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From Awareness to Adoption: Understanding Customer Acceptance of AI Banking Services in India

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ABSTRACT

The simulation of human intelligence in machines or computer systems is known as artificial intelligence or AI. It entails creating hardware, software, and algorithms that let machines carry out operations that ordinarily call for human intelligence. These tasks involve perception, problem-solving, understanding natural language, and making decisions. The banking industry is at a pivotal point in the quickly evolving technological landscape of today, confident in its ability to take advantage of artificial intelligence's (AI) transformative potential. The study aims to assess Indian customers' awareness of AI-powered banking services and investigate the factors influencing their adoption of AI in banking services. This structured questionnaire is intended to collect information regarding the awareness and adoption of artificial intelligence implementation in the banking industry. For the quantitative study, 200 questionnaires were received. The results demonstrate the importance of artificial intelligence (AI) as a tool for fraud detection and risk reduction. The findings also demonstrate that the relationship between perceived utility and intention to use AI in banking services is significantly mediated by attitude toward AI.

KEYWORDS: Artificial Intelligence, Bank, Technology, chatbot, Fintech, Digital

1. INTRODUCTION

The banking industry is undergoing a significant transformation as artificial intelligence (AI) technologies are increasingly being adopted. AI has the potential to revolutionize various aspects of the banking process. However, the successful integration of AI into the banking sector requires a deep understanding of human perception of AI [12]. An economy's ability to function and grow economically depends heavily on the banking industry. When it comes to creating and carrying out financial policy, banks are

indispensable in all economic systems [9]. The distinction is in giving goals and strategies accepted for their accomplishment. According to the neo-liberal model, increasing profits by using all available resources is a goal in and of itself, but in socialist systems, bank operations also seek to meet social needs and improve the economy as a whole [1].

AI is a branch of computer science that focuses on building intelligent machines that function and carry out tasks like humans. These machines can organize, learn from, and interpret data to generate predictions. As a result, it has developed into a crucial component of technology in the banking, financial services, and insurance (BFSI) sector and is transforming how goods and services are provided. AI is changing the caliber of goods and services provided by the banking sector [2]. It has not only made data handling easier and enhanced customer satisfaction, but it has also streamlined, expedited, and redesigned conventional procedures to increase their efficiency. Data has emerged as a financial services organization's most valuable asset thanks to the development of technologies like artificial intelligence [13]. Banks are more aware than ever of the creative and economical solutions AI offers, and they realize that asset size—while still significant—will no longer be adequate by itself to create a profitable company. High-speed data management is made easier for banks by artificial intelligence, and features like digital payments, AI chatbots, and biometric fraud detection systems result in high-quality services [7]. The COVID-19 pandemic has expedited the application of artificial intelligence (AI), as businesses are automating routine tasks to comprehend datasets impacted by the virus and use that information to enhance stakeholder experiences. India is the world's second-most populous country, right behind China [3]. The nation's economy is largely dependent on a sound financial system that supports the expansion of every sector. Because the financial sector is well-regulated and adequately capitalized, Indian banks are actively utilizing cutting-edge technologies [15]. It makes sense that artificial intelligence is setting the standard in the nation's financial institutions given its ability to identify unusual human behavior, reduce operating expenses, and boost productivity. Artificial intelligence (AI) is already profoundly changing human existence, including our way of living and working [12]. Financial services providers are integrating AI technology into banking operations in response to rising customer expectations and to improve the overall customer experience [10]. Artificial intelligence can identify fraud and reduce uncertainty. By utilizing artificial intelligence (AI) and cognitive technology, banks can take advantage of digitization and remain competitive in the face of FinTech players. About 32% of financial service providers are already using AI technologies like voice recognition and predictive analytics, according to a joint study by the National Business Research Institute and Narrative Science² [4]. The future of banking lies in artificial intelligence, which uses sophisticated data analytics to prevent fraud and increase compliance [5]. An AI algorithm completes anti-money laundering tasks that would typically take hours or days in a matter of seconds. Banks can now handle enormous amounts of data at lightning speed thanks to AI and gain insightful knowledge from it. Digital payment advisors, biometric fraud detection systems, and AI bots are examples of features that improve service quality and reach a larger clientele [14]. All of this results in higher sales, lower expenses, and higher profits. In addition to enabling banks to automate their knowledge workforce, artificial intelligence (AI) will make automation more intelligent overall, eliminating cyber risks and FinTech competition [8]. Because AI continuously innovates and changes over time without requiring a lot of human intervention, it is essential to the bank's operations and processes. Thanks to AI, banks will be able to maximize both human and machine capabilities to deliver customized services and increase operational and cost efficiencies [10]. Reaching all of these

