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MESSAGE FROM EDITOR IN CHIEF

Innovation has long been a key differentiator for businesses and nations across the globe. Companies that continuously innovate not only survive but also thrive in competitive markets. Similarly, nations that foster innovation within their societies stimulate economic growth, empower entrepreneurship, and promote sustainable business development. As technology and data science continue to evolve, researchers are presented with new opportunities as well as increasingly complex challenges. These advancements equip academics and researchers with a wider array of tools, expanding the scope of their work and enabling deeper insights.

The ESSBC Journal of Business Studies addresses a broad range of academic topics within the fields of business management and public relations. This edition places particular emphasis on critical studies exploring areas such as AI-powered banking applications and their role in enhancing customer service experiences, a comparative analysis of profitability between Chinese and Indian e-commerce companies, the perception of youth regarding personalized advertisements in online games, Inclusive growth through Skill Mission and CSR initiatives for Sabka Saath Sabka Vikas, and the influence of green finance on financial performance. These research articles offer valuable insights for both academics and practitioners, contributing to the advancement of knowledge in these essential areas.

We extend our heartfelt appreciation to everyone involved in the publication of this volume. As always, we welcome suggestions from our readers to further enhance the ESSBC Journal of Business Studies. Your feedback is instrumental in helping us continually improve and expand our contributions to the academic community.

Dr. Dipak Kumar Tamili

Principal, Egra S.S.B. College &

Editor in Chief

ESSBC JOURNAL OF BUSINESS STUDIES

MESSAGE FROM ASSOCIATE EDITORS

Welcome to this edition of the **ESSBC Journal of Business Studies**, where we bring together cutting-edge research and thought-provoking insights in the fields of business management and public relations. As editors, we take pride in presenting a diverse array of articles that delve into emerging trends, technological advancements, and critical business strategies that are shaping today's global economy.

In this volume, you will find a focus on key topics such as AI-powered banking applications and their impact on customer service, Comparison between Alibaba and Paytm in terms of profit, Youth perceptions of personalized advertisements in online gaming, and the role of green finance in influencing financial performance of the companies. We also explore how inclusive growth initiatives like Skill Mission and CSR contribute to India's vision for sustainable development.

These articles are a testament to the dedication and expertise of the authors, who offer valuable contributions to academia and industry alike. We hope that the insights shared here will spark further dialogue and research within these vital areas.

We look forward to constructive feedback from our readers on the articles and overall development of the EJBS. Please send your mails at ejbs@egrassbcollege.ac.in

We express our sincere gratitude to all the contributors and reviewers of this important issue and wish our readers get requisite insight from the articles.

Dr. Sunil Kumar Yadav

Mr. Sanjib Das

Dr. Shibsankar Jana

Associate Editors

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Exploring AI-powered Banking Apps as A New Financial Trend – Does It Enhance Consumer Experience?

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Abstract:

The purpose of this study is to better comprehend customer perceptions regarding AI-driven banking apps, including their acceptance, concerns, and the factors influencing trust. The article highlights the revolutionary significance of AI by exploring its evolution in banking and providing a summary of the various variables that affect user experience, based on a survey of the literature. A survey of 142 respondents yielded data showing that people between the ages of 25 and 44 frequently used banking applications, with those in the workforce being the most regular users. The findings indicate that customers are significantly aware of and comfortable with AI-driven capabilities, such as automating repetitive processes and tailored financial guidance. Positive correlations between AI-driven features and improved customer experience were confirmed by structural equation modeling, conducted using Smart PLS. Despite offering banks and regulators critical insights, the study's shortcomings include sample size limitations and its exclusive focus on Indian customers, which suggest potential areas for further research to enhance understanding in a variety of contexts.

Keywords: Artificial Intelligence, Consumer Experience, Banking Apps, Financial Trend, Structural Equation Modeling.

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Introduction

Backdrop

Artificial intelligence (AI) is ushering in a new age of efficiency and creativity, completely transforming the financial industry. AI has simplified processes, strengthened security protocols, and improved customer service by integrating technologies such as machine learning (Haenlein & Kaplan, 2019). In addition to streamlining procedures, this revolutionary combination of cutting-edge algorithms and banking techniques is facilitating personalized interactions and the development of innovative financial solutions. AI's influence on banking is radically altering how financial institutions operate and interact with consumers as it continues to advance (Tad et al., 2023).

AI in the banking and finance sectors has the potential to completely change how these industries function, create revolutionary products and services, and enhance customer satisfaction (Malali & Gopalakrishnan, 2020). Research is also being conducted on the impact of AI on the banking sector in relation to Industry 4.0, or the Fourth Industrial Revolution. The study focuses on the advantages of AI for the banking sector as well as the challenges the sector faces (Tayal et al., 2022). However, several obstacles to AI adoption still exist, such as the accessibility and reliability of data, data confidentiality, regulatory compliance, ethical issues, talent scarcity, and system integration (Singh & Ahlawat, 2023).

Therefore, today's banking industry needs to gain a thorough understanding of consumer perspectives regarding financial innovations, particularly concerning AI's role and its integration into banking processes. Understanding consumer awareness of AI technology is critical for competing in the banking sector (Nooren et al., 2023).

It is evident that in the banking sector, consumer perceptions play an important role in determining the acceptance and usage of AI technology. By exploring consumer attitudes, concerns, and expectations, banks can gain essential insights that are crucial for creating and optimizing AI-driven offerings that effectively meet consumer needs. Therefore, by conducting this study from the consumer's perspective, the banking industry will be better positioned to understand the knowledge, opinions, levels of trust, and expectations consumers have about this technology. The outcomes of this research will provide valuable insights to banking sector authorities, helping them establish a strategic blueprint for implementing AI strategies.

Objectives of the Study

The present study has the following objectives:

1. To evaluate consumers' understanding and acceptance of AI-driven banking apps.
2. To determine the expectations and concerns of customers about security, privacy, and moral issues.
3. To investigate the elements affecting consumer acceptability and trust in AI-powered banking apps.

Exploration of Related Literature and Conceptual Framework

Grassroots of Artificial Intelligence

The origins of AI can be traced back to early ideas of intelligent machines in Greek and Roman antiquity (Buchanan, 2005). However, the term "artificial intelligence" (AI) was first coined in 1956 at a symposium at Dartmouth College, marking the beginning of the modern era of AI as a field of study (Verma & Verma, 2022; Amisha et al., 2019). In the 1970s and 1980s, AI evolved from early research that focused on symbolic approaches and problem-solving (Fryxell, 2020).

