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Examining the Role of AI Technologies in Enhancing Mobile Banking Acceptance and Security: From Chatbots to Fraud Detection.

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Abstract: The undergone transformation in financial industry due to incorporation of artificial intelligence technology into mobile banking which provide improved user experiences, increased operational efficiency and strong security measures. With an emphasis on technologies like chatbots and fraud detection systems, this paper examines the critical role artificial intelligence plays in boosting the security and acceptability of mobile banking platforms. The study explores how these technologies affect customer confidence and trust while weighing privacy concerns, innovation and convenience. This study investigates factors influencing the acceptance of AI-based mobile banking in India using the UTAUT2 model. Data collected from 502 mobile banking users willing to adopt AI- enabled banking Services and analysed using SPSS22. Factor analysis and multiple linear regression tools examined performance expectancy, effort expectancy, chatbots, fraud detection and behavioural intention. The findings emphasize AI's significant role in accelerating mobile banking acceptance while highlighting the importance of security, reliability and user trust for sustainable technological advancement.

Index Terms- Mobile Banking Acceptance, AI technology, UTAUT2 model, chatbots, and Fraud Detection.

I.INTRODUCTION

AI driven chatbots enabled 24/7 individualized customer support by automating client interactions, which increases user acceptance. Simultaneously, AI driven fraud detection system uses machine learning algorithm to spot questionable activity and stop financial crimes instantly, greatly enhancing security measures. Rushed to the platforms like bank owned apps, digital wallets, SMS/ text banking, USSD codes and neo banks seems to have impressive growths figures in acceptance of technology. Giving easy access to real time banking however this comes up with issues of trust, fraudulent transactions, cyber security and privacy. Solution to these issues and enhances customer satisfaction AI has become a major technological answer. To further accelerate this mobile banking technology performance expectancy and effort expectancy comes to play a role (Basri, 2018). Additionally, by constantly examining user behavior and transaction data, AI can improve cyber security, risk assessment and authentication. These features may increase customer inclination to accept and stick with digital banking services. In order to comprehend how innovations like intelligent chatbots, biometric authentication and automated fraud detection can balance convenience, security, and trust and user acceptance in a digital financial environment.

1.1 AI Technologies in Mobile Banking

It provides customers with more rapid information retrieval that can save hours of browsing through documents, automation of monotonous process such as transaction report summarization and improves insights based on banking requirements.

- **Chatbots and Virtual Assistants**

New vision to offer personalized and efficient customer service experience chatbots and virtual assistants of AI based technology have become increasingly relevant in mobile banking. These AI driven system is transforming the ways bank interact with their customers by providing around the clock support and streamlining various banking activities.

With a great capability to respond millions of queries a day related to home loan, term deposit, Credit card view, summary bill payments, reward points international cards etc.

This AI driven chatbots and virtual assistant feature make major messaging application enable personalized services in different languages, reduction in waiting time, easy to use and handling multiple customers at a time with guaranteeing customer satisfaction.

- **Biometric Authentication System (For Security Aspect)**

More intelligent and flexible solutions have resulted from the use of AI technologies into biometric authentication for mobile banking. For example, by continuously learning and adjusting to changes in the user behavior and environmental conditions AI driven technology can improve security. The adaptability of AI driven banking system can help in maintaining high recognition performance over a time period of each customer.

Lastly, there have been encouraging outcomes in terms of security, user satisfaction and acceptance when AI based biometric authentication has been included into mobile banking apps. In addition to increasing the precision and dependability of identification procedures the integration of AI with biometric technology allows for more individualized user experience, safeguard against spoofing attack which employs fake biometric sample to trick the system which has increased and privacy concerns.

1.2 UTAUT2

A unified theory of acceptance and use of technology (UTAUT) model developed by (Venkatesh, 2003) tries to create one single model which integrates previous variables of acceptance theory. A model created to evaluate the use of new technology within a customer market.