benefits is no longer a pipe dream for banks. Bank executives have already adopted AI by taking cautious measures to obtain these benefits.

AI is strengthening the competitiveness of banks through:

- Improved customer experience: AI better comprehends customers' behavior based on previous interactions. This helps banks offer meaningful customer engagement and establish long-lasting relationships with their clients by customizing financial products and services with personalized features and user-friendly interactions [4].
- Future outcomes and trends are predicted by AI, which assists banks in doing so by using its ability to forecast future scenarios based on historical behavior. This aids banks in spotting fraud, spotting anti-money laundering trends, and offering advice to customers. Money launderers give the impression that the source of their illicit funds is legitimate by a number of their actions. AI recognizes these covert actions and helps banks save millions of dollars thanks to its powers in machine learning and cognition [4].
- Claims management is one of the information-intensive, expensive, and error-prone banking services that can be automated thanks to this feature, known as cognitive process automation. This guarantees ROI lowers expenses, and guarantees timely and accurate service processing at every stage. Fundamentally, cognitive process automation automates a set of tasks that continuously improves upon earlier iterations through machine learning [4]. ● Realistic interactive interfaces: Chatbots recognize the emotions and context of text conversations and react appropriately. Due to cumulative cost savings, these cognitive machines help banks save millions of dollars in addition to saving time and increasing efficiency [4].
- Effective decision-making: Cognitive systems, which act and think like human experts, instantly offer the best options based on the information at hand. These systems maintain a knowledge database, which is a storehouse of expert information. These cognitive systems are used by bankers to make strategic choices [4].
- Process robotics: AI uses Robotic Process Automation (RPA) to evaluate and modify processes. Because of this, around 80% of repetitive work processes can now be automated, freeing up knowledge workers' time to focus on high-interaction, value added tasks [4].

The biggest supplier of banking services to the public sector in the nation is the State Bank of India (SBI). The bank uses artificial intelligence to provide efficient banking services. The AI powered SBI Intelligent Assistant (SIA) is a smart chat assistant that assists customers with routine banking tasks and provides prompt answers to their questions. This intelligent chatbot, created by the AI banking platform Payjo, can manage up to 10,000 queries per second or 864 million queries daily, or nearly 25% of all queries processed by Google daily, according to reports [3]. HDFC, a banking and financial services firm based in Mumbai, is another Indian enterprise utilizing AI. The bank's intelligent chatbot, named "Eva," uses Google Assistant on millions of Android smartphones to respond to users' questions and offer better services. Eva, developed by Bengaluru-based Senseforth AI Research, purports to have provided more than

85% accurate answers to more than five million user inquiries. Additionally, HDFC has OnChat, an AI-enabled chatbot that debuted on Facebook Messenger in 2016 [21,22]

