0.000	SUPPORTS
SI->BI	0.000	SUPPORTS

Source: Compiled from collected data

5. DISCUSSION

TheexpandedUTAUT2 by (Venkatesh et al., 2012) iscombinedinthetheoreticalmodelthatisbeingpresentedtoanalyzeacceptance pattern of mobilebanking.The study model accounts for 58.7% of the diversity inthebanking through mobiles usagepatterns. All the factors positively influence the behavioural intention. Among the most important precursors of behavioural intentions, according to respondents, is performance expectancy.The association between hedonic motivation and the findings is same with past studies(Raman & Don, 2013; Venkatesh et al., 2012).Participants still consider mobile banking applications entertaining, despite the fact that the majority of them are merely transactional or utilitarian in nature.The respondents' plans to accept mobile banking are positively persuaded by the favourable feeling, feeling of personal fulfilment, & community feeling they produce.According to some past studies, consumer habithasa major role in predicatingintention(Liao et al., 2006).

Our findings did support the importance of the four UTAUT2 constructs of social-influence,effort-expectancy, pricevalue&enabling environments, having impact on behavioural -intention.The effort expectancy result is consistent with findings from other investigations, such as (Carlsson et al., 2006; Hsin & Wen, 2009), however it is not consistent with certain earlier studies(Zhou et al., 2010).Customers in Odisha consider mobile banking to be user-friendly, therefore this is probably because mobile devices are so widely used there, anticipate few issues, and rapidly get used to it.

6. IMPLICATIONS OF THE STUDY

Adoption and utilisation of services as mobile banking are impacted by the cultural differences between various groups and nations.There is apparent merit in conducting more cross-cultural research as we progress toward globalisation.The findings of the currentpaper have repercussions for academics & professionals.This study provides a starting point for further research for academics that can be used to further develop individual models of acceptance.To help create, enhance, and roll out mobile banking solutions that receive high levels of client approval, practitioners must have a thorough understanding of the major constructs in the suggested research model.In order to maximise benefits, both foreign and domestic banks in India will be able to advance by modifying their marketing plans, service innovations, designs, and educational resources that use technology, elevate acceptance, strengthen use, and increase channel penetration bycomprehendingthe keycomponents that affectacceptance of user& usageof services of mobilebanking, restrictions, &

specificities.Indian mobile banking service providers ought to keep telling customers how practical, convenient, and other instant benefits the service offers.

7. LIMITATION AND FUTURE SCOPE FOR THE STUDY

This study has a number of shortcomings that call for more analysis and investigation.Cultural norms can differ both inside and between nations. The within-country variability is ignored by giving any country a single score.Future study usingvariousculturalcharacteristics, likecontributing willingness. (H. Lee et al., 2015), could be fruitful.Future studies could investigate the interactions between various cultural levels and develop precise hypotheses connecting them.To corroborate our key findings—including the strong impact of behaviour intention on use behaviour—research has to be repeated, ideally across a larger population of people using various technologies and in a variety of situations, cultural groupings, and geographic locations.

Integration within the same geographic area can be advantageous for knowledge and local culture exchange among mobile banking service providers, promoting interaction and synergies that lead to collective learning(Zhao & de Pablos, 2011), and helping to reaffirm acceptability over time.It might be an intriguing subject of study to learn how it changes.Future studies could look at how cell carriers' quality of service affects consumers' behaviour intentions and use of mobile banking, which is a Network service. It might also be quite interesting to change the research model to incorporate newmoderators like experience, income, residence place (city vs. rural), or education.

8. CONCLUSION

There is a huge market for mobile banking in India.The simplest strategy to increase utilisation, it may be necessary to grant financial access to Indian rural and difficult areas.Based on past research on the acceptance of mobile banking, our study extended the UTAUT2 model by identifying pertinent parameters.In the context of the study, the UTAUT 2 model's applicability was proven.The study provides information on the usage frequency and adoption hurdles for m-banking services in India.Our findings show similarities and differences with past studies, supporting the distinctive features of the Indian region on which this study concentrated.Using technological platforms such as third-party encryption certificates throughout and following wireless banking transactions, banks can increase customer trust by concentrating on initialtrustbuildingtofacilitateand accelerate the adoption of theservice.To safeguard data transfer and user information, banks should routinely analyse

effective managerial and technological approaches.Bank management should provide m-banking services with technical support and user-friendly platforms in order to draw in new consumers.Banks should provide instructions for using m-banking services on their website or in other kinds of mass communication to boost client confidence.According to the study's findings, users between the ages of 25 and 35 and those with bachelor's and master's degrees are far willing to accept mobile banking.Based on these data, banks might target certain user groups to boost service utilisation.Since these services are created to meet the needs of specific individuals, users are encouraged to take advantage of the benefits that mobile banking offers as appropriate to their needs.To motivate the usage of m-banking the govt. is urged to provide that internet access is provided throughout the nation in collaboration with the private sector.

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