Significant milestones in the field include the introduction of early AI programs in the 1950s, the development of machine learning and neural networks in the 1980s (Cave et al., 2020), and notable advancements in natural language processing, computer vision, and robotics in the 21st century (Sun, 2023). In light of the growing prevalence of robotics and AI, research on AI rights has recently garnered attention, raising ethical and legal questions about artificial beings. Overall, the history of AI has been characterized by continuous progress, setbacks, and renewed interest, shaping the diverse and rapidly evolving field we see today (Fanti et al., 2022; Harris, 2022; Toosi et al., 2021).

Evolutionary Journey of Banking

The banking sector has evolved from Banking 1.0, which was based on conventional and historical banking practices, to Banking 4.0, which incorporates artificial intelligence (AI) and other cutting-edge technologies across various financial domains. To stay competitive and relevant, banks have been adopting these new and advanced technologies. For example, automated teller machines (ATMs), which were first introduced under Banking 2.0 by Barclays

Bank in the 1960s, marked a significant technological advancement. The rapid progression of AI technology has further reduced the costs associated with data processing and storage, while also enabling faster connections since 2017. This era is known as Banking 4.0 (Biswas et al., 2020; Noreen et al., 2023).

Banking in the Era of Artificial Intelligence

AI has ushered in a new era of efficiency, customization, and security in the banking industry, transforming it completely. AI technologies, including natural language processing and machine learning, have enabled banks to reduce risks, enhance client experiences, and streamline operations. The financial industry largely overcame the challenges of the COVID-19 pandemic by leveraging AI, cloud computing, and the Internet of Things (IoT) (Priyadarshini et al., 2022). With a compound annual growth rate (CAGR) of 6%, the global financial services sector is projected to reach a value of USD 28.529 trillion by 2025–2030 (Ross, 2015). AI has significantly impacted banking by improving security, providing personalized services, increasing efficiency, and facilitating the development of innovative financial products. As a result, AI has the potential to further enhance the banking sector by boosting client satisfaction, reducing costs, and increasing efficiency (Boobier, 2020). While the advantages are evident, a balanced and long-term integration of AI technology is necessary to address challenges such as employment displacement and ethical concerns (Sun, 2023). Moreover, contemporary banking should use fintech and AI responsibly to ensure that these tools are applied ethically and transparently (Durodola, 2020).

Examining the Global-View and India: Specific Use of AI in Banking Adoption

Globally, AI is being extensively employed in the banking sector for various purposes, including risk assessment, fraud detection, and personalized banking (Gigante & Zago, 2022). Banks are implementing AI approaches to increase overall efficiency, optimize consumer experiences, and streamline processes. Consumers' readiness to embrace mobile banking apps that utilize AI-based features like anthropomorphism and perceived intelligence has contributed to the increased use of AI in these applications (Lee & Chen, 2022). Compared to developed nations, India's banking industry has been slower to adopt AI-driven technology. However, to enhance customer satisfaction and boost productivity, banks in India can now implement AI and machine learning technologies following guidelines released by the Reserve Bank of India (Deepthi et al., 2022). Additionally, the Mobile Financial Applications Secure Terminal (iMFAST), which enables

branchless banking in rural India, is an example of significant initiatives aimed at advancing AI in the banking sector (Bareria et al., 2009).

Tech Transformation: AI's Effect on Apps for Banking

The banking industry is witnessing a significant shift in customer service and financial practices due to the beneficial effects of AI.

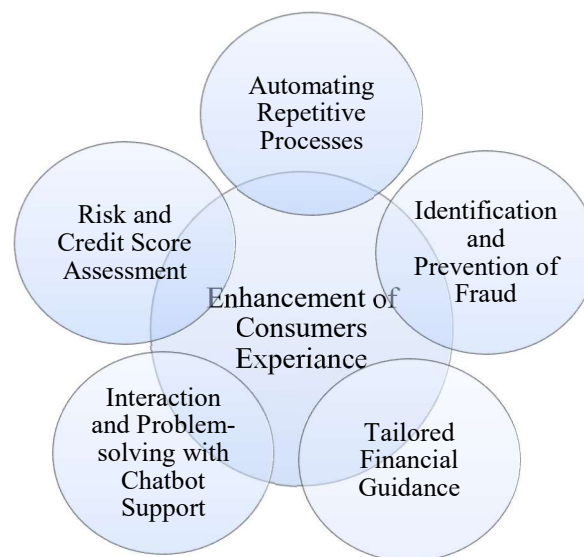
AI has proven revolutionary in areas such as customer relationship management and fraud detection (Kunwar, 2019). One of the noteworthy domains where AI has had a major impact is the creation and integration of AI-based technologies into banking apps. AI-driven banking applications streamline various banking processes and offer consumers personalized services by utilizing technologies like machine learning and natural language processing algorithms. These solutions are designed to enhance the accuracy, efficiency, and convenience of banking operations while ensuring a seamless consumer experience (Taifi, 2013).

From process automation to cognitive task augmentation and intelligent process/data analytics, AI enables machines to learn from human experiences, adapt to new inputs, and perform human-like tasks (Hanif, 2021). With the emergence of online chatbots in banking, AI is being utilized to prevent financial fraud and track theft, thereby improving customer service (Mongia, 2020; Kumar et al., 2023). AI-capable banking applications employ machine learning and AI to provide users with individualized financial guidance. These programs analyze user data and offer recommendations tailored to their specific needs in budgeting, investments, and money management. By providing personalized suggestions based on user objectives and interests, these solutions empower users to make informed financial decisions (Deepthi et al., 2022; Gigante & Zago, 2022).

AI-driven chatbots deliver personalized support, address frequently asked questions, optimize processes, and enhance consumer satisfaction by offering round-the-clock assistance and increasing customer engagement. These chatbots use natural language processing (NLP) to understand consumer queries and provide relevant responses (Dubey, 2019; Anjana et al., 2023). Additionally, AI and machine learning are implemented in banking apps to assess creditworthiness and potential risks by analyzing consumer data, past transactions, and other pertinent information. This critical assessment of credit scoring and risk evaluation improves efficiency and accuracy in decision-making (Jaiwant, 2022; Shetty & Devi, 2022; Teeroovengadam, 2022).

The influence of AI features on consumer intentions to adopt AI-enabled mobile banking apps has also been studied. It has been observed that task-technology fit and reliability play significant roles in consumers' willingness to embrace these apps (Lee & Chen, 2022; Teeroovengadum, 2022).

Thus, based on the review of several pieces of research, six variables (such as, Automating Repetitive Processes, Identification and Prevention of Fraud, Tailored Financial Guidance, Interaction and Problem-solving with chatbot support, Risk and Credit Score Assessment, and Enhancement of Consumers' Experience) are summarised that serves as the AI-driven cornerstones of the banking apps of this new evolutionary phase of banking and finance. Hence, this study is intended to investigate the relationship between the elements “*Automating Repetitive Process*”, “*Identification and Prevention of Fraud*”, “*Tailored Financial Guidance*”, “*Interaction and Problem-solving with Chatbots support*”, “*Risk and Credit score Assessment*” with “*Enhancement of consumer experience*”. With these five independent variables and one dependent variable, as illustrated in Fig. 1, a theoretical framework is presented for achieving this target.



