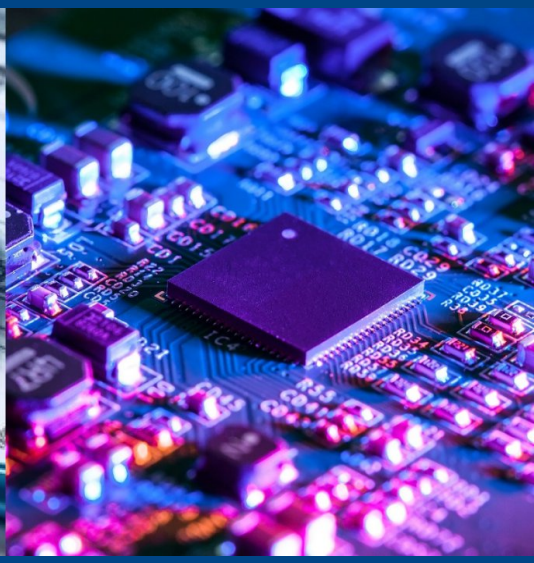
ISSN: 2582-7219





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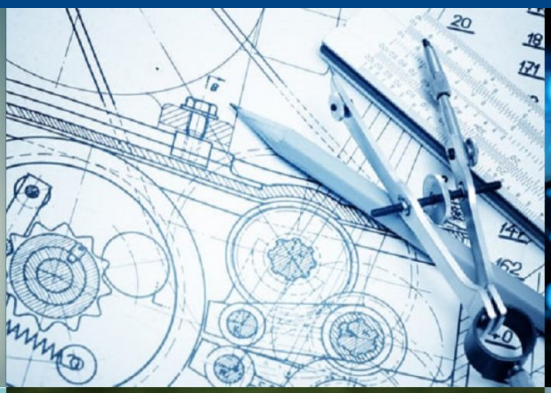

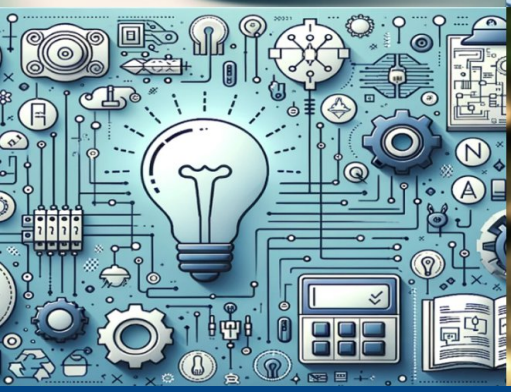

Impact Factor: 8.206 **Volume 9, Issue 4, April 2026**

© 2026 IJMRSET | Volume 9, Issue 4, April 2026| DOI:10.15680/IJMRSET.2026.0904426

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

A Study on the Impact of AI-Driven FinTech on Traditional Banking and Financial Inclusion

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ABSTRACT: In this paper, we explore the impact of AI driven FinTech on banking and financial inclusion. Banking is no longer just changing, but transforming, at an alarming rate. Through the power of machine learning, automated systems, and predictive modelling, banking and financial services institutions are able to make more informed decisions and act faster, in order to cater to customer needs more efficiently. To search deeper, I have done a descriptive research study, using this structured questionnaire to gather firsthand data. I wanted to see how much people know, trust, and use AI in their financial lives. So, the results are quite evident: AI-based FinTech does broaden access to services, particularly digital payments, credit scoring, and customer services. But not all is positive. People have privacy concerns; Many are unaware of the services available; and technology-related problems coupled with trust are still barriers. Nevertheless, AI has certainly become a driving force in banking and is creating a range of new access opportunities into the financial system. Ultimately, AI has the potential to revolutionize banking, but the right regulations, improved execution and increased awareness building efforts need to be undertaken so as to ensure that benefits extend to everyone.

KEYWORDS: FinTech, Artificial Intelligence (AI), Digital Banking, Financial Inclusion, Traditional Banking, Digital Payments, Financial Technology, AI in Banking.

I. INTRODUCTION

AI and FinTech have put the financial industry in the fast lane. Gone are the days of labour-intensive bank work: now digital and automated solutions have become dominant.

Machine learning, chatbots, predictive analysis, etc. Make bank operations faster, allow for better decisions to be made and a much-improved customer service. With mobile banking and online payment options booming, access to financial services has been dramatically increased.

Now Financial Inclusion has become a core theme of discussion and AI driven FinTech allows previously marginalized segments of the population access to financial services. However, challenges like data privacy, lack of knowledge, regulation fragmentation etc are still in evidence. This study digs into how AI-driven FinTech is overhauling traditional banking and what that means for expanding access to financial services.

