International Scientific Journal of Engineering and Management (ISJEM) ISSN: 2583-6129
Volume: 04 Issue: 05 | May – 2025 DOI: 10.55041/ISJEM03824
An International Scholarly || Multidisciplinary || Open Access || Indexing in all major Database & Metadata

# A Study on the Use of AI in Financial Planning

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**Date:**
23 May 2025

**Abstract:**

Artificial Intelligence (AI) is changing the way we approach financial planning, making it smarter, faster, and more personalized. From helping investors make better decisions to detecting fraud and improving customer service, AI is becoming a valuable tool in managing money. It also helps reduce costs and creates new opportunities in banking and finance. This study looks at how AI is being used in the real world—through research, industry reports, and tools like word clouds to spot key trends. While AI makes financial services more accessible, it also brings up important questions about privacy, fairness, and long-term impacts on individuals. As we move forward, it's crucial to find a balance between innovation and responsibility, making sure that AI supports a financial system that is fair, efficient, and sustainable—echoing the goals of SDG 9.

**Keywords:**

Artificial Intelligence, Financial Planning, Banking and Finance, Fraud Detection, Credit Scoring, Data Privacy, Ethical Finance.

## 1. Introduction

Artificial Intelligence (AI) is changing the way we manage money by making financial planning smarter, faster, and more personalized. With tools like machine learning and robo-advisors, AI helps people and institutions make better investment decisions, assess risks, detect fraud, and offer tailored financial advice. It's making complex tasks easier and more efficient, and even improving customer service through chatbots and automation. But while the benefits are clear, there are also important challenges—like protecting data privacy, avoiding biased decisions, and keeping up with regulations. As AI becomes more common in finance, it's important to use it responsibly, making sure it stays fair, transparent, and truly helpful for everyone.

 

**Concept Of Artificial Intelligence**

Artificial Intelligence (AI) has been around for decades, but only in recent years has it started to truly transform industries like finance, thanks to major technological progress. Originally introduced in 1956 by John McCarthy, AI now includes areas like machine learning, deep learning, and natural language processing. At its core, AI aims to build systems that can think and learn independently. Machine learning, a branch of AI, allows computers to learn from large volumes of data, spot patterns, and make accurate predictions—often doing things humans might miss.

**Artificial Intelligence in Finance**

AI is transforming finance by improving risk management, detecting fraud, enhancing customer service, and supporting smarter investment decisions. It helps analyze large data sets quickly and accurately, making processes more efficient. However, its use also raises concerns about data privacy, security, and fairness, which must be addressed to ensure responsible adoption.

**Evolution of Artificial Intelligence in Finance**

AI has steadily transformed finance, beginning with expert systems in the 1980s that aided investment decisions. Machine learning in the 1990s improved trading strategies by analyzing financial data. Advances in computing power and data access in the 2000s boosted AI use, especially in high-frequency trading. Recently, deep learning has enhanced market predictions and investment performance. AI is also widely used for fraud detection, credit scoring, and customer support via chatbots. Its role in finance continues to grow as institutions seek better efficiency and service.

**AI in the Indian Finance Industry**

The pandemic has sped up the use of technologies like chatbots, computer vision, and video-based KYC to support customer service and onboarding when in-person options were limited. In the Indian finance sector, organizations can use this insight to plan and prioritize AI implementation effectively. While chatbots are widely adopted, technologies like customer journey personalization remain less common but promising. Despite mature AI tools, many firms haven't fully leveraged chatbot data to improve other processes. As AI grows, concerns about trust, accountability, and data privacy are rising, prompting governments and organizations to develop regulations to ensure responsible AI use.

**Need for Artificial Intelligence in Finance**

AI is transforming finance by improving efficiency, cutting costs, and enhancing customer service. It helps manage risks, supports smarter investment decisions, and predicts market trends through data analysis. AI-powered chatbots offer personalized customer support, while fraud detection systems identify suspicious

activities. Additionally, AI automates routine tasks and ensures regulatory compliance, allowing staff to focus on more complex work.