Source: Authors' Creation

Figure 1: The Six Foundations of AI-Driven Banking App Services

Research Design

Econometric Model

The Econometric Model that has been adopted for this study is as follows:

$$(UEX)_{it} = \beta_0 + \beta_1. (ATO)_{it} + \beta_2. (FRD)_{it} + \beta_3. (TFG)_{it} + \beta_4. (CBS)_{it} + \beta_5. (RSK)_{it} + \epsilon_{it}$$

Table 1: Variables' Abbreviations

Variables Types	Variables	Abbreviations
Independent	Automating Repetitive Process	ATO
	Identification and Prevention of Fraud	FRD
	Tailored Financial Guidance	TFG
	Interaction and Problem-solving with Chatbot Support	CBS
	Risk and Credit Score Assessment	RSK
Dependent	Enhancement of Consumer Experience	UEX

The study's variable abbreviations are presented in Table 1 which are used in the Econometric Model.

Data Procurement and Instrument

The primary instrument for collecting data in the research was a self-constructed questionnaire that used a Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). This carefully designed questionnaire, which focuses on the perceptions of Indian consumers, was made to correspond with the six major research components. During the data-gathering procedure, a convenient and purposive sampling approach was employed to ensure that all the respondents were at least High School qualified. A total of 154 consumers participated in the survey, offering insightful responses that greatly aided the study project, however, 142 complete responses were taken into account for final analysis. Responses have been analyzed using Smart PLS and Microsoft Excel.

Respondents' Summary

Based on demographic information gathered from the extensive questionnaire, the study's insights demonstrated that, of the 142 respondents, 63 were male and 79 were female. Three separate age groups were created out of these participants namely "18 to 24," "25 to 44," and "45 and above" The overall distribution of respondents by gender within these designated age groups is presented graphically in Fig. 2.

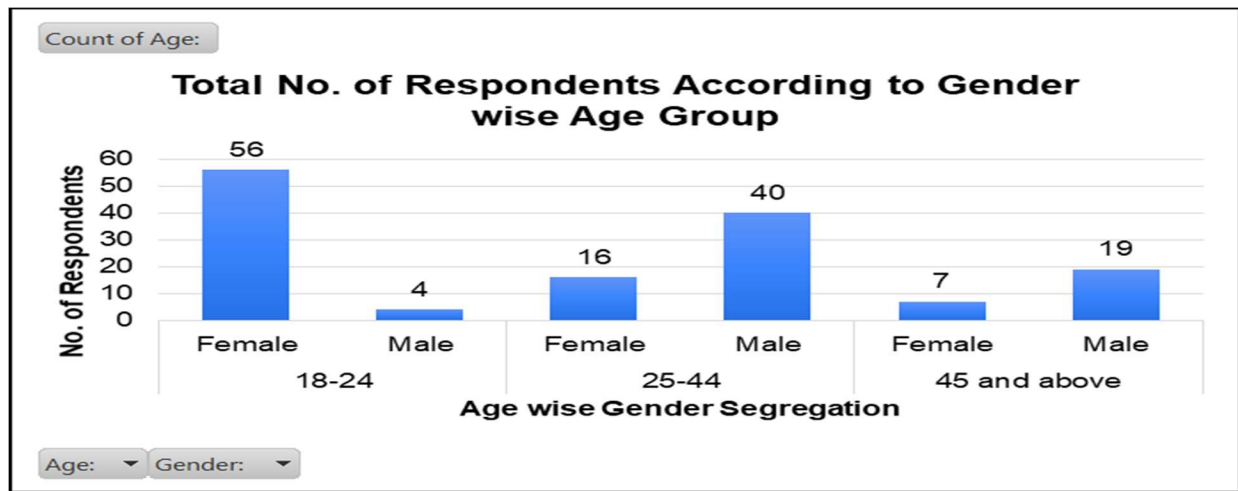


Figure 2: Total No. of Respondents According to Gender wise Age Group

(Source: Authors' Computation)

The demographic study also revealed the participants' diverse range of occupations. 49.30% of the respondents, or the majority, identified as working professionals, meanwhile, 45.07% were students, and 5.63% were self-employed. A graphic depiction of this distribution and the corresponding number of responders for each category are shown in Table 2.

Table 2: Demographic Distribution of Respondents by Employment Status and Occupation

Occupation of the Respondents	Corresponding No. of Respondents	Percentage
Employed	70	49.30%
Student	64	45.07%
Self Employed	8	5.63%
Total	142	100%

(Source: Authors' Computation)

Investigation and findings based on MS Excel

Frequency of Usage of Banking Apps According to Age Groups

The research findings indicate a predominant utilization of banking apps among individuals within the age range of 25 to 44 years which can be visualized in Fig.3.

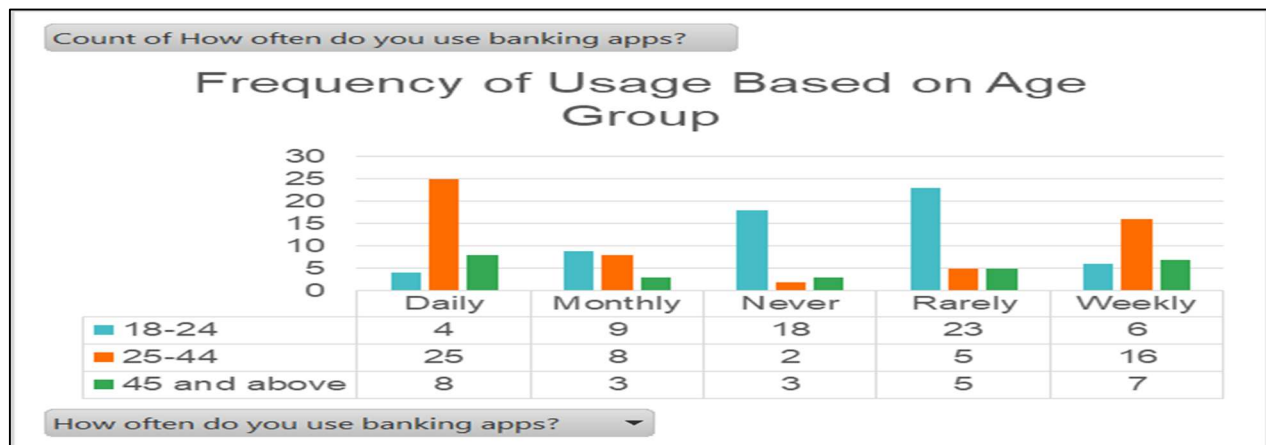


Figure 3: Frequency of Usage Based on Age Group (Source: Authors' Computation)

Specifically, 54 respondents, constituting 38.03% of the total participants, reported using the banking apps. Among this demographic, 37 (26.06%) respondents employ these apps on a daily basis. Within the age group "18-25" years and "45 and above" years, a substantial portion of respondents tend to use banking apps infrequently or never. Furthermore, the study highlights the

prevalent adoption of banking apps within the "25-44" age group, with only two respondents indicating no prior usage of such applications. The detailed distribution regarding the usage of the banking apps according to the three age groups has been demonstrated in Table 3.