Statement of Problem

Due to the slow and manual nature of operations of traditional banking and the fact that many individuals are excluded from services, mainly the deprived segment of the community who have problems accessing needed financial services. AI-driven FinTech offers banks to operate at an increased speed, more efficiently and with the aim of reaching more people but the high cost, lack of awareness and on-going concern regarding privacy may slow down implementation. A critical look at AI-driven FinTech's contribution to banks and financial inclusion is warranted.

II. REVIEW OF LITERATURE

The study of Adegbite (2025) shows that AI contributes to improvement in fraud detection, productivity enhancement, increased financial inclusion and reduction in errors caused by humans.Sharma (2025) highlighted that AI-based credit scoring uses digital spending data to give more people a shot at credit—but fairness and bias are still big concerns.
Venet (2019) showed how digital banking—and especially mobile services—breaks down old barriers and costs, helping more people, especially in developing and rural areas, use banking services.

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According to the IMF (2019), machine learning speeds up and sharpens credit risk decisions, but leaves big questions about transparency and security. Ajman University (2025) pointed out that AI makes banks more customer-friendly through personalization, chatbots, and automation, and is pushing traditional banks to upgrade and move digitally, faster.

Gaps Identified in Existing Literature

- So, there is a lot of theoretical research; there isn't a lot of actual real-world data being gathered and not a lot of it looking into the specificities in India, it is mainly global in perspective.
- Bias in AI systems usually stays hidden from view whether it be for reasons of gender or urban-rural differentiation.
- The actual effect on traditional banks hasn't been measured clearly, and there aren't many side-by-side comparisons.
- Also, the human element—customer trust, awareness, and behaviour—needs more attention, and rural financial inclusion is still mostly untouched. Some studies even hint that FinTech hasn't really solved the financial gap yet, so deeper research is overdue.

Objectives of the Study

1. Examine how AI-driven FinTech is changing traditional banking and financial inclusion • Explore AI's role in reshaping conventional banking
2. Look at how AI-powered FinTech affects financial inclusion in India
3. Examine the level of awareness and adoption of AI powered financial services by the customer
4. Outline the key issues namely; data privacy, bias and trust
5. Compare conventional banks with those adopting AI-driven FinTech

III. RESEARCH METHODOLOGY

Research Design

This descriptive approach allowed me to research how AI-enabled FinTech impacts conventional banking and financial inclusion. It enabled me to learn the tendencies, the users' psychology and relation between AI and financial inclusion.

Target Population

My focus was on bank customers, FinTech users, students, and working professionals who use or know about digital financial tools. I picked people who have basic financial knowledge to keep the responses solid and relevant.

Sample Size

I collected 103 valid responses from people with different ages, incomes, and backgrounds. This gives the study some reliable variety.

Sampling Technique

I went with convenience sampling, collecting responses online—mostly through Google Forms—which made it easy to reach a broad group quickly.

Data Collection

• Primary Data: Demographic information, awareness level, usage, perception (via Likert Scale) and issues faced were included in the structured questionnaire used for data collection from the individuals.
• Secondary Data: Articles, journals, papers, reports etc, between the year 2018 to 2026, were used for data.

Data Analysis and Interpretation

Table 1 Age Distribution of Respondents

Age Group	Frequency	Percentage
Below 20	12	11.65%
21-30	37	35.92%
31-40	30	29.13%
41-50	15	14.56%

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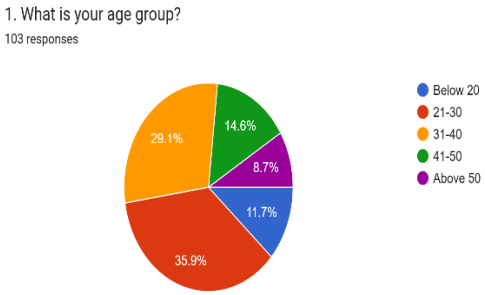
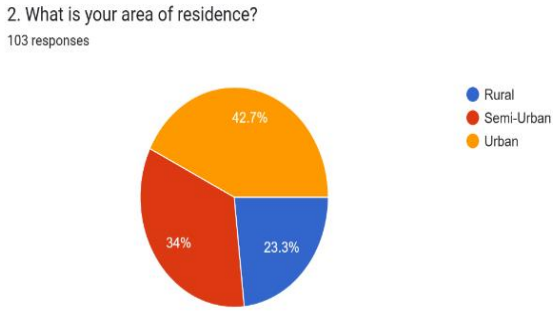
Above 50	9	8.74%
Total	103	100.00%



Majority people who take part in this survey are from the age group 21 to 30 - approx. 36% of the total sample. Then comes the age group 31-40 - almost 30%. So, it's mostly younger working folks who showed up here. You don't see many participants under 20 or over 50, which really highlights that the whole study leans toward a more tech-savvy bunch.