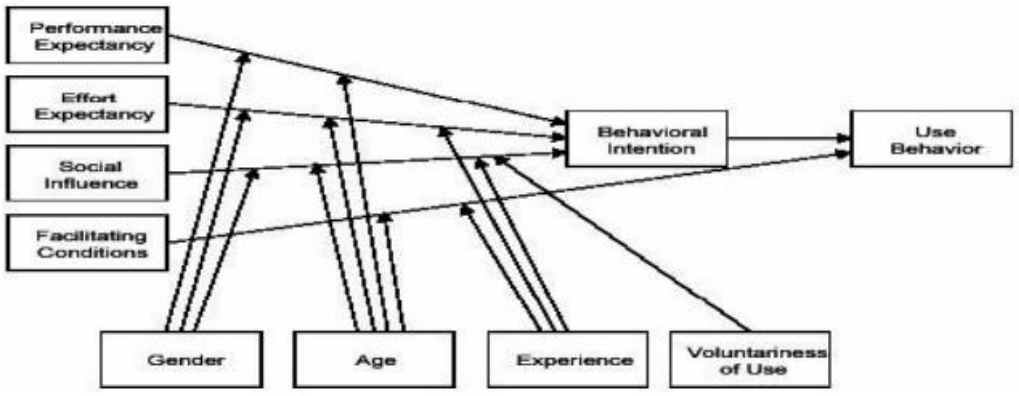

Fig. 1: Unified theory of acceptance and use of technology model by Venkatesh et al. (2003)

Source: https://misq.umn.edu/misq/article-abstract/27/3/425/1340/user-acceptance-of-information-technology-toward-

Model used in various studies which makes it acceptable. A study by Dutta P, et. al., (2018) on factors of UTAUT models which influences employees' intention to accept Information technology. Variables of model are: Performance expectancy and effort expectancy. Performance expectancy and effort expectancy has effect on customer's intention that was mapped.

- **Performance expectancy** explains a scope of certainty that a customer is confident of using a particular technology to maximize their job performance. An empirical study of Australian customers confirmed a strong and positive relationship between behavioral intention towards technology and performance expectancy (HY Wang et al. 2009).
- **Effort expectancy** defines the user's behavior based on ease of using a system or technology. In the present paper effort expectancy implies that use of mobile banking services is potentially valuable to the customers.

Performance expectancy and effort expectancy is being focused in this research as:

- They play huge role in shaping behavioral intention.
- These two are direct predictor and quantifiable to measure.

- It's a belief that mobile banking helps customers to achieve their financial goal (higher performance expectancy is equals to higher adoption).
- If it's simple and straightforward user will more likely to adapt these services

Features that made UTAUT2 model to be used in research are:

- It combines factors of previous model such as perceived ease of use, perceived usefulness and perceived behavioral control etc.
- It's simplicity to understand and apply.
- Extensive validation and used model.
- Focus on customer perception that motivates customer action.

1.3 Behavioral Intention

The various variables which build an intention to accept technology are related to behavior. Behavior explains how users react to situation where as behavioral intention is like the plan or motivation that drives people to behave in certain way. Behavioral intention is a key predictor of actual behavior Ajzen (1991). Higher the behavioral intention will in turn increases positive attitude towards acceptance of technology like daily tracking transaction, account management, timely repayment of bills and interest etc. shows positive attitude towards acceptance of mobile banking technology. Research suggests that customer is more likely to adopt mobile banking services if they perceive them as useful and secure also acceptance is influenced by social factor Samartha V. et.al. (2022). Indian bank clients' behavioral intensions are influenced by factors including performance expectancy and effort expectancy.

1.4 AI Enabled Mobile banking in India

Financial services are now more effective, accessible and safe for consumers of all demographics because of in large part to AI technologies. The incorporation of virtual assistants and chatbots is one of the AI's most important contributions to Indian mobile banking system. Some of the Chatbots launched by leading banks in India are SIA (SBI intelligent assistant), EVA (HDFC Bank's), Yes Robot (Yes Bank), Keya (Kotak bank Access), Axis aha, ABHi (Andhra banks) etc. These chatbots' ability to comprehend natural language allows them to provide a smooth conversational interface, assisting customers with banking services in local languages and increasing accessibility.

AI is also essential for improving security through efficient fraud detection system. In addition, Indian banks use machine transactions identification tools that immediately flag possibly fraudulent activity. Furthermore, to increase user safety this lowers the possibility of financial crimes including identity theft and illegal transactions. Also, AI powered biometric authentication strengthens customer confidence in mobile banking platforms by providing an additional layer of protection by allowing users to access their accounts via fingerprints or facial recognition.