The Financial Express discusses how banks in India are utilizing artificial intelligence (AI) and addresses some of the main concerns surrounding this subject. It discusses how the growing use of AI in domains such as process automation raises concerns about data security and privacy. It emphasizes how important it is that the Reserve Bank of India (RBI) provides regulatory guidance that requires banks to take precautions against issues like data bias, governance, and transparency when utilizing technologies like large language models. Before now, the deputy governor of the RBI had also voiced similar apprehensions regarding these hazards associated with the growing use of AI in banks[20]. This research paper aims to explore the introduction of AI in the banking sector and investigate human perception of this emerging technology. The paper will begin by providing an overview of the current landscape of AI in the baking industry, highlighting the key areas where AI is being implemented and the potential benefits it offers. Next, the paper will delve into the human dimension of AI adoption, examining consumer attitudes and concerns towards AI-powered baking technologies. The research will explore the awareness level of Indian customers about AI banking services and examine the factors regarding consumers' adoption of AI in banking services.

2. LITERATURE REVIEW

Blanche et al (2018) analyzed the increasing impact of Artificial Intelligence (AI) on financial technology (FinTech), the purpose of this paper is to propose a research framework to better understand robot advisor adoption by a wide range of potential measuring scales' validity is confirmed using data from an online survey of 765 prospective customers of robotics advisor services in North America, Britain, and Portugal. The structural equation modeling and multisampling analyses of the hypotheses also make use of this data. Understanding how banking adopts the new infrastructure is the key finding regarding artificial intelligence. Arora et al(2021) analyzed the financial technology (FinTech) era that has brought a revolutionary change in the financial sector's Customer experiences at the national and global levels. The importance of artificial intelligence (AI) in the Context of FinTech services for enriching customer experiences has become a new norm in this modern era of technology. 970 respondents from four Indian cities—Mumbai, Delhi, Kolkata, and Chennai—were chosen as the study's sample size. The key variables and auxiliary elements impacting consumers' experiences with AI-enabled banking services were determined using the Fuzzy-AHP technique. The study's parameters were perceived quality of service, trust commitment, personalization, ease of use, dedication to a partnership, perceived sacrifice, subjective standards, perceived utility, and attitude and susceptibility. The main finding of my study in FinTech would increase my effectiveness in managing a portfolio. Ayedh et al.'s 2019 analysis looked at the variables that might encourage Muslim communities in Malaysia to invest more in the Bitcoin market. A survey questionnaire was used in the study to gather information from 200 Muslim Malaysian respondents. The gathered data was then analyzed using one sample test, basic descriptive statistics, and structural equation modeling. The study's conclusions demonstrated that Malaysian Muslim communities' investment in the Bitcoin market is significantly influenced by compatibility, awareness, and enabling conditions.

Bhatia et al (2020) analyzed The purpose of the study to determine how Indian individual investors perceive and are aware of robo-advisors, a new FinTech innovation in the wealth management space. Comprehensive automated online advice services known as "robo advisors" assist investors in managing their wealth by advising on the allocation of a portfolio using certain algorithms. For this study, a standardized questionnaire and homogeneous talks were employed. A total of 203 minutes were allotted to group discussions. While moderating the conversations and translating the audio files word for word, one of the writers. The main findings are to adopting the robo advisors and how it impacts the employees and society. Boustani et al (2020) talk about the use of artificial intelligence (AI) in the banking industry, how it affects bank workers and how customers behave while purchasing financial services, and how crucial it is for providing social services in a rising Western Asian country. Data collected and analyzed was used in a quantitative Research-based model with the application of hypothesis regression models. The study gives the standard of banking transactions a significant boost. Since human resources may readily replace technology, some technical banking positions may be at risk from AI. However, emotional intelligence is necessary for the relationship between bank clients and management. Bhumika et al (2018) analyzed the level of intelligence displayed by robots possessing human-like consciousness and emotions. AI developed systems are capable of handling a single task (Narrow/Weak AI) or a broad range of tasks. The methodology used in one way ANOVA and independent t-test. The main findings is to observe the robotics impact on humans. Ghazwani et al(2021) analyzed the study to investigate the impact of financial anxiety and convenience on the relationship between cashier-less versus traditional checkouts and purchase intentions among Saudi Arabian consumers experiment, 329 Saudi participants were randomly assigned to one of two checkout conditions (traditional vs. AI-enabled) in a between-subjects design and indicated their financial anxiety. Main finding: While low-convenience consumers are unconcerned, high convenience consumers like AI-enabled checkouts over conventional ones. According to the theoretical framework of the Roy adaptation model, this happens because When utilizing AI enabled checkouts, high-convenience customers feel more financially anxious, which results in increased purchase intent. Gigante et al(2021) examined the effects of DARQ (distributed ledger, artificial intelligence, extended reality, and quantum computing) technologies on the financial industry, with a particular emphasis on AI applications in personalized banking— which involves viewing each client as a unique segment of the market. Research analyses both the supply side, collecting secondary Data from documentation, reports and research studies to study the major trends and results obtained by Leading banks, and on the demand side, collecting primary data through a dedicated survey and elaborating Opinions and preferences of potential customers.