Table 3: Percentage of Frequency of Usage of Banking Apps According to Age Groups

Frequency of Usage	Age	No. of Respondents	Percentage
Daily	18-24	4	2.82%
	25-44	25	17.61%
	45 and above	8	5.63%
Weekly	18-24	6	4.23%
	25-44	16	11.27%
	45 and above	7	4.93%
Monthly	18-24	9	6.34%
	25-44	8	5.63%
	45 and above	3	2.11%
Rarely	18-24	23	16.20%
	25-44	5	3.52%
	45 and above	5	3.52%
Never	18-24	18	12.68%
	25-44	2	1.41%
	45 and above	3	2.11%

(Source: Authors' Computation)

Frequency of Usage of Banking Apps According to Occupation

The data presented in Fig. 4 reveals the frequency of users of the banking apps who fall into one of three occupational categories such as employed, self-employed, or students, who use banking apps. Remarkably, 28 (19.72%) employed individuals report using banking apps daily, suggesting they rely heavily on these applications for their financial needs. Students have a noteworthy daily usage count of 6 (4.23%), but not as frequent as the employed group.

The groups' monthly consumption is split more fairly, with students having the highest count at 10 (7.04%). It's interesting to see that a sizable percentage of students (18 i.e. 12.68%) never use banking applications, which may indicate opportunities to increase user engagement. Working people also show a high number of weekly usage (20 i.e. 14.08%). The detailed distribution regarding the usage of the banking apps according to the three occupational categories has been demonstrated in Table 4.

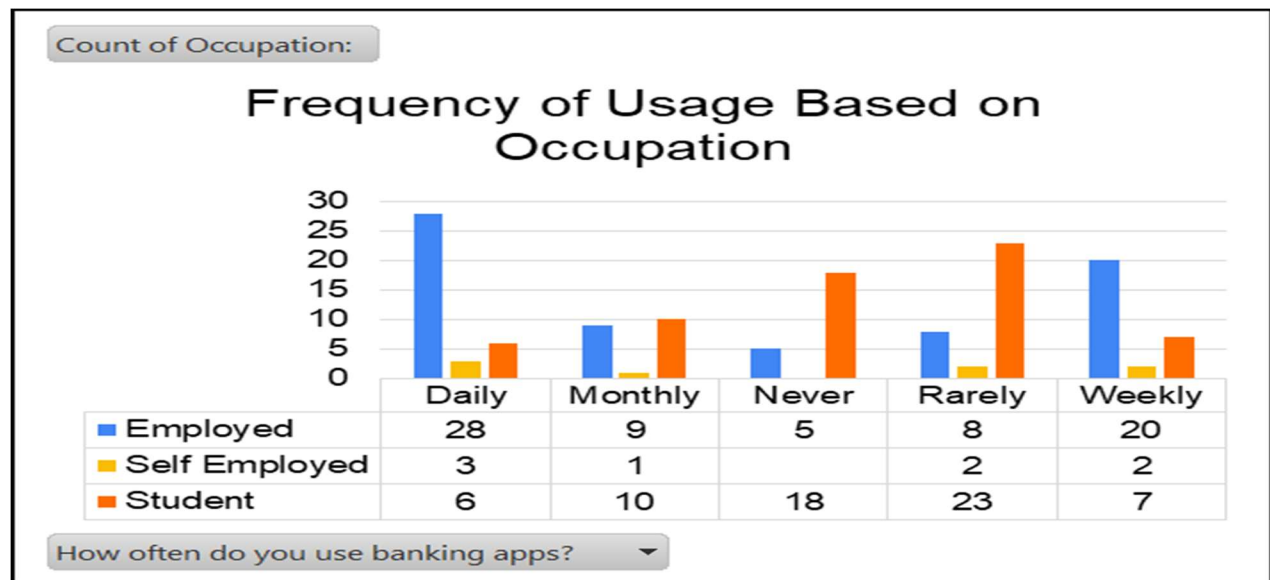


Figure 4: Frequency of Usage of Banking Apps According to Occupation

(Source: Authors' Computation)

Table 4: Percentage of Frequency of Usage of Banking Apps According to Occupational Categories

Frequency of Usage	Age	No. of Respondents	Percentage
Daily	Employed	28	19.72%
	Student	6	4.23%
	Self Employed	3	2.11%
Weekly	Employed	20	14.08%
	Student	7	4.93%
	Self Employed	2	1.41%
Monthly	Employed	9	6.34%
	Student	10	7.04%
	Self Employed	1	0.70%
Rarely	Employed	8	5.63%
	Student	23	16.20%
	Self Employed	2	1.41%
Never	Employed	5	3.52%
	Student	18	12.68%
	Self Employed	0	0.00%

(Source: Authors' Computation)

Awareness regarding the Use of AI in Banking Apps concerning the Use of Banking Apps

Fig. 5 demonstrates the number of respondents regarding the usage of banking apps and also illustrates matters of awareness among them. From the figure, it is evident that a total of 95 respondents (i.e. 66.90% of the total respondents) are aware of the existence of AI-driven features in banking apps. Additionally, 61.97% (88 respondents) of the respondents are using banking apps and are also aware of the use of AI in these apps. Conversely, 21.83% (31 respondents) of the respondents are using the apps without the knowledge of the usage of AI in them.