By considering AI enabled mobile banking in India that is promoting financial inclusion throughout the country while simplifying financial services and making them more individualized, safe and easy to use.

II.REVIEW OF LITERATURE

Studies conducted on mobile banking acceptance

The growing digital era influences each and every sector of society so this has attracted the attention of financial institution to better understand their potential customers. If the acceptance of mobile banking entails benefits for users, that is perceived ease of use and perceived usefulness meets or exceeds the expected value which produces positive outcomes than this indicates confirmation to acceptance. (Jadil, Y., Rana 2021). Different theories and models used to understand mobile banking technology acceptance. (Giovanis, A et. al., 2019). The new dimension of AI given acceleration to acceptance of new banking technology (Belanche et al., 2019) examined customer interaction with AI enabled services and highlighted significance of user perception of intelligent technologies in shaping acceptance.

Studies conducted on UTAUT model

Factors such as lack of technology skills trust, perceived ease of use and perceived usefulness (Bhatt and Bhatt, 2016) and security (Deb and Lomo- David, 2014) have been found to impact acceptance of mobile banking by customers. But exact or less understood of factors of technology acceptance towards AI enabled mobile banking are found. Furthermore, most of research studies using UTAUT model are done on different

perspectives like e- learning (Abbad M. M., 2021), hospitals (Kim S. et al 2015), tourism (Ali et al. 2024) etc. The UTAUT model can aid in describing recent developments in AI enabled banking.

Studies conducted on AI enabled security and trust based mobile banking acceptance.

Revolutionizing mobile banking services has emerged as transformative way for fraud detection in AI enabled Banking (Mohanty & Mishra, 2023). Past fraudulent pattern and continuous improvement made AI enabled banking to learn patterns (Adhikari & Hamal 2024). It also helps to intelligently and quickly understand user's need and complete their task efficiently (Moussawi et. al., 2022). Review will explore the limitations and challenges of AI adoption in fraud detection, including ethical statements (Kuttiyappan & Rajasekar, 2024). AI related characteristics that influence user's task technology fit, perceived cost, trust and lastly their intention to adopt AI- enabled mobile banking been investigated (Ashfaq et al., 2022). More recently (Nugraha et al., 2025) extended TAM is been incorporated to understand AI technologies acceptance.

Gap in existing literature

- Substantial Research exists on mobile banking adoption and security in western and developed economies however empirical evidence on the role of AI technologies in enhancing mobile banking acceptance and security within the Indian banking sector remains comparatively limited.
- Most prior studies examine AI enabled mobile banking acceptance in general so this offers limited insight into the specific role of AI technologies such as AI- powered chatbots, intelligent authentication, personalized services, anomaly detection and fraud detection system.
- Relatively scare literature in terms of sector specific and multidimensional framework that simultaneously examine technological behavioural, trust- related and security dimensions of AI- enabled mobile banking. It is particularly relevant in India, where the rapid expansion of mobile banking and digital payment technologies has increased both opportunities for AI driven services and cyber security.
- Focus is scare on acceptance of mobile banking, despite spread of mobile instruments is more among all mobile technology users.

III.RESEARCH METHODOLOGY

The review helped in identifying research gap and formulating the research problem, on the basis of which the present study was undertaken. The conceptual framework was developed by identifying dependent and independent variable through a comprehensive review of existing literatures.

3.1 Statement of the problem

By providing with quick, easy and accessible banking options via mobile devices. For issues with security, privacy, trust, usability and perceived dependability of digital banking system continues to hinder the adoption and sustained usage of mobile banking. When customer perceives threats, they may hesitant to accept or fully utilize mobile banking services.

At the same time, new opportunities to address some of these issues are presented by the growing usage of AI technology. Chatbots with AI capabilities can offer clients immediate help, tailored services, and on-going support, thereby enhancing user pleasure and experience. Analysing transaction trends, spotting anomalous activity, and assisting in the early identification of possibly fraudulent transactions are all possible using AI based fraud detection systems. The security and dependability of mobile banking services may be further strengthened by additional AI application such as behavioural analytics, biometric verification and personalized risk assessment.