**Advantages of AI for Finance**

AI is transforming finance by offering deeper insights into complex data, enabling faster and more accurate decision-making. It helps reduce costs by automating tasks traditionally done by experts and supports compliance with regulations while effectively detecting fraud. Additionally, AI's ability to handle large volumes of data far surpasses manual processes, making financial operations more efficient and reliable.

**Disadvantages of AI for finance**

AI in finance has some downsides. It relies heavily on high-quality, accurate data—if the data is flawed or outdated, the AI's decisions can be wrong. Additionally, as AI automates many tasks, it can lead to job losses, which impacts employment within the industry.

**Application of Artificial Intelligence in the financial service industry**

AI has become an integral part of everyday life and is increasingly used across industries, especially in finance. In this sector, AI powers chatbots, fraud detection, robo-advisors, and regulatory compliance. Machine learning and deep learning enhance these applications, improving efficiency and accuracy. These technologies help financial firms better manage risks and serve customers effectively.

AI is transforming the financial sector by enhancing fraud detection, risk management, credit decisions, algorithmic trading, and customer service. It helps detect suspicious activities by analyzing transaction patterns and reduces fraud risks. AI improves credit scoring by using complex data for fairer, faster loan approvals. Algorithmic trading leverages AI to execute high-speed trades with greater accuracy and lower costs, minimizing human error and emotional bias. Additionally, AI-powered chatbots provide instant, 24/7 customer support, boosting efficiency and saving banks significant time and resources.

**OBJECTIVES:**

- To analyze the applications and impact of AI in financial planning and decision-making.
- To assess the benefits, challenges, and ethical concerns associated with AI-driven financial tools.
- To explore the future potential of AI in enhancing financial planning strategies.

2. **Literature Review**

Sharma and Biros (2021) explore how AI is impacting organizations, highlighting its dual role as both a powerful driver of automation and a potential source of unintended consequences. They break down the key components of AI, the organizational goals it can help achieve, and the types of AI technologies that are reshaping industries like finance. Their analysis highlights the incredible

potential of AI to automate complex processes and enable smarter, data-driven decisions—while also sounding a note of caution about the social, financial, and legal risks that come with its use.

Building on these concerns, Ayling and Chapman (2022) focus on the ethical challenges of AI and the urgent need for strong governance frameworks. They review a range of ethical guidelines and practical tools designed to ensure that AI systems are built and used in ways that are transparent, fair, and accountable. This is especially crucial in the financial sector, where ethical AI practices are essential for maintaining trust and upholding the integrity of financial transactions and decision-making.

James D. Smith (2021) conducted an in-depth analysis of robo-advisors and their efficiency in investment planning. His study concluded that AI-driven financial tools significantly improve portfolio diversification and risk assessment. By leveraging advanced algorithms, robo-advisors can analyze market trends, assess an investor's risk tolerance, and create optimized investment portfolios. This automation not only reduces human bias but also makes professional financial advice more accessible to a broader audience.

Michael Johnson and Linda Parker (2022) examined the role of machine learning algorithms in fraud detection. Their research highlighted how AI-powered systems help financial institutions detect fraudulent activities in real-time by identifying unusual transaction patterns. These AI-driven fraud detection mechanisms enhance security, minimize financial crime, and protect consumers from cyber threats. By continuously learning from vast amounts of transactional data, AI systems can detect suspicious behavior with greater accuracy than traditional fraud detection methods.

Rebecca Brown (2020) explored AI's impact on credit risk assessment, focusing on how predictive analytics improves the accuracy of evaluating an individual's creditworthiness. Her findings demonstrated that AI models, which analyze diverse financial data points such as spending habits, repayment history, and even social behaviors, enable lenders to make more precise lending decisions. This reduces the likelihood of loan defaults while also ensuring fairer credit allocation to individuals who may have been overlooked by traditional credit scoring models.

Robert Williams (2019) investigated the ethical concerns associated with AI-driven financial planning. His study emphasized the challenges posed by data privacy risks, algorithmic biases, and regulatory compliance. Williams highlighted how AI's reliance on vast amounts of personal financial data raises concerns about data security and consumer protection. He also discussed the potential biases embedded in AI algorithms, which, if not properly addressed, could lead to discriminatory financial decision-making. His research called for stronger regulations and ethical guidelines to ensure the responsible use of AI in finance.