Table 2 Financial Inclusion Factor

Area	Frequency	Percentage
Rural	24	23.30%
Semi-Urban	35	33.98%
Urban	44	42.72%
Total	103	100.00%



If you look at where everyone lives, most are from urban areas—43% report city living. Semi-urban residents come next, and rural voices make up just 23%. It's pretty clear: people from more developed areas are front and centre in these results, while the rural group barely makes a splash.

Table 3 Usage (Core Variable)

Usage	Frequency	Percentage
Yes, regularly	59	57%
Rarely	15	15%
Occasionally	27	26%
Yes	2	2%
Total	103	100%

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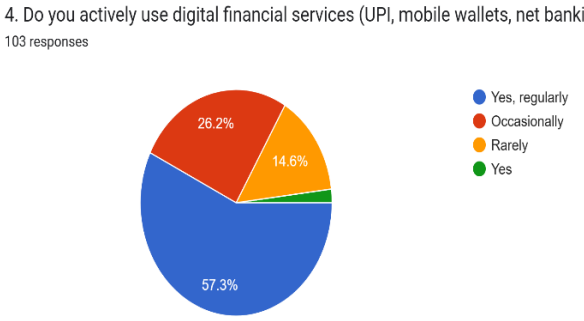
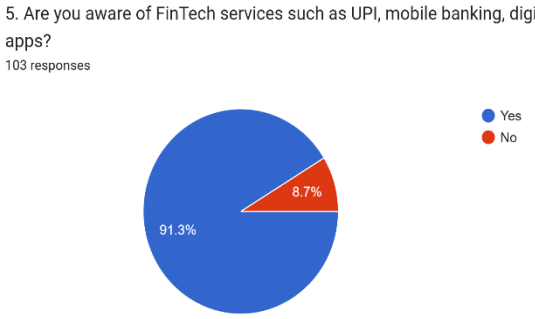


As for digital financial services, nearly 60% say they use them regularly. Another 25% use them now and then, and only a small group rarely touches them. Digital banking seems like the norm for most, but there's still a chunk who only dip their toes in.

Table 4 Awareness of FinTech

Awareness	Frequency	Percentage
Yes	94	91%
No	9	9%
Total	103	100%



On the awareness side, almost everyone knows about FinTech—91% say they're in the loop. Only around 9% say it's news to them. Clearly, FinTech isn't some niche thing anymore; it's gone mainstream.

Table 5 Ease of Use (Impact Variable)

Ease of Use	Frequency	Percentage
Strongly Agree	46	45%
Agree	34	33%
Neutral	16	16%
Disagree	5	5%
Strongly Disagree	2	2%
Total	103	100%

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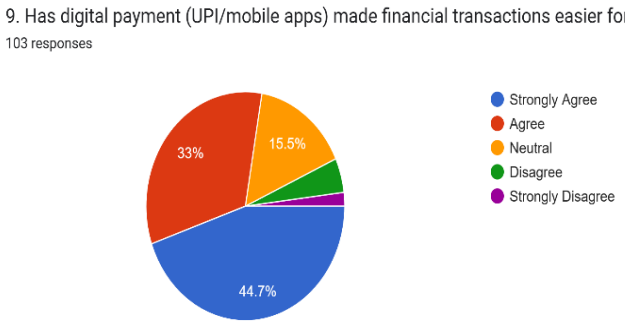
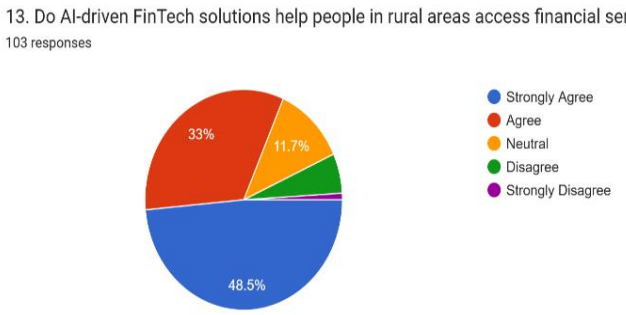


How do people actually feel about these digital payment tools? The vibe's positive. About 45% strongly agree they're easy to use, another third just agree, and if you add that up, almost 80% think digital payments simplify life. Hardly anyone disagrees, so the general experience is bright.