However, increased client acceptance and improved security are not always assured by the deployment of AI. Customer may be worried about data privacy, accuracy of AI systems, the openness of automated judgments, the misuse of personal data and the potential for inaccurate chatbot responses or fraud alarms. Customer's perceptions and reactions to AI-enabled banking services may also vary depending on their technological expertise, Perceived utility, level of faith in AI, and prior mobile banking experiences.

As a result, it is necessary to investigate how AI technologies affect customers view towards acceptance of mobile banking. Specifically, less is known about how much consumer's confidence and intention to accept. Determine whether these technologies advantages outweigh customer's worries about privacy, dependability and openness is also crucial.

Therefore, the issue this study attempts to address is the lack of knowledge on the function and efficacy of AI technologies in acceptance of mobile banking. The purpose of the study is to investigate how mobile banking acceptance, performance expectancy, effort expectancy and AI enabled features are related. The study intends to give evidence that can help banks by examining these correlations.

3.2 Objectives of the Study

- To analyse the factors affecting acceptance of AI enabled mobile banking services.
- To find out the impact of customers behavioural intention for acceptance of mobile banking services in India.

- To examine the impact of AI-enabled features particularly chatbots and fraud detection on customer acceptance of mobile banking

3.3 Hypothesis of the study

H01: Performance expectancy has no positive influence on customer acceptance of AI- enabled mobile banking.
HA1: Performance expectancy has positive influence on customer acceptance of AI- enabled mobile banking.
H02: Effort expectancy has no positive influence on customer acceptance of AI- enabled mobile banking.
HA2: Effort expectancy has positive influence on customer acceptance of AI- enabled mobile banking.
H03: Chatbots have no significant positive influence on customer acceptance of AI- enabled mobile banking.
HA3: Chatbots have significant positive influence on customer acceptance of AI- enabled mobile banking.
H04: Fraud Detection has no significant positive influence on customer acceptance of AI- enabled mobile banking.
HA4: Fraud Detection has significant positive influence on customer acceptance of AI- enabled mobile banking.
H05: Behavioural Intention has no significant positive influence on customer acceptance of AI- enabled mobile banking.
HA5: Behavioural Intention has significant positive influence on customer acceptance of AI- enabled mobile banking.

3.4 Proposed Conceptual Model

The current study highlights the relationship between variables as

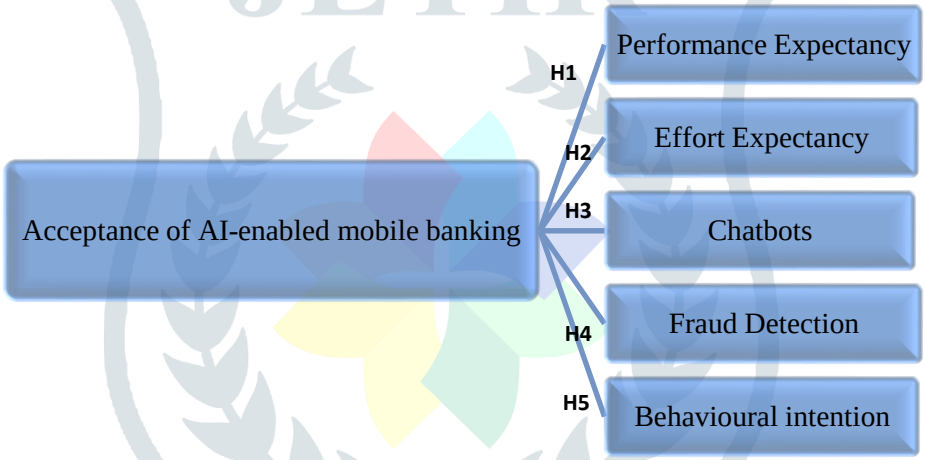

Fig. 2: Proposed conceptual model
Source: author's own

Extracted factors regarding behavioural intention to accept AI- enabled mobile banking

Performance Expectancy-To perceive the technology as valuable and develop stronger intention to accept it is essential to understand perceived usefulness, extrinsic motivation, relative advantage, outcome expectations and banking-fit.