Emily White and Jason Green (2023) analyzed AI's potential in retirement planning, showcasing its ability to provide personalized savings strategies based on an individual's income patterns and

spending habits. Their research revealed that AI-driven retirement planning tools can help individuals set realistic financial goals, adjust their savings contributions dynamically, and optimize investment choices to secure their financial future. By using AI, financial advisors and individuals can create data-driven, customized retirement plans that adapt to economic changes and personal financial circumstances.

## 3. Methodology

**Study Design:**

This project will be using primary as well as secondary data. The primary sources could be used to collect the facts from the respondents for the correct results for the observation while the secondary sources are referred for the theoretical references.

**Geographical Area:** ➢ To understand the concept of AI application in the Finance sector

The research of the project was conducted mainly within the economic boundaries of Raipur.

**Data collection procedure:**

The data for the research project is mainly collected from the questionnaire and a few secondary records along with books, journals, study papers and articles were used.

**Sample Size:**

The sample size for this research study is 54.

**Data analysis process:**

Tables, graphs and descriptive statistical tools are used to research the facts accumulated from the questionnaire, journals, articles and study papers.

## 4. Data Analysis & Interpretation

## DATA ANALYSIS AND INTERPRETATION

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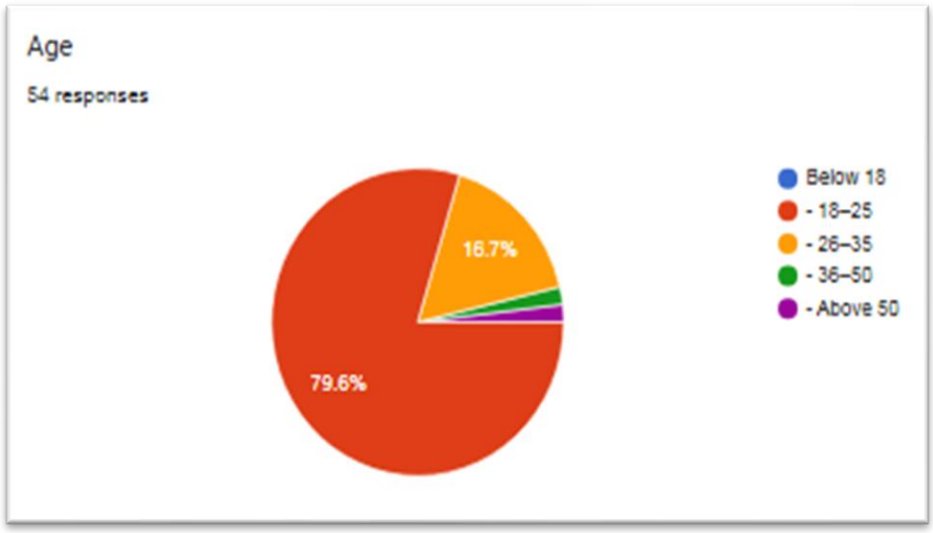
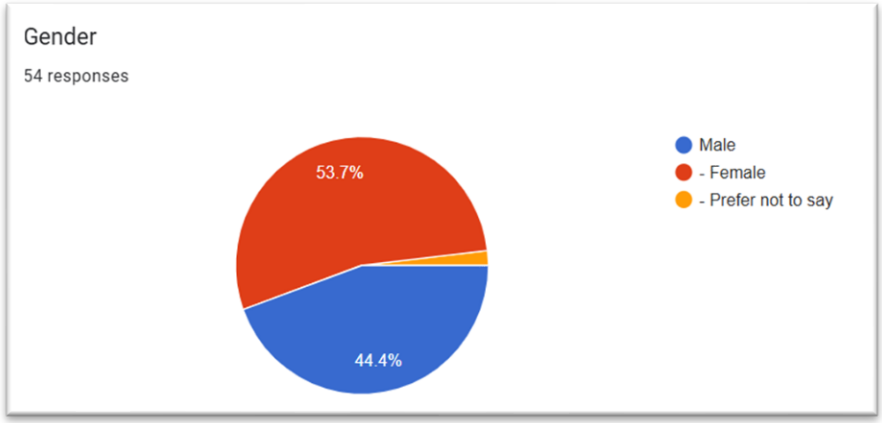
➢ **AGE**