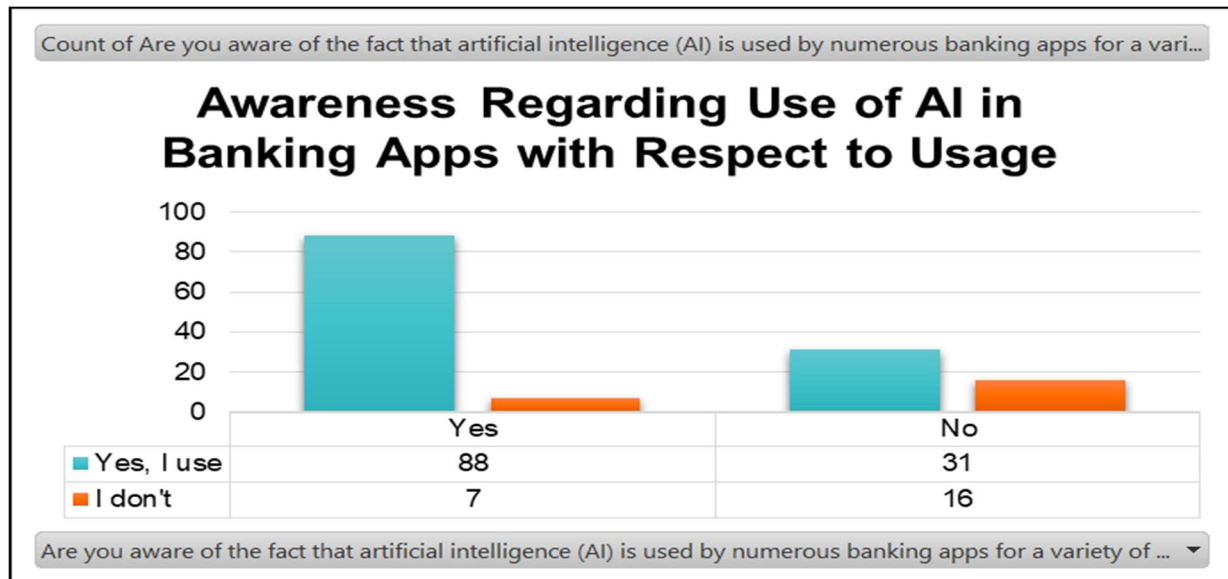
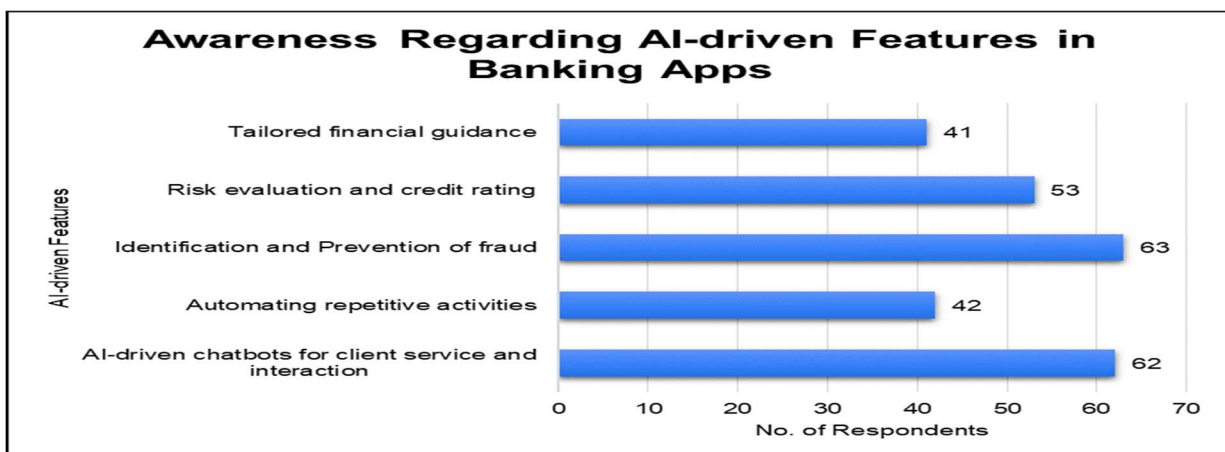


Figure 5: Awareness Regarding Use of AI in Banking Apps with Respect to the Usage

(Source: Authors' Computation)

Further analysis has been done on the responses of the 95 participants (who are informed about the AI-powered features in banking apps) and their perception regarding different AI-driven features or options that are present in the banking apps, which has been illustrated in Figure 6.

Figure 6: Awareness of Different AI-driven Features of the Banking Apps



(Source: Authors' Computation)

According to the data assessment, respondents appear to be mindful of the use of AI-driven capabilities in banking applications. 63 responses (i.e. 66.32% of the respondents), or most of the respondents, emphasize the significance of fraud detection and prevention, demonstrating a broad concern for security. Also, a sizable portion of the respondents (62 individuals, i.e. 65.26% of the respondents) like the use of AI-powered chatbots for customer service and communication, demonstrating a predilection for effective and easily reachable customer assistance. Furthermore, 53 respondents (i.e. 55.79% of the respondents) expressed a strong interest in using AI for credit rating and risk assessment, indicating a demand for individualized financial analysis and management. Additionally, 42 respondents (i.e. 44.21% of the respondents), expressed appreciation for the automation of tasks that could be done repeatedly. This suggests that there is a desire to use AI technology to streamline procedures and improve overall efficiency in banking apps. In particular, 62 respondents (i.e. 65.26% of the respondents), or a substantial majority, support the use of AI-driven chatbots for customer care and interactions. This suggests that people recognize the efficiency and convenience that these technologies offer when it comes to banking transactions. Also, while 41 respondents, or a small percentage of 43.16, prioritize customized financial advice, this still constitutes a sizable portion, suggesting that the importance of individualized financial advice provided by AI-driven features inside banking apps is acknowledged. Thus, these results highlight the increasing acceptability and dependence on AI-driven features for enhancing the performance of banking apps in a variety of areas, from customer support and operational efficiency to security protocols.

Frequency of Using AI-Driven Banking Apps with Comfort

Fig. 7 demonstrates the frequency of usage of the AI-driven banking apps and how comfortable they are in using them.