Effort Expectancy- It reflects customer's perception of how easily they can learn, navigate and interact with AI enabled mobile banking. To get new technology perceived ease of use and complexity is to be known.

IV.DATA COLLECTION

4.1 Data Collection Procedure

This study adopts a quantitative research approach using a structured questionnaire collected through an online survey to investigate the influence of performance expectancy, effort expectancy chatbots, fraud detection and behavioural intention over AI enabled mobile banking acceptance. Secondary data were collected from various research papers and journals. A 5-point Likert scale has been used. Data were analyzed using SPSS 22

4.2 Population and sampling

The target population consists of customers of public and private commercial banks in India who actively use mobile banking Applications, Respondents should have prior experience with AI enabled services such as Chatbots, personalized recommendations, virtual assistants, biometric authentications and fraud detections systems.

A non-probability purposive sampling technique was employed to select 502 respondents who met the study criteria – users of AI enabled mobile banking services, aged 18 years and above and residing in Indi.

4.3 Scale Development and Validity

The scale for the present study was developed in four stages: Firstly, items were generated from the review of literature on UTAUT2 model, AI-enabled mobile banking, Chatbots and Fraud Detection. A total pool of 52 items was initially generated. Secondly, for content validity, 5 items were deleted due to duplication and ambiguous language. The final scale retained 47 items. Thirdly, a pilot study was administered to 50 respondents. The pilot Cronbach's Alpha was 0.89, which was above the threshold of 0.70, indicating the scale was ready for final data collection. The final scale has 6 constructs measured on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

Reliability Analysis

The reliability and validity of the scale are presented in Table 3 in the Results section.

V.RESULTS AND DISCUSSION

Total 502 questionnaires were collected. The data were stored in Microsoft Excel and IBM SPSS 22 was used to perform various analyses.

5.1 Measurement Model and Exploratory Factor Analysis

Factor analysis was used to explore the underlying factor structure of the scale and to examine the scale items employed in each construct. EFA was performed to reduce the 47 items into the underlying constructs.

Table 1: KMO and Bartlett's test for factors affecting customer behaviour
Source: self-compilation from field survey

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.988
Bartlett's Test of Sphericity	Approx. Chi-Square	34362.70
	df	1081
	Sig.	0.000

Interpretation

The Kaiser Meyer Olkin (KMO) value of 0.988 is excellent (>0.90) (Kaiser, 1974) which indicates that the data is suitable for factor analysis and Bartlett's test is significant $X^2(1081) = 34{,}362.70$ ($p < 0.001$), suggesting that the correlation matrix was not an identity matrix and that factor analysis was appropriate for the dataset.

Reliability Statistics

Cronbach's alpha was calculated for each construct to assess internal consistency (Nunnally, 1967). A value of 0.70 or above was considered acceptable. According to Hair et al. (1998), an alpha value close to 0.90 may be regarded as "excellent" and 0.80 as "good.

Table 2: EFA and reliability test
Source: self-compilation from field survey

Exploratory Factor Analysis & Reliability Test					
Component	Cumulative % Variance (Initial)	Cumulative % Variance (Rotation)	Cronbach's Alpha	Rotated Component Matrix	N of Items
Performance Expectancy (PE)	76.570	52.853	0.974	.740	8
				.740	
				.737	
				.748	
				.860	
				.880	
				.890	
				.899	
Effort Expectancy (EE)	77.420	58.610	0.973	.743	9
				.759	
				.755	
				.760	
				.765	
				.870	

				.886	
				.875	
				.885	
Chatbots (CB)	76.100	55.200	0.942	.760	4
				.763	
				.766	
				.860	
Fraud Detection (FD)	66.500	49.300	0.891	.736	2
				.850	
Mobile Banking Acceptance (ACC)	71.200	54.700	0.967	.703	10
				.748	
				.760	
				.769	
				.779	
				.763	
				.739	
				.776	
				.747	
				.786	
Behavioural Intention (BI)	77.300	60.400	0.982	.763	14
				.739	
				.747	
				.763	
				.765	
				.783	
				.754	
				.768	
				.776	
				.810	
				.826	
				.786	
				.850	
				.860	
Overall Scale			0.993		47