ANALYSIS AND INTERPRETATION

The majority of respondents (79.6%) are aged between 18–25, indicating that the sample largely consists of young adults. This is followed by the 26–35 age group (16.7%). Very few respondents are above 35, and none are below 18, highlighting a youthful demographic with limited representation from older age groups.

➢ **GENDER**




ANALYSIS AND INTERPRETATION

Among the respondents, 53.7% are female and 44.4% are male, with a small portion (1.9%) preferring not to disclose their gender. This indicates a relatively balanced gender distribution with a slight female majority.

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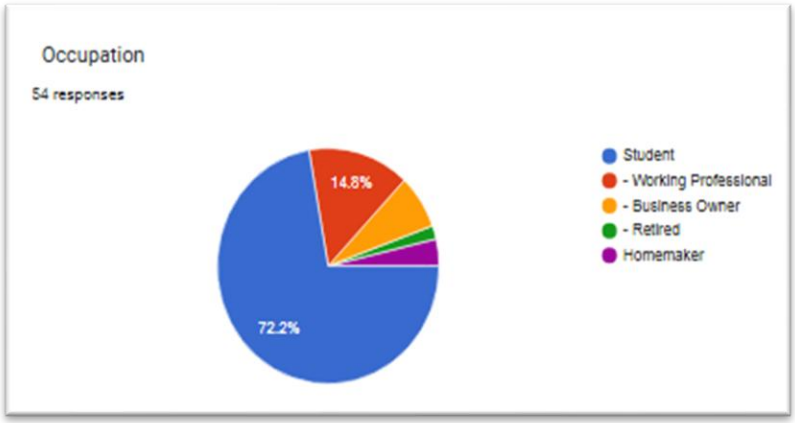
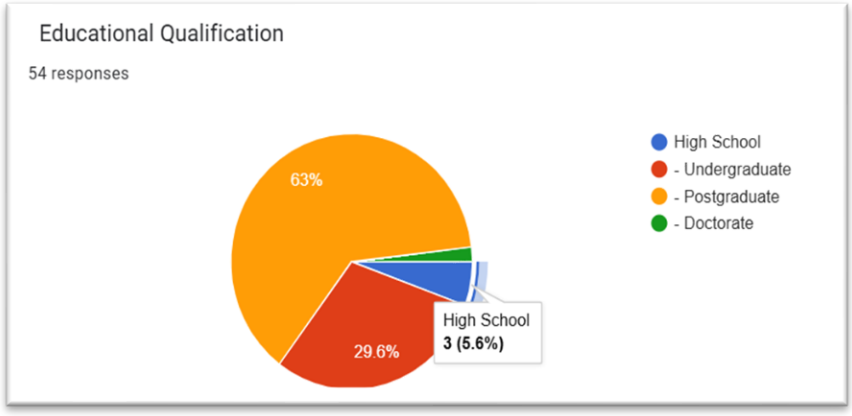
- **OCCUPATION**




ANALYSIS AND INTERPRETATION

Most participants (72.2%) are students, suggesting that the survey reached a predominantly academic or younger audience. Working professionals (14.8%) and business owners (7.4%) make up a smaller portion, with minimal input from retirees and homemakers.

- **EDUCATIONAL QUALIFICATION**




ANALYSIS AND INTERPRETATION

A significant number of respondents (63%) hold postgraduate degrees, followed by 29.6% with undergraduate qualifications. High school and doctoral degree holders are few, implying a highly educated group that likely engages in higher academic or professional pursuits.