Janina et al(2021) analyzed to provide a systematic review of the literature on artificial intelligence(AI) in customer-facing financial services, providing an overview of explored contexts and research foci, Identifying gaps in the literature, and setting a comprehensive agenda for future research. show a divide between theory-driven and data-driven research, with the majority of studies either using an experimental research design aimed at evaluating the efficacy and accuracy of AI algorithms to help with credit scoring or looking into data. Huang et al(2019) analyzed Financial technologies, also known as “FinTech,” which have brought disruptive changes to virtually every aspect of financial services and are becoming increasingly important in the world economic system. The purpose of this paper is to proffer a bird view of some recent studies in the key research areas of FinTech, such as artificial intelligence, blockchain, and crowdfunding, and then to summarize the key contributions made by all the six papers in this special issue. When a literature review approach is used, the

summary demonstrates that the majority of FinTech innovations benefit inventors, financial clients, and society as a whole. Benefits from and determinants of FinTech applications vary across different financial Sectors. Together the summary of this special issue suggests that there is substantial value creation in further Exploring the dynamics, mechanisms, and social consequences of FinTech. Kobe et al (2019) analyzed that Improvements and advances in life standards are known to have been triggered by technology. Developments in technology have affected cultures and communities which have had to adapt to the latest changes. The methodology used independent t-tests.

Kumari et al (2022) analyzed the question of financial service organizations being resilient across the globe calls for rethinking and renovating by adopting and adapting to the technologies of artificial intelligence (AI). This study aims to explore the driving factors of AI adoption in the finance sector through a systems approach and propose a policy framework for it. Nine enablers were selected after a review of the literature and conversations with specialists in academia and business; these were then included in the questionnaire. Lee et al (2021) analyzed The banking sector and traditional financial businesses have transformed as a result of mobile technology development. Although conventional banks have incorporated artificial intelligence (AI) methods to enhance the creation of mobile banking applications (apps), the study is deficient in the present literature regarding the application of AI-based structures to examine the intentions of consumers to embrace mobile banking apps. A convenient nonprobability sampling strategy was used in this investigation, and 451 responses in total were gathered to analyze the model. For data analysis, the partial least squares method was applied. The data indicate that anthropomorphism and intelligence boost consumers' propensity to adopt Mobile banking applications via trust and TTF. Higher anthropomorphism levels, however, improve users 'Perceived expense. Furthermore, there are little impacts of anthropomorphism and intellect on perceived Danger. The findings offer theoretical insights into the adoption of AI-based mobile banking apps and useful advice for banks considering AI as a means of customer retention. Chong and associates' (2021) research aimed to ascertain the impact of financial advice provided by a human advisor versus a robo-advisor on investment intentions in a retail banking environment. Experiment methodology and between-subjects experimental designs were used to determine the underlying causal mechanisms influencing consumer investment decisions and to test the main hypothesis. The key finding is the effect of investing in AI stocks on consumer behavior.