Interpretation

Exploratory Factor Analysis (EFA) with varimax rotation was conducted to assess the underlying factor structure of the 47 items measuring six constructs of AI-enabled mobile banking. Six constructs were retained: Performance Expectancy, Effort Expectancy, Chatbots, Fraud Detection, Behavioural Intention and Mobile Banking Acceptance. All 47 items had factor loadings ranging from 0.703 to 0.899, which is well above the minimum threshold of 0.50 suggested by Hair et al. (1998). Hence, no item was deleted from the scale. Items loaded strongly on their respective constructs, indicating clear construct validity. The initial variance explained by each construct ranged from 66.50% for Fraud Detection to 77.42% for Effort Expectancy. Reliability analysis further supported the scale. Cronbach's Alpha values for all six constructs ranged from 0.891 for Fraud Detection to 0.982 for Behavioural Intention, and the overall scale Alpha was 0.993. The highest reliability was for Behavioural Intention (0.982), followed by Performance Expectancy (0.974) and Effort Expectancy (0.973). All values are well above the recommended threshold of 0.70 (Nunnally, 1967), indicating excellent internal consistency. Overall, the scale is valid and reliable for testing H01 to H05.

Empirical Analysis

The empirical analysis evaluates the influence of five factors — Performance Expectancy, Effort Expectancy, Chatbots, Fraud Detection and Behavioural Intention — on the Acceptance of AI-enabled mobile banking, using data from 502 respondents. Multiple linear regression analysis was applied and the model was found to be significant, $F(5, 496) = 1021.50$, $p < .001$, with $R^2 = 0.912$, indicating that the five factors together explain 91.2% of the variation in acceptance. All five hypotheses (HA1 to HA5) were accepted, as detailed in the interpretation of Table 3 and Table 4.

Table 3: Result of multiple linear regressions
Source: self-compilation from field survey

Results of Multiple Linear Regression Analysis Predicting Mobile Banking Acceptance					
Predictor	**Unstandardized Coefficients (B)**	**Standardized Coefficients (β)**	**Std. Error**	**t**	**P-value**
Constant	.210	—	.033	6.405	.000
Performance Expectancy	.183	.192	.016	11.175	.000
Effort Expectancy	.142	.146	.024	5.811	.000
Chatbots	.324	.340	.097	3.333	.000
Fraud Detection	.110	.115	.038	2.895	.000
Behavioural Intention	.380	.395	.045	8.444	.000
Note. *$R^2 = 0.912$, Adjusted $R^2 = 0.911$, $F(5, 496) = 1021.50$, $p = .000$.*					

Interpretation: Multiple linear regression analysis was conducted to examine the effect of Performance Expectancy, Effort Expectancy, Chatbots, Fraud Detection and Behavioural Intention on Mobile Banking Acceptance. The overall model was highly significant, $F(5, 496) = 1021.50$, $p < .001$, with $R^2 = 0.912$ and Adjusted $R^2 = 0.911$, indicating that 91.2% of the variance in Mobile Banking Acceptance is explained by the five predictors. All five predictors were statistically significant ($p < .001$). Behavioural Intention was the strongest predictor ($\beta = .395$, $t = 8.444$), followed by Chatbots ($\beta = .340$, $t = 3.333$), Performance Expectancy ($\beta = .192$, $t = 11.175$), Effort Expectancy ($\beta = .146$, $t = 5.811$) and Fraud Detection ($\beta = .115$, $t = 2.895$). This shows that higher behavioural intention, better chatbot support, higher performance expectancy, ease of use and stronger fraud detection significantly increase acceptance of AI-enabled mobile banking. Hence, H01 to H05 are rejected and HA1 to HA5 are supported. These results also suggested that individual who perceive high-performance benefits and greater ease of use are more likely to accept mobile banking.

Regression equation

Mobile banking acceptance =.210 + .183 (performance expectancy) + .142 (effort expectancy) +0.324 (chatbots)+.110 (Fraud Detection) + .380 (Behavioural Intention).