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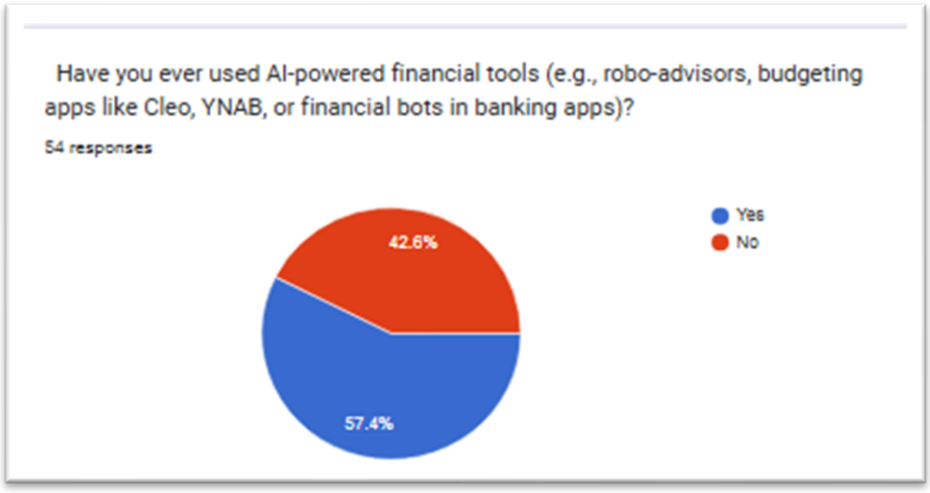
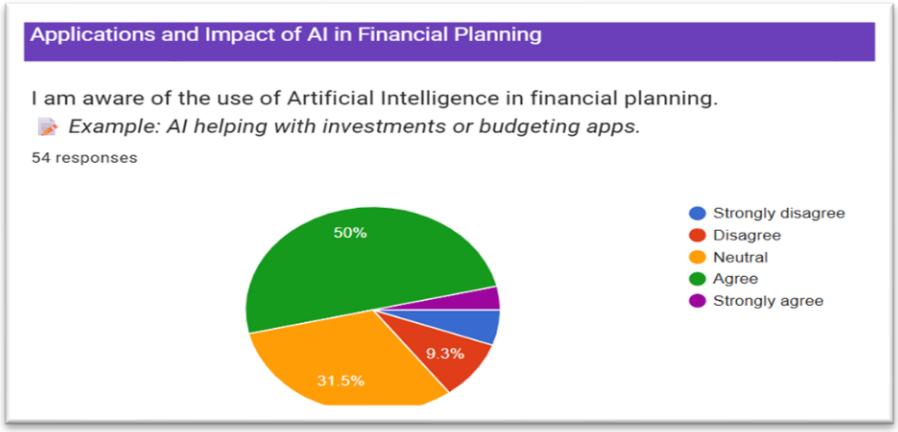
- **Have you ever used AI-powered financial tools?**




ANALYSIS AND INTERPRETATION

A majority (57.4%) have used AI-powered financial tools, indicating a positive adoption trend. However, 42.6% have not, suggesting that there is still room for growth in awareness or accessibility of such tools.

- **I am aware of the use of Artificial Intelligence in financial planning.**




ANALYSIS AND INTERPRETATION

50% of respondents agree that they are aware of AI in financial planning, while 31.5% are neutral. A small percentage disagrees (9.3%) or strongly disagrees (1.9%), indicating general awareness but with a significant portion still uncertain.