Pavlidis et al(2023) analyzed critically how the Financial Action Task Force (FATF) San Jose guidelines and the Organization for Economic Co-operation and Development (OECD) standards for artificial intelligence are affecting the digital transformation of anti-money laundering (AML) and countering the financing of terrorism (CFT). Artificial intelligence (AI) and the planned Artificial Intelligence study utilize open-source data on the digital transformation of AML/CFT, namely the application of AI, including reports, laws, legal scholarship, and other relevant sources. investigates the impact of AI finance. The main findings are to adopt the AI and how it contributes to the economy as a whole. Jain et al(2022) analyzed views among academics and financial professionals regarding the potential of artificial intelligence (AI) to outperform the stock market. This paper's goal is to conceptually explore what would happen if artificial intelligence (AI) developed further and became able to anticipate the future more correctly than the typical investor. Based on a theoretical model in an endowment economy with two types of representative investors, a long-run survival study is implemented for both conventional and AI investors. The primary

conclusions center on how the AI algorithm is being adopted by the stock market and its effects on the volume and price of stocks.

3. METHODOLOGY

A structured questionnaire was prepared to collect the data by going through various research papers. The questionnaire was split into two sections: the primary study variables were included in the second section, while demographic information such as gender, age, and education was included in the first section. A sample size of 200 is suggested as a fair sample size (Boomsma, 1985) [17]. As per [Boomsma], For every variable, there must be at least 5 to 10 respondents. In our study, there are 24 variables which come to 240. Selected respondents were banking customers from Delhi NCR out of 410 respondents, 216 respondents. The First part of the questionnaire measures the demographic characteristics and the second part measures the variables using a 5-point Likert scale [17]. SPSS version 25 was used for data analysis using independent sample T-test, one-way ANOVA, and factor analysis.

4. RESULTS AND ANALYSIS

Table 1: Demographic Profile of Respondents

Demographic	Characteristics	Frequency	%
Gender	Male	94	47
	Female	104	52
	Prefer not to say	2	1
Age	Less than 20	67	33.5
	21-30	88	44
	31-40	26	13
	41-50	7	3.5
	Above 50	12	6
Qualification	Graduate	113	56.5
	Post Graduate	51	25.5
	Professional Qualifications	32	16
Area	Rural	21	10.5

	Semi urban	39	19.5
	Urban	140	70
Experience	Less than 1	111	55.5
	1-10	57	28.5
	11-20	19	9.5
	21-30	13	6.5

Source: Primary survey

Table-1 shows the sample profile of the respondents. Majority of them were females (52%), age between 21-30 (44%), experience of less than 1 year (55%), graduates (56%) and from urban areas (70%).

Interpretation

This study examines Indian customers' adoption of artificial intelligence in the banking industry. Numerous factors, which are classified under the demographics and main variable section, contribute to the understanding of adoption among Indian customers. The first step in the factor analysis process is determining whether the data has the required properties. When there is little to no correlation between the variables, factor analysis shouldn't be done on the data. We will use two criteria, Bartlett and KMO for each variable separately, to decide if the data are suitable for factor analysis.

The KMO and Bartlett test evaluate all of the available data together. If both the KMO value and Bartlett's test significance level are less than 0.05, then there seems to be a significant correlation in the data. Variable collinearity is the degree to which one variable is correlated with other variables. An appropriate value is defined as one that is 0.4 or greater. For each variable, KMO measures can also be computed. A value greater than 0.5 is appropriate. Kaiser–Mayer–Olkin's (KMO) measure of sampling adequacy and Bartlett's test of sphericity were used to determine whether the data set was suitable for factor analysis[18]. As indicated by Table II, the results indicated that the 23 variables loaded for factor analysis were adequate. With a KMO value of .909 (as shown in Table 2), it is higher than 0.5. Field (2005) concurs that Bartlett's test of sphericity yielded a chi-square value of 2560.107, with a significant value of 0.000 ($p \leq 0.05$). Factor analysis is therefore deemed relevant and practicable for this investigation.

