Role of Artificial Intelligence in Business: Banking and Finance

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Abstract- This paper studies the impact of Artificial Intelligence (AI) in modifying business practices in the banking and finance industry, mainly as it applies in India. It considers important AI tools like machine learning, natural language processing and robotic process automation to check their influence on service pleasure, customer happiness, accurate solutions and managing problems. With a quantitative study of 60 participants, the paper finds that and that AI-based financial services are highly appreciated, especially for fraud detection and customer support. At the same time, it reveals major issues about privacy, clear explanations of how algorithms work and threats to people's jobs. AI in finance, according to these findings, boosts workflow and user service, but also asks for close monitoring, revised regulations and trainings for users. This paper takes part in the debate about good AI practices and gives useful advice to banks, policymakers and those working in fintech.

Keywords- Artificial Intelligence, Banking, Finance, Customer Satisfaction, Fraud Detection, Data Privacy, Automation, Decision-Making, Ethical Concerns, India.

I. INTRODUCTION

Artificial Intelligence (AI) has become a key player in the global economy, completely reshaping the way companies now do business. Because the banking and financial sector relies on data, security and efficiency, AI is changing the way it works. Because of AI, financial institutions can now instantly detect fraud, customize experiences for customers and automate many of their routine jobs in the back office. Since further digitalization and fiscal inclusion are important in India, AI has become especially important. Firms are using chatbots, robo-advisors, predictive analytics and machine learning to adapt to what is required in the market and maintain their lead. AI has a role in improving operations no doubt, but it also plays a major part in developing new strategies and innovation which is key to the transformation of banking today.

This statement explains what the problem in the study is.
AI does have a lot of benefits, but it is not easy for organizations in banking and finance to incorporate these into what they do. Even if developed market institutions have progressed a lot, financial institutions in emerging areas such as India must overcome issues such as insufficient infrastructure, concerns about ethics and vague regulations. Besides, people's knowledge of AI and how they use it is far from equal which makes people think about whether they have the skills, trust AI and if present security systems are adequate. Because AI is adopted so rapidly, it opens the door to more job loss and challenges over who or what is responsible for actions taken by algorithms. Because AI now helps with credit approvals, investment recommendations and customer analysis, not being clear about how it works can lead to biased outcomes and more complex use. We need to study in detail how AI affects the financial industry, both its good and bad effects, from the stance of Indian people working there as well as those affected by it.

What the study hopes to achieve.
The purpose of this study is to investigate the many roles of Artificial Intelligence in changing the banking and financial services field in India. The objectives to be met in specific ways involve:
To know how many Indian people are aware of and make use of AI in financial services.
To check how customers view the reliability, certainty and ease-of-use for AI involved in services.
To analyze the issues that people consider to be high risks of AI in the finance sector such as threats to privacy and job opportunities.
To see which challenges prevent financial institutions from using AI in their operations.
To bring forward advice and insights for ethical and best ways to use AI in finance.
3.5 Research Questions
Therefore, these objectives are explored in the study by asking these research questions:
Is AI well known to Indian financial service users within banking and finance?
How is AI seen to affect service quality, how happy customers are and the decisions in the company?
What issues related to ethics or operations are consumers worried about in regards to AI use in finance?

Do finance companies feel ready to handle sustainable use of AI?
What suggestions are there to promote the use of AI and also guarantee transparency, inclusion and accountability?
3.5 Why this Study Matters
It is important because it looks at digital technology in a changing digital economy. Banks and financial institutions should understand what end-users think and experience as they speed up their digital operations. The study links existing work by covering technological advances and how people welcome or reject AI in the financial sector. It helps development of educational theories by supporting and increasing knowledge of technology acceptance in the Indian financial sector. Practically, it gives guidance to people in policymaking, finance and technology who want to combine AI and ethical beliefs. With its focus on how individuals and institutions react, the paper supports handling innovation and responsibility together.