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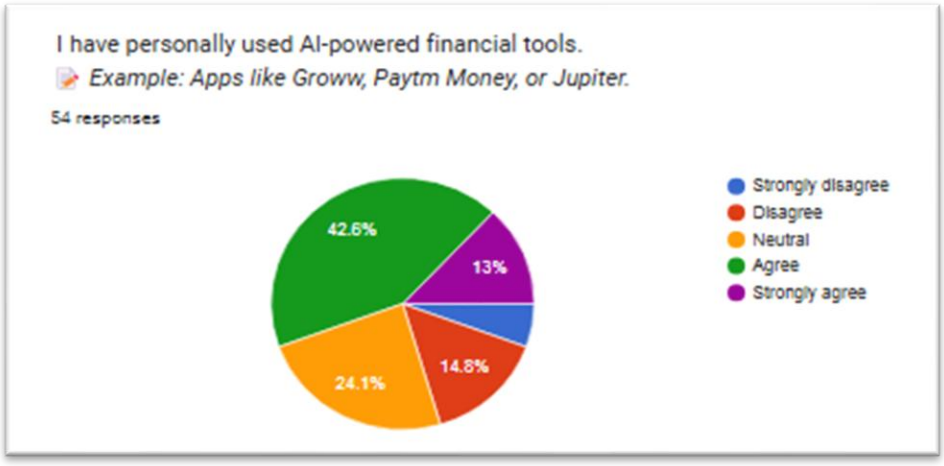
- **I have personally used AI-powered financial tools.**




ANALYSIS AND INTERPRETATION

42.6% have used AI-powered tools, and 24.1% are neutral. However, 27.8% (13% strongly disagree and 14.8% disagree) haven't used such tools, reflecting moderate adoption but room for growth in actual usage.

- **AI-based tools help improve the efficiency of financial decision-making.**


ANALYSIS AND INTERPRETATION

Although 48.1% remained neutral, 31.5% agree that AI improves decision-making efficiency. The neutrality suggests users may not yet fully perceive or understand the benefits, though positive views are emerging.

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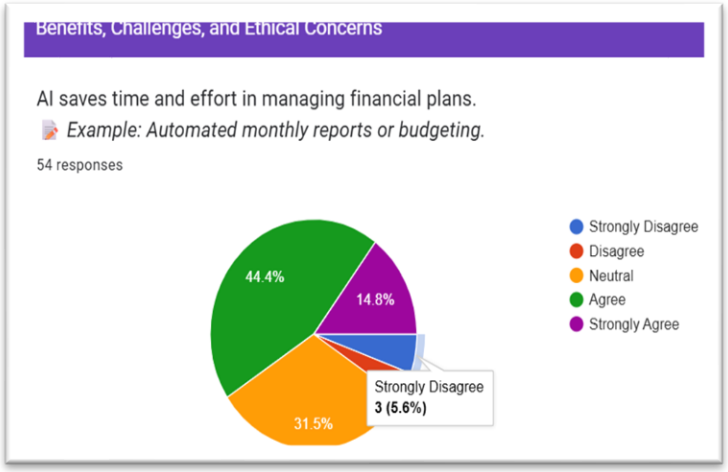
- **AI tools assist in customizing financial plans to individual needs.**


ANALYSIS AND INTERPRETATION

Half of the respondents agree that AI helps in customizing financial plans, with 33.3% neutral. Only a small number disagree, indicating a strong perception of AI's role in personalizing financial strategies.

- **AI saves time and effort in managing financial plans.**




ANALYSIS AND INTERPRETATION

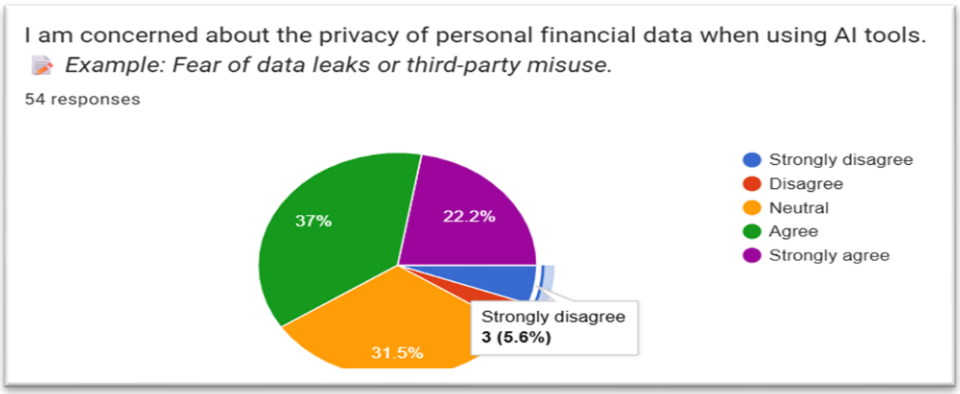
A majority (44.4%) agree that AI saves time and effort, with 14.8% strongly agreeing. About 31.5% are neutral, and very few disagree, showing a positive inclination towards AI's efficiency in financial management.