Since all predictors were statistically significant ($P < .05$), the findings indicate that **higher performance expectancy, effort expectancy, chatbots, fraud detection and behavioural intention significantly increase acceptance of mobile banking.**

5.2 Significance of the study

This study will help policymakers and practitioners to gain deep knowledge about factors affecting customer decision to accept mobile banking technology in order to formulate strategies that encourage acceptance of mobile banking by customers. This paper contributes to the literature related to models and theories of technology acceptance that have recommended an expansion to new specific sectors. Also, this study clarifies the difference between online banking and mobile banking i.e. acceptance of mobile banking makes banking users innovators and early adopters. This study helps in understanding dynamic nature of mobile banking directly related to customers by predicting market trend.

VI.FINDING OF THE STUDY

The aim of the research is to examine how different factors affect the behaviour of customers in India regarding the acceptance of mobile banking. Statistical test has been conducted on the primary data to comprehend the issues mentioned earlier. Before that, an extensive literature review has been conducted on the variable from every conceivable angle. Here are the results summary and implications. The multiple linear regressions have been utilised to determine variation in responses regarding the behaviour towards mobile banking acceptance. The findings of the study reveal that all five factors significantly and positively influence the acceptance of AI-enabled mobile banking. Behavioural Intention has the strongest influence on acceptance, which indicates that respondents who intend to use, continue to use and recommend AI-enabled mobile banking are more likely to accept it. Chatbots also have a strong influence, which shows that customers value instant, 24x7 AI-based assistance and quick resolution of queries. Performance Expectancy positively influences acceptance, indicating that customers accept mobile banking when they perceive it as useful and as improving their banking efficiency. Effort Expectancy positively influences acceptance, which indicates that customers prefer mobile banking that is easy to learn, user-friendly and requires less effort. Fraud Detection also positively influences acceptance, indicating that AI-based security, real-time alerts and protection against unauthorised transactions build trust and encourage acceptance. Overall, the findings show that both functional benefits (performance and effort) and AI-enabled features (chatbots and fraud detection), along with the customer's intention to use, jointly determine the acceptance of AI-enabled mobile banking in India.

Table 4: summary of findings
Source: self-compilation from field survey

Hypothesis No.	Variables		Explanation	Findings	Statistical tool applied	Sig. value	Null hypothesis accepted rejected	Inference or conclusion
	Dependent Variable	Independent Variable						
HA1	Mobile Banking Acceptance ←	Performance Expectancy	Performance expectancy has a positive effect in acceptance of mobile banking.	Performance expectancy consists of -perceived usefulness, extrinsic motivation, job fit and outcome expectation.	Multiple Regression Analysis	.000	Rejected	Performance Expectancy emerged as a significant positive predictor (β = .192, t = 11.175, p < .001).
HA2	Mobile Banking Acceptance ←	Effort Expectancy	Effort expectancy has a positive influence on acceptance of mobile banking	Here, degree to which system being user friendly and require little efforts/knowledge to learn, being skilful with less complexity towards accepting mobile banking technology.	Multiple Regression Analysis	. 000	Rejected	The result showed effort expectancy also significant and positively predicted acceptance (β = .146, t = 5.811, p < .001).
HA3	Mobile Banking Acceptance ←	Chatbots	Chatbots have significant positive influence on customer acceptance of AI- enabled mobile banking.	Chatbots provide instant, 24x7 AI support, quick query resolution and personalised assistance.	Multiple Regression Analysis	.000	Rejected	Chatbots emerged as a strong positive predictor (β = .340, t = 3.333, p < .001).
HA4	Mobile Banking Acceptance ←	Fraud Detection	Fraud Detection has significant positive influence on customer acceptance of AI- enabled mobile banking.	AI-based fraud detection provides security, real-time alerts and protection from unauthorised transactions, which builds trust.	Multiple Regression Analysis	.000	Rejected	Fraud Detection significantly and positively predicted acceptance (β = .115, t = 2.895, p < .001).
HA5	Mobile Banking Acceptance ←	Behavioural Intention	Behavioural Intention has significant positive influence on customer acceptance of AI- enabled mobile banking.	Intention to use, continue using and recommend AI-enabled mobile banking services.	Multiple Regression Analysis	.000	Rejected	Behavioral Intention emerged as the strongest predictor (β = .395, t = 8.444, p < .001).