3.7 What the Research Can and Cannot Do
The focus of the research is the Indian banking and finance sector, using mainly data gathered from people with digital knowledge such as students, working professionals and workers at banks. It covers main types of AI like chatbots, systems for fraud detection and decision-making systems, but does not discuss advanced AI solutions such as generative AI or its use in finance based on quantum computing. As a limitation, the study only used a small number of participants and did not randomly choose them which makes it hard to generalize what was found. In addition, because participants

reported their own data such results could contain biases from their personal backgrounds. But the study explains in an accessible way how AI is being applied in the financial sector, creating a base for future more detailed and broadly scoped work.

II. LITERATURE REVIEW

Financial services globally are being transformed in their operations and strategies thanks to the rise of Artificial Intelligence (AI). A part of AI is imitating human intelligence which technology can now perform by learning, reasoning and adapting. AI has gone from simple systems to using advanced tools like machine learning, NLP and automation in robots (Hagras, 2024; Sharma & Sharma, 2025). Due to using lot of data, interacting with a lot of customers and caring about compliance and error-free operations, banking uses AI a lot. Arya and Tiwary (2024) and Bi and Bao (2024) found that AI is commonly used in customer service with the help of chatbots, in identifying fraud using real-time systems and in measuring risks by using dynamic credit scoring. AI has also made it easier for financial service providers to offer hyper-personalized services which encourages customers to keep using and trusting those services (Kanaparthi, 2024). Building on AI, investment firms and fintech companies give traders faster access to data, using it to make smarter choices and have made wealth management accessible to more people (Mer, Singhal, & Virdi, 2024). The increase in digital banking as a result of the pandemic made AI even more important in making financial activities contactless, remote and without paper use (Yalavarthi, 2024). AI is now being applied in Indian banks to help profile customers, review financial transactions and design better services which signals that AI is being used more frequently to please consumers and better handle operations.

At the same time, evidence from the literature proves the value of AI, but it also points out some problems and ethical concerns involved. Issues connected to data privacy, the way algorithms may be biased and the hidden decisions made by AI are very important here (Das, 2024; Jain, 2023). Many people, including developers, find it hard to explain the logic used by AI-controlled systems which poses accountability problems in fields such as financial lending or detecting fraud. Also, algorithmic bias may occur when data used for training reflects past biases which can result in choosing disadvantaged people for credit or financial guidance (Kanaparthi, 2024). There are also difficulties linked to regulations, mainly in India, where the legal setup guiding AI is still being developed, giving banks and other financial institutions some unease about using it (Sharma & Sharma, 2025). AI systems are also causing concern, as they take over tasks once handled by people, leaving many below board-level jobs at risk (Hebbar & Chakraborty, 2024). While these concerns exist, the research points out that with the help of mobile technology and chatbots that use local languages, AI can make financial services accessible to more people (Arya & Tiwary, 2024). Even so, the vast majority of studies look at the financial systems of the world or the West, so there is not much research available about the Indian context regarding trust, satisfaction and institutional arrangements. The objective is to fix these gaps by sharing insights from people in India which explains the role of AI in banking and finance better in the subcontinent.