Table 2: KMO and Bartlett's Test

KMO AND BARTLETT'S TEST

Kaiser- Meyer- Olkin Measure of Sampling Adequacy	0.909	
Bartlett's Test of Sphericity	Approx. Chi- Square	2560.107
	df	253
	Sig.	0

Based on the initial assumption that all variables have 1.000 values each, Table II displays the initial communalities of the factors before extraction through principal component analysis. Following extraction, it was discovered that every variable in the data set reflects a common variance, which is visible in the percentage of variance that can be attributed to the underlying causes.

Communalities

	Initial	Extraction
I think AI is important for the Banks in India	1.000	.575
I receive enough information about AI- enabled technology in banking services	1.000	.711
Learning to use AI-enabled technology in banking is easy for me (e.g. Chatbots: chat-based virtual assistants).	1.000	.690
It is easy to manage banking investments using AI banking technology.	1.000	.598
It is easy to interact with AI in banking as it does not require a lot of mental effort	1.000	.526
I know about technology. e.g. computer, laptop, tablet, mobile phone, etc)?	1.000	.682

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I am an expert user of technology. (e.g. computer, laptop, tablet, mobile phone, etc)?	1.000	.568
customer awareness level impacts their intention to adopt AI in banking services	1.000	.681
Risk perception is related to customers' intention to adopt AI in banking services	1.000	.574
Ease of use influences customers' intention to adopt AI in banking services.	1.000	.701
Trust influences customers' intention to adopt AI in banking services.	1.000	.689
I never received enough information on using AI-enabled technology in banking services.	1.000	.580
Knowledge of technology helps customers to use AI banking services	1.000	.660
I receive adequate information about the benefits of enabling technology in banking services	1.000	.566
It would improve my productivity in managing banking investments by using AI-enabled technology	1.000	.759
It would improve my performance in managing banking investments by using AI-enabled technology	1.000	.681
Using AI leads to potential fraud Detection	1.000	.546
Using AI in banking puts my privacy at risk	1.000	.681
AI banking technology services are reliable	1.000	.522
I take advice from people who are important to me to use AI banking to enable technology	1.000	.530
People I know could influence me to try out AI banking-enabled technology for managing banking investments.	1.000	.501

I would use AI banking technology to manage my investments	1.000	.640
I plan to use AI banking enable technology service rather than any human financial advisor	1.000	.581

An ANOVA and T-test have been used to determine the difference between the variable factors and different demographic variables. Additionally, the post hoc test has been used to verify the significant relationship between the groups within a demographic characteristic[11]in each table, "Between Groups" refers to the variability between the groups." Within Groups" refers to the variability within each group."Total" is the overall variability in the data. The F-value tests the null hypothesis that the group means are equal. A larger F-value indicates more evidence against this null hypothesis. The p-value (Significance or Sig.) indicates the probability of obtaining the observed results by chance if the null hypothesis is true. Lower p values suggest stronger evidence against the null hypothesis (Table-4).

About REGR factor score 1, these findings show that there is no significant difference between the group means, with an F-value of 1.076 and a p-value of .343. The F-value for REGR factor score 2 is 1.477, and the p-value is .231, indicating that there is no significant difference between the group means. The F-values for REGR factor scores 3 and 4 are 0.155 and 0.165, respectively, with p-values > .05, signifying that there is no statistically significant variation between the group means. Therefore, there is no significant difference between the groups for any of the four REGR factor scores in Analysis 1

Gender-wise comparison of variables affecting the adoption of AI among customers in India

Regarding variable factors, different customers may hold different opinions. to determine whether the mean score of male and female customers differs significantly from one another. The t-test has been used. When it comes to using banking services, both men and women want to increase the adoption of Artificial Intelligence, as evidenced by the highest mean value of S6 for both genders (x = 4.23) and males (x = 4.26). They prioritize the use of AI in the banking industry equally. S13 is the second most significant variable for male customers, indicating that technological knowledge enables them to use AI banking services, while S7 is the second most significant variable for female customers, indicating that they are proficient users of technology (computer, laptop, tablet, etc.).