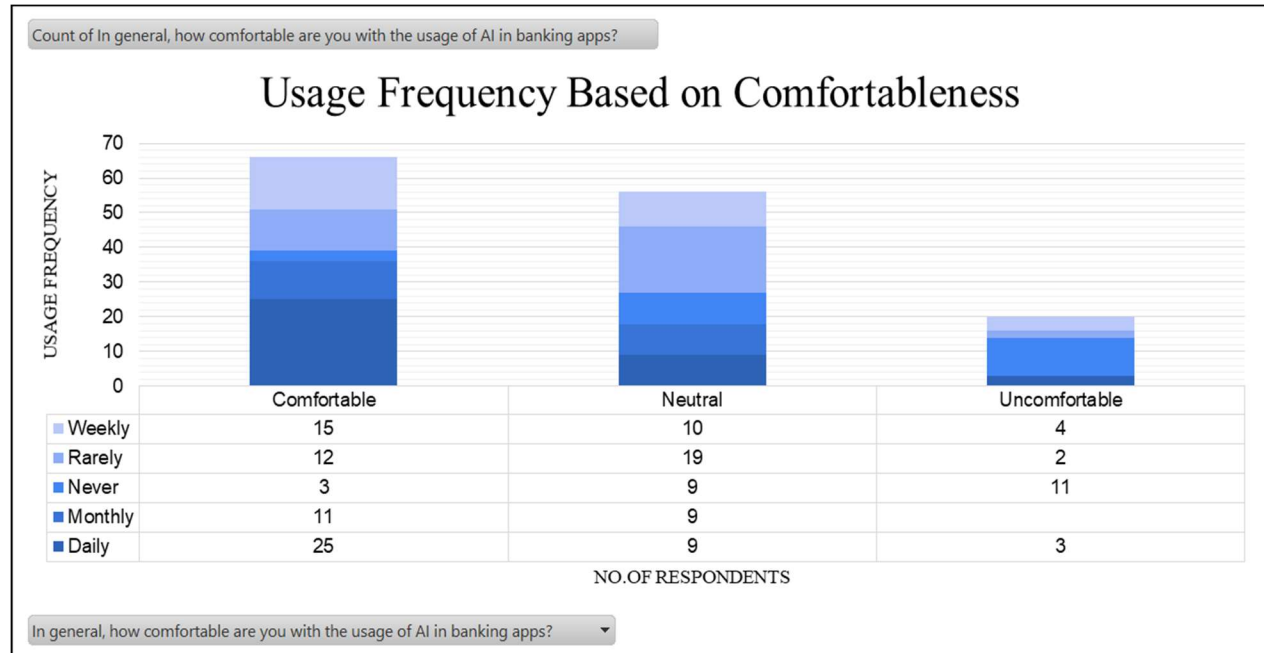


Figure 7: Frequency of Using AI-Driven Banking Apps with respect to Comfort

(Source: Authors' Computation)

Figure 7 interprets that, a significant proportion of participants are typically at ease with the incorporation of AI in banking apps. In particular, most people (25 respondents) i.e. 67.57% of the total respondents who are using banking applications daily report feeling comfortable. However, a significant portion of the population i.e. 28.87% of the total no. of respondents say that they are comfortable with AI integration even if they hardly ever use banking applications, suggesting that people generally have good feelings about AI despite their infrequent app usage. On the other hand, the majority of people who express concerns with AI (i.e. 14.08% of the total population), are either infrequent users of banking applications or do not use them at all, which may indicate a relationship between discomfort and a lack of knowledge or expertise with these technologies. Moreover, a significant number of respondents who use banking applications monthly also state that they are indifferent about AI, suggesting that this group does not have strong opinions.

Linkage of Age Factor with Awareness

The distribution of responses about the understanding of the use of AI in banking apps among various age groups is illustrated in Figure 8.

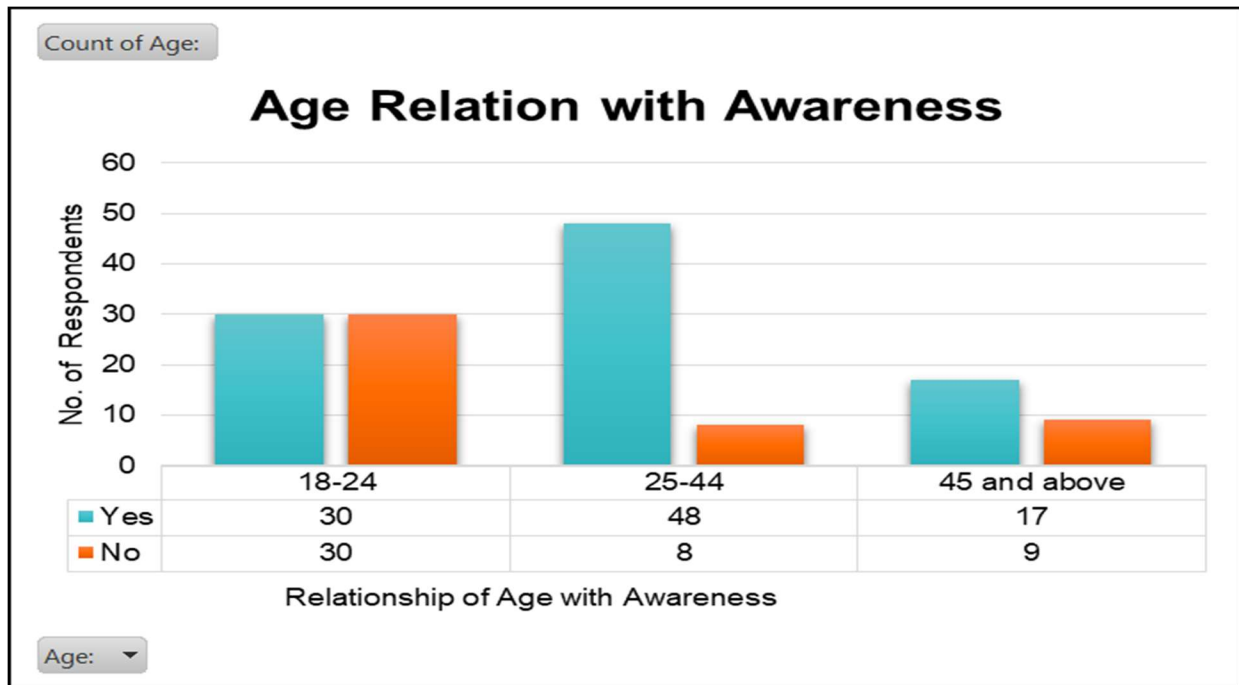


Figure 8: Relationship of Age Factor with Respect to Awareness

(Source: Authors' Computation)

Of the participants in the 18–24 age range, 30 were aware of the use of AI, while the remaining 30 were not. Just 8 respondents in the 25–44 age range were unaware, compared to 48 who were. For those in the age group of 45 and above, 17 respondents were aware while 9 were not. As a whole, it indicates that younger people tend to be similarly divided in their knowledge, however, middle-aged people's awareness rises and older people's awareness somewhat falls, indicating a generational trend in people's familiarity with AI in banking apps.

Linkage of Gender and Age Factor with Comfortableness

Figure 9 illustrates a breakdown of users' comfort levels regarding the use of AI in banking applications by gender and age group. Interestingly, in the 18–24 age range, 19 out of 56 female respondents report feeling more comfortable than the male respondents.

In contrast, 26 men and 8 women in the 25–44 age group expressed comfort, suggesting that men feel more comfortable than women in this demographic. All age groups indicate that men are typically more comfortable than women, albeit this difference is less noticeable in the 45+ category. This raises the possibility of a gender gap in users' comfort levels with AI in banking apps, which calls for further investigations into the underlying causes.