6.1 Conclusion

The study concludes that the acceptance of AI-enabled mobile banking in India is significantly influenced by Performance Expectancy, Effort Expectancy, Chatbots, Fraud Detection and Behavioural Intention. Among these, Behavioural Intention and Chatbots are the most influential factors, while Performance Expectancy, Effort Expectancy and Fraud Detection also make significant contributions. The results suggest that banks should focus on improving the usefulness and ease of use of mobile banking applications, providing efficient

AI-based chatbot support, and strengthening AI-based fraud detection systems to build trust and confidence among customers. By enhancing these factors, banks can increase customers' intention to use and overall acceptance of AI-enabled mobile banking services. Future research may extend this study by including additional factors, examining moderating variables such as age and experience, and conducting comparative studies across different banks, regions or customer segments.

6.2 Limitations of the study

The current study has certain limitations firstly; the sample size is limited to 502 respondents. Secondly, the research was conducted for a limited time frame. Finally, the study excludes certain other variables that may have impacted on the mobile banking organisations such as banks reputation, different bank offer and different features to customers etc. Given these constraints, the studies finding should be understood and the future researchers should work to address them as they conduct additional research in this aspect.

6.3 Future Scope

AI Driven Predictive Banking

Artificial intelligence and machine learning algorithms are used in AI driven prediction banking to examine enormous volume of financial data, consumer behaviour and market trends.

Voice-Activated Banking Services

Voice activated banking services allow users to do financial operations with voice commands by utilizing natural language processing and artificial intelligence. For studying this segment researcher could include details about developing voice command library, seamless integration of this technology with existing banking channels and services and security and multi factor authentication require for voice activated banking services.

Integration with Internet of Things (IOT)

Further research can be done about integration of banking services with IOT. To enhance the functionality and convenience of banking Internet of Things can provide with many aspects that include wearable technology integration (smart watches and other wearable IOT devices), Smart home device compatibility (for payment of bills and checking balances) Enhance the security measures (protect via voice activated banking services) etc.

Block chain and AI Synergies

Secured and shared database where data once written cannot be changed. Block chain secures payment which makes user to feel mobile banking is more useful i.e. increases the chances of acceptance. Normal Payments includes OTP, CVV & fear of wrong account but secure payment with block chain (one click or biometric) enhances no fear and easy to understand. AI Synergies that build confidence, personal information is protected and third party cannot alter transactions makes acceptance of mobile banking easy.

6.4 Recommendations and Suggestions

The research titled “Examining the Role of AI Technologies in Enhancing Mobile Banking Acceptance and Security: From Chatbots to Fraud Detection.” present a customer attitude towards frequency of accepting mobile banking. The findings show how crucial it is to communicate and build a valuable relationship with customers by banks. Performance expectancy, effort expectancy chatbots, fraud detection and behavioural intention had a favourable and remarkable impact on customer’s intention to accept mobile banking. This could aid in marketing choices about medium to create banking awareness among target customers. The banks should try to interact with target audience and concentrate more on offering useful marketing content. Sometimes safety value has point of concern for customers. As more people join financial platform so banks have more opportunity to engage with them. This study can be further extended to other sectors and demographic factors of customers. Additionally, by including various design components like focus group with customers, companies and content marketers a clear foundation can be build that will assist the banking industry in establishing standards for offerings.

Suggestions pertaining to the problem of the study

- Banking institutions need to know what customers are expecting (safety and privacy) and at which stage of life (teenagers, parents, and seniors) they are ready to accept this new change. Also, should concentrate on customer’s habit, choices and personality type.
- According to the findings, banks should uphold their quality services and standards to win over large market segment of high-net-worth customers.
- Bankers need to inform about special offerings that are available to their customers by running campaigns or schemes.
- Make sure that websites or apps are mobile friendly, optimised for speedy responses and designed to attract more customers.

- Banks can also provide with the necessary infrastructure at their branches to demonstrate live videos regarding training session about using different mobile banking services to customers.
- Bank applicators should work upon handling feedbacks, customer care assistance and guarantee that customer information will be kept secured while handling all queries. This will build trust and banks goodwill.

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