Table 4: One-Way ANOVA Results for REGR Factor Scores (Analysis 1)

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
REGR factor score	Between Groups	2.150	2	1.075	1.076	.343
1 for						

analysis 1						
	Within Groups	196.850	197	.999		
	Total	199	199			
	Between Groups	2.941	2	1.470	1.477	.231
REGR factor score 2 for analysis 1						
	Within Groups	196.059	197	.995		
	Total	199	199			
	Between Groups	.313	2	.156	.155	.856
REGR factor score 3 for analysis 1						
	Within Groups	198.687	197	1.009		
	Total	199	199			
	Between Groups	.333	2	.167	.165	.848
REGR factor score 4 for analysis 1						
	Within Groups	198.667	197	1.008		
	Total	199	199			

Further, the results show that there is a significant difference between male and female customers to influence the adoption of AI among customers in India

The survey results reveal a generally positive attitude towards the adoption of AI-enabled technology in banking services among respondents. Across various statements, such as the importance of AI for banks in India, receiving sufficient information about AI in banking, and the ease of learning and using AI, the mean responses were consistently above 3 on a 5-point scale. This indicates a tendency for agreement or strong agreement with these sentiments. The statistical analysis shows that these differences in means are indeed significant, with low p-values (.000) across the board. Additionally, respondents expressed confidence in their knowledge of technology, with a mean score indicating a high level of comfort and expertise. Trust was also highlighted as a significant factor influencing the intention to adopt AI in banking services. Concerns regarding privacy and fraud detection with AI were moderate, suggesting a balanced consideration of potential risks. Most notably, respondents believed that AI could enhance their productivity and performance in managing banking investments. These findings collectively paint a picture of a receptive audience eager to embrace AI in banking, given the perceived benefits and the foundation of trust and awareness in

technological advancements. Across all questions/statements, the means are generally above 3 on a scale of 1 to 5, indicating that respondents tend to agree or strongly agree with the statements. The low p-values (.000) indicate that the differences in means are statistically significant. The standard deviations provide a measure of the variation or spread in the responses. Lower standard deviations indicate less variability in responses around the mean.

Table 5: One-Sample t-Test Results for AI Banking Adoption Variables

One-Sample Test						
Test Value = 0						
	t	df	Sig. (2 - tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
I think AI is important for the Banks in India	55.400	199	.000	3.830	3.69	3.97
I receive enough information about AI-enabled technology in banking services	44.720	199	.000	3.285	3.14	3.43
Learning to use AI-enabled technology in banking is easy for me (e.g. Chatbots: chat-based virtual assistants).	52.996	199	.000	3.700	3.56	3.84
It is easy to manage banking investments using AI banking technology.	52.461	199	.000	3.590	3.46	3.72
It is easy to interact with AI in banking as it does not require a lot of mental effort	51.275	199	.000	3.585	3.45	3.72
I know about technology. e.g. computer, laptop, tablet, mobile phone, etc)?	65.584	199	.000	4.235	4.11	4.36