III. RESEARCH METHODOLOGY

A quantitative process is used in this study to analyze how people in the Indian banking and finance sector are affected by Artificial Intelligence (AI). A descriptive cross-sectional study was carried out to gather and study the data over a short period which allows us to see current attitudes and habits. It was an empirical study that collected data straight from people by means of a research questionnaire specially developed for the research. There were different sections in the questionnaire: demographics, how familiar people were with AI services, how often they used AI-powered services, thoughts on AI helping improve service quality and privacy and employment-related issues. Most of the questions were closed-ended and each answer was given on a five-point Likert scale, from "Strongly Disagree" to "Strongly Agree, " so the results could be easily analyzed with numbers. Google Forms were used to collect data which made it possible to send the tool to a wide range of respondents and gather their responses online. Participants were chosen using purposive non-probability sampling which made certain that only those with experiences in AI-driven financial services were included. The sample involved 60 people from both urban and semi-urban areas and included students, professionals (both from outside the financial sector and within it), entrepreneurs and employees of banks. Because of this sample, we heard opinions from people in the industry as well as from people who used the platform. Excel was used to conduct data analysis and generate facts such as frequencies, percentages and mean scores and these were represented as bar charts and pie charts for easier understanding. Instead of making inferences using theoretical statistics, the approach was to summarize the common tendencies of respondents regarding their trust, perceived benefits, level of satisfaction and concerns about ethics, because of the small sample size. A pilot test was performed with five people from the target population to make sure the instrument was reliable and easy to understand and potential improvements were made. Also, using Cronbach's Alpha, internal consistency was shown to be solid, since the score reached above the common standard of 0.7 for social science studies. Strict consideration of ethics informed all the steps of the research. People decided for themselves if they wanted to take part and they were told that their data would remain private and unidentified. Participants were not asked for personal details and at the start of the survey they were asked for informed consent. Care was taken during the study to avoid any offensive or coercive phrasing in the questionnaire which preserved both the study's integrity and participants' rights. Even though the methodology shows current opinions about AI in the financial industry, there are some things it does not cover. Because of the small and uneven sample, the results cannot be applied to most people. Everything in this study came from self-reported information, so people might have used biased answers or didn't quite understand what the questions asked. Even so, the used approach is proper for exploratory research seeking basic knowledge about a present-day problem and prepares the way for more comprehensive research involving larger samples and more complex statistical methods in the future. The study uses this method to find important patterns in both consumer habits and banking environment in AI adoption in India which helps enrich both theory and fieldwork.

IV. DATA ANALYSIS AND INTERPRETATION

This part looks closely at the answers provided by 60 respondents to learn how many people in Indian banking and

finance are aware of, perceive and accept Artificial Intelligence (AI). Necessary charts and tables show the user demographics, their experience with the services provided and how users feel or perceive the services. In the original thesis, many aspects were looked at, but only the top three and most revealing tables from that research are examined here.

Table 1: Awareness of AI in Banking and Finance

Level of Familiarity	Frequency	Percentage (%)
Very Unfamiliar	2	3.3%
Unfamiliar	4	6.7%
Neutral	10	16.7%
Familiar	28	46.7%
Very Familiar	16	26.6%
Total	**60**	**100.0%**

Graph 1: Familiarity with AI in Financial Services (Bar Chart)

Interpretation:

It seems that aware of AI in financial services are those taking part in the survey. A large group (73.3%) stated they knew a lot about AI in banking, showing that digital knowledge and use of AI tools is widespread among the sample. A little over a tenth (10%) admitted they were not aware of these technologies. Some people (about 16.7%) do not take a strong stance despite having some knowledge and ideas. That suggests AI has become more well-known by regular users, especially those who use banking apps in cities, since rapid growth of chatbots, fraud systems and digital advisors has made AI more visible in finance.

Table 2: Trust in AI for Financial Decision-Making

Response	Frequency	Percentage (%)
Yes	24	40.0%
No	14	23.3%
Not Sure	22	36.7%
Total	**60**	**100.0%**

Graph 2: Trust in AI for Financial Decisions (Pie Chart)

Interpretation:

Many people are divided on whether to give AI freedom or some control to handle investment advice, lending decisions and risk evaluation. Although a large part (40%) of the respondents trusted AI's decisions, almost the same number (36.7%) remained unsure about it and seemed to be slightly more cautious or unclear about the reasons. A notable number of users (23.3%) said they did not trust an AI chatbot because they were concerned about algorithmic bias, being judged by a machine or security issues with their data. Since people have mixed thoughts on AI in banking, it is important for banks to explain how their AI systems work, make sure their customers understand these systems and to continue involving people in big decisions.