Table 6 Financial Inclusion Impact

Impact	Frequency	Percentage
Strongly Agree	50	49%
Agree	34	33%
Neutral	12	12%
Disagree	6	6%
Strongly Disagree	1	1%
Total	103	100%



When you dig into AI-powered FinTech's role in rural inclusion, 82% think it's making a real difference. Nearly half say they strongly agree. The few who aren't convinced barely change the overall picture—these tools have a good reputation for improving rural access.

Table 7 Trust & Security

Trust & Security	Frequency	Percentage
Strongly Agree	27	26%
Agree	37	36%
Neutral	27	26%
Disagree	8	8%
Strongly Disagree	4	4%
Total	103	100%

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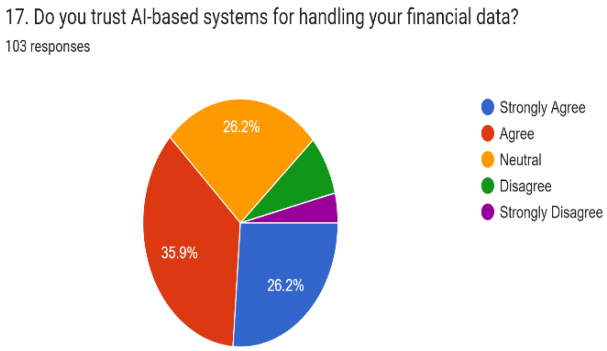

Now, a quick word on trust and security: 62% feel comfortable trusting AI with their financial data. Yet, approximately one quarter of respondents are uncertain, and 12% entirely mistrust it. Thus, majority approval is achieved, however some reservations about privacy and security remain, something that should be borne in mind as such technologies proliferate.

Reliability Analysis

To see if the Likert-scale questions (9, 10, 13, 16, 17 and 19) were reliable, I ran a Cronbach's Alpha test in SPSS (Version 23). These questions all focused on how people feel about AI-driven FinTech—stuff like making transactions easier, improving credit access, reaching rural areas, helping people save, and catching fraud.

Table: Reliability Statistics — Cronbach's Alpha

Cronbach's Alpha	N of Items
0.877	6

So, I discovered the following things. Cronbach's Alpha for these 5 items was 0.877. This is a little bit below the 0.877 generally used standard, however in terms of exploratory research, it's still fine. It means the questions generally hang together, even though each touch on a different part of how AI shapes FinTech. I included all 103 valid responses, so the dataset stayed solid.

IV. FINDINGS

- Cronbach's Alpha came out at 0.877 with 103 responses—solid consistency for this kind of study.
- Most people already know about AI-driven FinTech services. Awareness is clearly growing.
- A big chunk of the respondents is using UPI and mobile banking, which shows digital transactions are taking off.
- A lot of people find that AI systems make financial transactions simpler and faster.
- On the credit side, many feel AI lending platforms give better access than traditional banks.
- People respondents believes that the adoption of FinTech (based on AI) will improve reachability in the rural areas and increase inclusion.
- In addition to that, the use of these digital services has helped most users to inculcate better saving habits and to be better money management people.
- The majority of people say they are confident in entrusting their personal finance data to AI-driven systems, though concerns exist.
- Many view AI as beneficial in combating financial fraud and securing online transactions, thereby gaining peoples trust.
- Despite this confidence, the road ahead is still dotted with a few obstacles: issues such as privacy, lack of awareness, and technical limitations are some key concerns that may cause the widespread acceptance of the platforms.
- The adoption of AI at the respondent organization (Dr. D Y Patil College of Arts, Commerce and Science and DPGU) is put into effect for real-time financial modelling and scenario analysis.

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V. CONCLUSION

This study dug into how AI-driven FinTech is shaking up traditional banking and expanding financial inclusion, based on what 103 respondents shared. The data's pretty clear: digital payments, AI-powered loans, and automation are leaving their mark on the landscape. With Cronbach's Alpha at 0.877, the scale was reliable enough to support these takeaways. Most respondents aren't just aware of digital financial tools—they're already using them. The shift away from old-school banking is well underway. AI-powered FinTech is making things more accessible, especially out in the countryside. It's speeding up transactions, helping people manage and save their cash, and bringing better fraud protection.

All of this means more confidence in digital financial systems. Of course, not everything's perfect—data privacy, trust, and awareness are still sticking points. Some folks are wary or just not familiar with these new ways of banking yet. Still, the big picture is positive: AI-driven FinTech is changing banking and opening doors for more people. If current problems get sorted out, there's a lot of potential for even bigger growth.

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