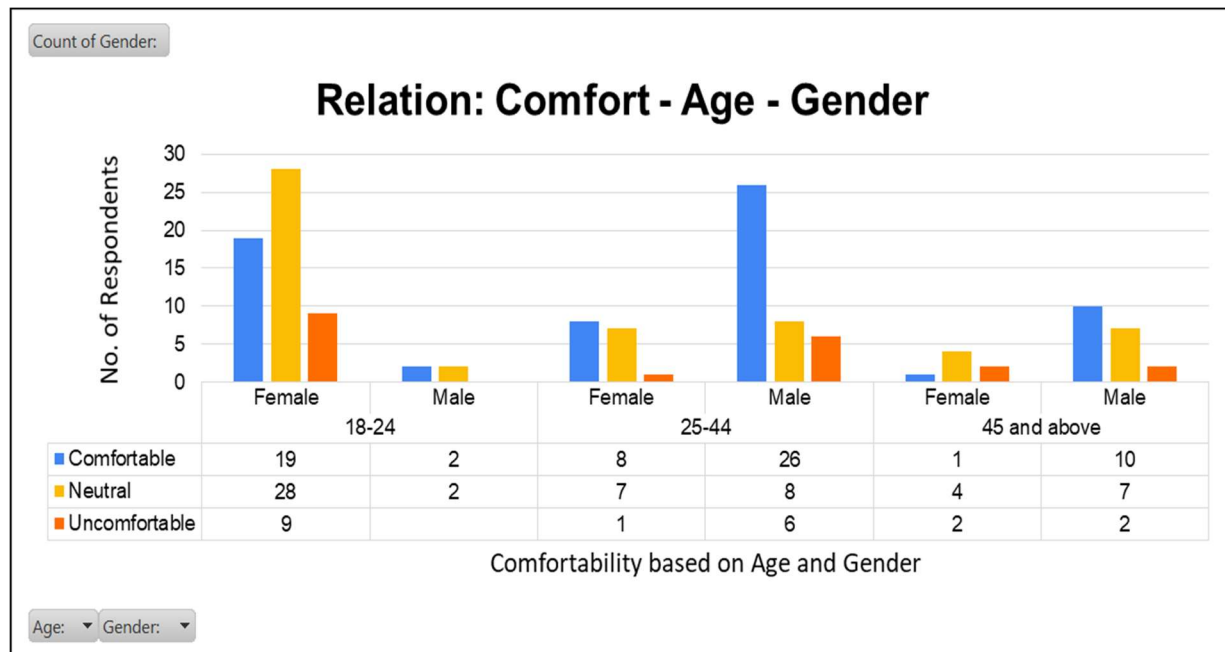


Figure 9: Relationship of Gender and Age Factor with Respect to Comfort

(Source: Authors' Computation)

Investigation and findings based on Structural Equation Modeling

Reliability and Convergent Validity

To evaluate the internal coherence of the structured model, the researchers first executed the validity and reliability tests before providing the SEM observations that clarify the relationships between different components. Results are shown in Table 5. A threshold value of 0.70 indicates dependability for each of the different constructs.

Fornell and Larcker's (1981) criteria are employed to assess convergent validity; a value of at least 0.5 for the average variance extracted (AVE) is deemed adequate.

Table 5: Results of Reliability and Convergent Validity of the Model

Constructs	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
ATO	0.926	0.927	0.944	0.772
FRD	0.771	0.773	0.868	0.686
RSK	0.783	0.784	0.873	0.697
TFG	0.888	0.896	0.930	0.816
UEX	0.907	0.907	0.935	0.781

(Source: Authors' Computation)

The results of validity and reliability tests for the constructions ATO, FRD, RSK, TFG, and UEX are shown in the table. The range of Cronbach's alpha values, which show a high internal consistency, is 0.771 to 0.926. The values of the composite reliability (rho_a and rho_c), which show strong dependability, vary from 0.773 to 0.927 and from 0.868 to 0.944, respectively. The average variance extracted (AVE) values range from 0.686 to 0.816, which is higher than the 0.5 criterion. So it is clear that the questionnaire constructs have good reliability and validity, as indicated by the collective results.

Discriminant Validity based on Heterotrait-Monotrait Ratio (HTMT)

The correlations between various constructs are presented in the Heterotrait-Monotrait Ratio (HTMT) matrix, presented in Table 6, which serves to verify discriminant validity. The range of values is 0.767 to 0.953. A 0.9 cutoff point is indicative of discriminant validity. Almost all of the values in this matrix fall below the specified threshold, demonstrating good discriminant validity between the ATO, FRD, RSK, TFG, and UEX constructions.

Table 6: Results of Discriminant Validity based on HTMT Ratio

	ATO	FRD	RSK	TFG	UEX
ATO					
FRD	0.819				
RSK	0.846	0.892			
TFG	0.767	0.879	0.953		
UEX	0.894	0.866	0.897	0.839	

(Source: Authors' Computation)

Discriminant Validity based on Fornell-Larcker Criteria

The Fornell-Larcker criteria value is used to assess the discriminant validity of the notions. By examining the square root of AVE values, which are located on the diagonal, with the correlations across constructs, which are located off the diagonal, the Fornell-Larcker criteria matrix evaluates the discriminant validity. The correlation amongst constructs concerning the AVE values is represented by a value. The diagonal values in this matrix stand for the square root of the AVE for every construct. The correlations between the constructs are shown by off-diagonal numbers. When each construct's square root of the AVE is greater than its correlations with other constructs, the requirement is satisfied. As per the results of this study demonstrated in Table 7, there is adequate discriminant validity between the constructs since the scores found on the diagonal (square root of AVE) are greater than the equivalent off-diagonal values for each construct.

Table 7: Results of Discriminant Validity using Fornell-Larcker Criterion

	ATO	FRD	RSK	TFG	UEX
ATO	0.878				
FRD	0.690	0.828			
RSK	0.719	0.692	0.835		
TFG	0.698	0.726	0.793	0.904	
UEX	0.820	0.725	0.758	0.758	0.884

(Source: Authors' Computation)

Result of Path Analysis

Utilizing 3,000 subsamples and the bias-adjusted bootstrapping approach, path coefficients were determined to assess the path model's relevance at a 5% level of confidence. All of the suggested hypotheses were found to have statistical validity, according to the path model's conclusion, which is shown in Table 8, Table 9, and Figure 10.