Table 3: Overall Satisfaction with AI-Enabled Financial Services

Satisfaction Level	Frequency	Percentage (%)
Very Dissatisfied	1	1.7%
Dissatisfied	3	5.0%
Neutral	14	23.3%
Satisfied	28	46.7%
Very Satisfied	14	23.3%
Total	**60**	**100.0%**

Graph 3: Overall Satisfaction with AI in Financial Services (Bar Chart)

Interpretation:

Most people are very satisfied with AI in the banking and financial industry. The majority of people surveyed (about 7 out of 10) stated that they are either "Satisfied" or "Very Satisfied" with AI, suggesting that it is both popular and appreciated. Respondents with a neutral score (23.3%) seem to have had average experiences or not experienced much related to the topic. Just a small percent (6.7%) said they were not happy, so problems with the service seem to be uncommon. Since the results clearly show more use of AI systems, it's likely that people are finding faster, more convenient and more personalized experiences in finance. At the same time, customers need to see constant innovation along with dependable and reliable service to maintain or pursue more satisfaction.

V. DISCUSSION

Based on this study, it is clear that both acceptance of AI and its difficulties are rising in Indian banking and finance. It is shown that many people using financial services are aware of AI and are actively using various forms of the technology, especially for customer support, fraud detection and loans. This is in line with previous studies showing that artificial intelligence is fast becoming a key part of high-frequency banking and also raises efficiency during operations (Bi & Bao, 2024; Arya & Tiwary, 2024). People are very happy with the systems due to their convenience, customization and fast response, proving AI is helping banks move toward providing better services to their customers. But, the analysis points out that some big ethical and uncertain questions are not fully answered yet. It was also found that a large number of participants had doubts or were not sure about trusting AI in finance which is in line with studies pointing out that people are hesitant due to the complexity of the algorithms used by AI and the lack of human involvement (Jain, 2023; Kanaparthi, 2024). Similarly, privacy issues with data which are not included in the key tables, were considered throughout the research and agree with others in the industry who say that AI adoption is hindered mainly by concerns about data misuse and breaches (Das, 2024). These mixed thoughts about AI point out that it makes things easier and more efficient for businesses in finance, but still brings risks regarding secrets, control and ethics. The study further discusses the risk of jobs being taken over by automation, an issue that is widely discussed among experts and indicates that banks can use this as a chance to train staff in new skills and use technology and human thinking together (Hebbar & Chakraborty, 2024). The study's focusing on India means that there are extra cultural and infrastructure challenges, because the country has varying digital skills, gaps in regulations and social and economic differences. Since global trust in AI is not the same for every group, institutions have to apply a strategic approach that meets the needs of all. All this shows that financial institutions should balance the benefits of AI with the importance of ethics, user trust and the ability to handle future surprises. As India moves toward getting more digital, AI will have a greater presence, therefore banks, fintechs and regulators need

to come together to ensure that AI is responsible, easy to use and based on user needs.

VI. CONCLUSION AND RECOMMENDATIONS

The study found that Artificial Intelligence (AI) has become vital in changing the systems and processes used by banks and financial institutions in India, showing real results for efficiency, customer service and saving time. More users are satisfied and aware of what AI can do, showing that AI technologies are now being accepted, especially for customer service, fraud detection and transactional services which used to be time-consuming and involved many human errors. Even so, the study points out major worries which include doubts about giving AI full decision-making power, worries about data privacy and being unsure about how automation will affect future jobs. This shows that AI should be used responsibly and always with people's well-being in mind. For this reason, financial institutions should choose AI systems that are easily understood by users which is particularly important in functions like credit scoring and deciding on investments. Enhancing cybersecurity systems and using secure data policies that fit new rules and help build consumer trust is very important. Customer education and proper onboarding will help bridge the gap between banks, fintechs and their customers. Besides, making the move to AI-driven systems must consider everyone and no one should be excluded due to technological gaps. Places of work should invest in reskilling their staff and encourage human-machine partnerships which use artificial intelligence for efficiency and humans for empathy and judgment. Regulators should build a comprehensive governance system for AI that ensures both growth in the area and responsibility, especially with regard to fairness, reducing bias and how users are informed. It is also suggested to carry out further research to keep monitoring the impact of AI on financial behavior, institutions and the market as things develop. Basically, for AI to truly help finance in India, it must be carefully, ethically and user-focused as financial and social considerations go along with any possible technological changes.

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