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Risk perception is related to customers' intention to adopt AI in banking services	57.272	199	.000	3.675	3.55	3.80
customer awareness level impacts their intention to adopt AI in banking services	52.169	199	.000	3.845	3.70	3.99
Ease of use influences customers' intention to adopt AI in banking services.	54.285	199	.000	3.695	3.56	3.83
I am an expert user of technology. (e.g. computer, laptop, tablet, mobile phone, etc)?	52.785	199	.000	3.790	3.65	3.93
Knowledge of technology helps customers to use AI banking services	59.371	199	.000	3.940	3.81	4.07
It would improve my productivity in managing banking investments by using AI-enabled technology	55.971	199	.000	3.595	3.47	3.72
I plan to use AI banking enable technology service rather than any human financial advisor	49.235	199	.000	3.210	3.08	3.34
I would use AI banking technology to manage my investments	54.002	199	.000	3.360	3.24	3.48
People I know could influence me to try out AI banking-enabled technology for managing banking investments.	50.597	199	.000	3.325	3.20	3.45
I take advice from people who are important to me to use AI banking to enable technology	50.264	199	.000	3.450	3.31	3.59
AI banking technology services are reliable	56.451	199	.000	3.295	3.18	3.41

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Using AI in banking puts my privacy at risk	50.578	199	.000	3.475	3.34	3.61
Using AI leads to potential fraud Detection	52.575	199	.000	3.660	3.52	3.80
it would improve my performance in managing banking investments by using AI-enabled technology	56.818	199	.000	3.645	3.52	3.77
I receive adequate information about the benefits of enabling technology in banking services	47.013	199	.000	3.340	3.20	3.48
I never received enough information on using AI-enabled technology in banking services.	44.981	199	.000	3.360	3.21	3.51
Trust influences customers' intention to adopt AI in banking services.	56.210	199	.000	3.720	3.59	3.85

For the t-tests (Table -5), all statements related to AI-enabled technology in banking services showed significant differences in means between the groups, with p-values of .000 for each statement. This suggests that respondents' opinions and perceptions varied significantly across different factors related to AI in banking. However, the ANOVA tests for the "REGR factor scores" in Analysis 1 did not show significant differences for any of the factors, with p-values greater than .05 for all four scores. This indicates that there were no significant variations in responses among the different "REGR factor scores" for each statement. In summary, while the t-tests revealed significant differences in respondents' perceptions of AI in banking across various factors, the ANOVA tests did not find significant variations in responses among different "REGR factor scores" in Analysis 1. This suggests that individual factors related to AI in banking might influence perceptions more than the specific "REGR factor scores" considered in the analysis.

T-tests revealed substantial discrepancies in respondents' perceptions of AI in banking across various factors, indicating the nuanced nature of their views. Conversely, the ANOVA tests did not find significant differences in responses among different "REGR factor scores" in Analysis 1, suggesting that individual factors might play a more influential role in shaping opinions regarding AI-enabled technology in banking services. The results from the t-tests and ANOVA tests provide valuable insights into how respondents' perceptions of AI in banking are influenced. The significant discrepancies found in the t-tests indicate that specific factors related to AI, such as the perceived importance of AI for banks in India, ease of use, trust, privacy concerns, and others, have a notable impact on how individuals view AI-

enabled technology in banking services. This suggests that respondents' opinions are nuanced and can vary significantly based on these individual factors. For example, someone might perceive AI as highly important for banks but have concerns about its impact on privacy.

CONCLUSION

AI has enormous potential to improve customer personalization and streamline business processes in the banking industry. The purpose of this study is to comprehend the client's behavioral intention to use AI in the industry. The qualitative data show that artificial intelligence (AI) is a crucial instrument for risk management and fraud detection. The adoption of AI is severely hampered by the absence of legal requirements, data privacy and security, and the availability of IT infrastructure and relevant skills. The quantitative findings show that in contrast to perceived ease of use and awareness, attitude toward AI, perceived usefulness, perceived risk, perceived trust, and subjective norms significantly influence intention to adopt AI in banking services. The findings also demonstrate that the relationship between perceived utility and intention to use AI in banking services is significantly mediated by attitude toward AI. For this reason, this study uses a quantitative research methodology to investigate how AI is being used in the banking industry. The quantitative analysis identifies the key elements that influence a client's decision to use artificial intelligence in the banking industry. The study's conclusions give bank management some helpful information to consider when developing AI banking strategies.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

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