Table 8: Results of Path Coefficients

Hypothesis	Paths	Path coefficients	t-statistics	p-value
H ₁	ATO -> UEX	0.459	3.915	0.000
H ₂	FRD -> UEX	0.150	2.254	0.024
H ₃	RSK -> UEX	0.171	2.016	0.044
H ₃	TFG -> UEX	0.193	2.014	0.044

(Source: Authors' Computation)

Table 9: Results of the Outer Loading

	ATO	FRD	RSK	TFG	UEX
ATO1	0.844				
ATO2	0.912				
ATO3	0.894				
ATO4	0.845				
ATO5	0.895				
CBT1			0.833		
CBT2			0.835		
CBT3			0.836		
FRD1		0.800			
FRD2		0.858			
FRD3		0.825			
TFG1				0.875	
TFG2				0.928	
TFG3				0.907	
UEX1					0.864
UEX2					0.889
UEX3					0.888
UEX4					0.894

(Source: Authors' Computation)

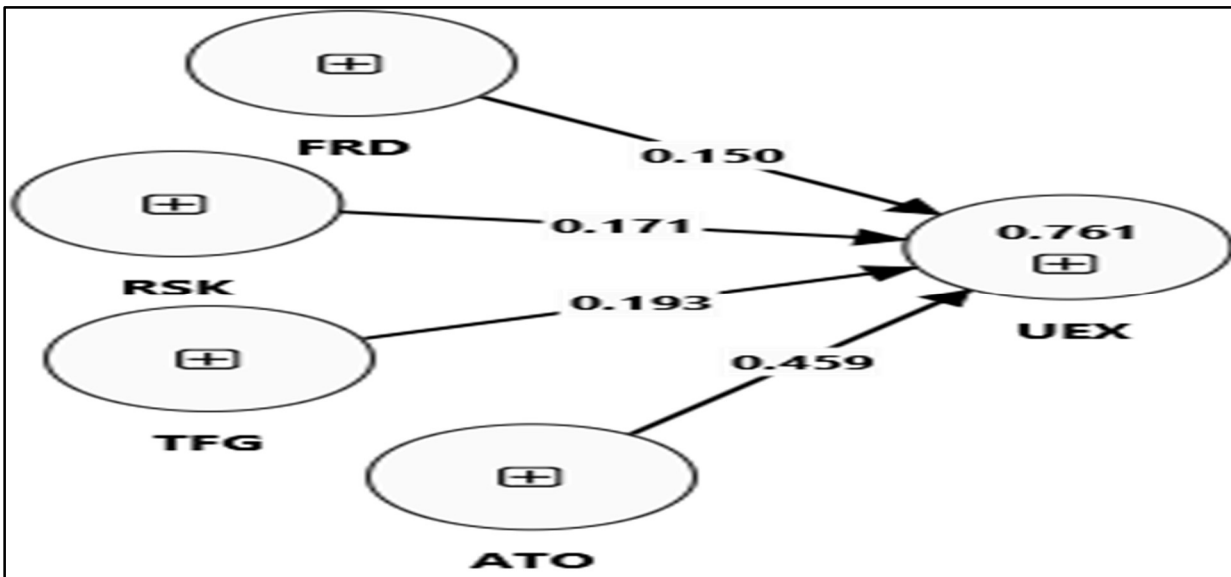


Figure 10: Path Structure (Source: Authors' Computation)

Path analysis uncovered meaningful path coefficients that connected the different independent variables to the dependent variable, UEX. On the one hand, there is a clear positive correlation between ATO and UEX, as proven by the path coefficient for the relationship between the two variables, which was determined to be 0.459 with a t-statistic of 3.915 and a p-value of 0.000. This implies that fluctuations in UEX are strongly influenced by changes in ATO. On the other hand, a similar pattern was seen in the paths leading from FRD, RSK, and TFG to UEX, where the path coefficients were 0.150 (t-statistic = 2.254, p-value = 0.024), 0.171 (t-statistic = 2.016, p-value = 0.044), and 0.193 (t-statistic = 2.014, p-value = 0.044), respectively. According to these findings, UEX levels are also significantly influenced by variables including FRD, RSK, and TFG. Thus, it can be concluded that the SEM analysis highlights the significance of these elements in explaining variability in UEX and offers insightful information about the connections within the system under study.

Conclusion and Practical Implications

The applications of AI in banking are ushering in a new era of revolution for the financial sector. AI technology is being utilized to improve and streamline various banking operations, such as fraud detection, risk management, and customer service.

This intelligent technology plays a vital role in banking apps by employing machine learning algorithms to evaluate individual financial behaviors and preferences, enabling the provision of personalized services and product recommendations. AI-powered chatbots are also used to deliver efficient and timely customer support by instantly addressing inquiries and issues. Furthermore, the integration of AI into security protocols has significantly enhanced fraud prevention measures, as advanced algorithms can identify unusual patterns and potential threats. As the banking sector continues to transform in an increasingly digital world, the use of AI in banking apps not only improves operational performance but also enhances the overall customer experience.

The adoption of AI in the banking sector varies between India and the global stage. While AI's potential is recognized in both areas, adoption strategies and the pace of implementation differ. India has made significant strides in advancing AI in rural branchless banking, while the international banking industry has embraced AI more extensively for a wider range of purposes, leading to greater global acceptance.

This study provides significant insights into the partnership between AI and the banking industry, with a particular focus on customer expectations and opinions. The need to understand customer sentiments regarding AI-driven banking apps, along with the growing impact of AI on banking processes, served as the driving forces behind this research. The results indicate that individuals between the ages of 25 and 44 are the most frequent users of banking applications, with working professionals being the most regular users. The research also revealed a significant association between AI-driven features and an enhanced customer experience, highlighting the role these features play in shaping consumer attitudes and behaviors.

The study's validity and reliability tests confirmed the robustness of the research framework, ensuring the legitimacy of the results. Analyses of discriminant validity further validated the uniqueness of the constructs and the study's measurement approach. The findings have strategic implications for financial regulators and deepen our understanding of the factors influencing customer acceptance and trust in AI-driven banking apps. By addressing customer expectations and concerns, banks can refine their AI-powered products and services to better meet their clients' needs and maintain competitiveness in the rapidly evolving financial landscape.

Limitations of the Study and Future Scope of Research

There are several limitations in this study that need to be considered to fully understand its conclusions. Firstly, although the study included responses from 142 participants, the sample size may not accurately represent the diversity of the broader community, which could limit the generalizability of the findings. Therefore, future research should involve a larger and more diverse sample size. Secondly, the use of a self-designed questionnaire with Likert scale responses increases the likelihood of response bias and subjective interpretation, potentially overlooking insights that might be revealed through complementary qualitative methods. Future studies could address this limitation by incorporating qualitative approaches.

Additionally, by focusing on only six characteristics related to AI-driven banking applications, the study may have overlooked other significant factors that influence consumer perceptions and usage of AI in banking. Future research should consider including a broader range of variables in the analysis. The study's emphasis on Indian customers also limits the applicability of the findings to other geographical regions with different socio-cultural and technological environments. More research is needed to cover other geographic areas, as this study is among the first to go beyond theoretical aspects.

Finally, the use of a single cross-sectional methodology restricts the ability to observe temporal changes or patterns in consumer sentiments, as data was captured at only one point in time. To enhance the external validity of the research findings, future studies could include real-world usage patterns and behavioral data, incorporating multiple cross-sectional and longitudinal studies to improve the robustness and applicability of the research.

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