- **AI tools are more cost-effective than hiring a traditional financial advisor.**


ANALYSIS AND INTERPRETATION

Most respondents (37%) are neutral about the idea that AI tools are more cost-effective than hiring traditional financial advisors. However, a considerable portion (33.3%) agrees with this statement, and 14.8% strongly agree, suggesting a positive perception overall. Only a small number disagree (9.3%) or strongly disagree (5.6%), indicating limited skepticism. This implies that while many see the potential value of AI tools, a significant number remain undecided.

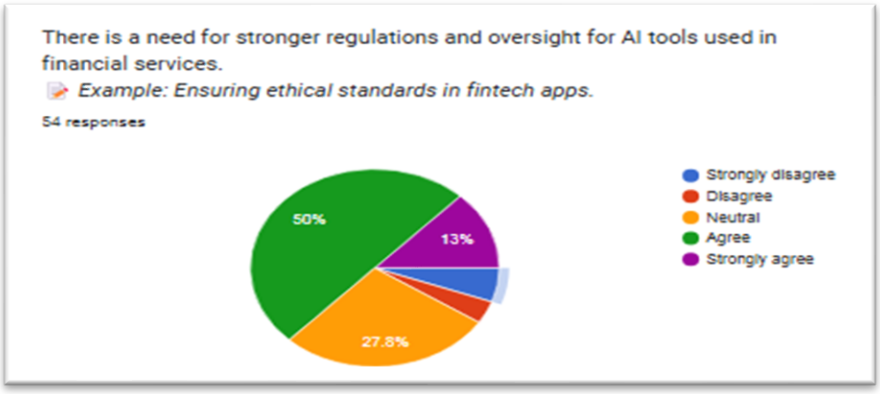
- **I am concerned about the privacy of personal financial data when using AI tools.**




ANALYSIS AND INTERPRETATION

Concerns about data privacy are evident, with 37% agreeing and 22.2% strongly agreeing that they worry about the safety of personal financial data when using AI tools. Meanwhile, 31.5% are neutral, showing some uncertainty or lack of strong opinion. Only a small minority disagrees. This highlights that privacy remains a major concern that could influence AI adoption in finance.

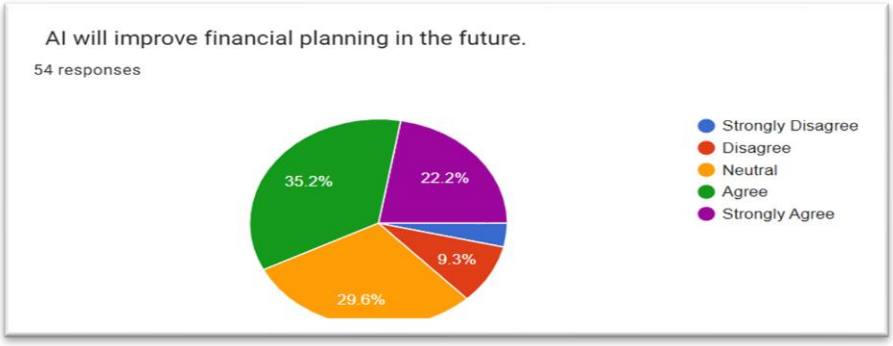
- **There is a need for stronger regulations and oversight for AI tools used in financial services.**




ANALYSIS AND INTERPRETATION

Out of 54 respondents, 50% agree and 13% strongly agree that there is a need for stronger regulations and oversight for AI tools in financial services. Around 27.8% are neutral, while a small percentage disagree (7.4%) or strongly disagree (1.9%). This indicates a strong consensus (63%) in favor of implementing ethical standards and tighter regulations in fintech applications using AI.

- **AI will improve financial planning in the future.**




ANALYSIS AND INTERPRETATION

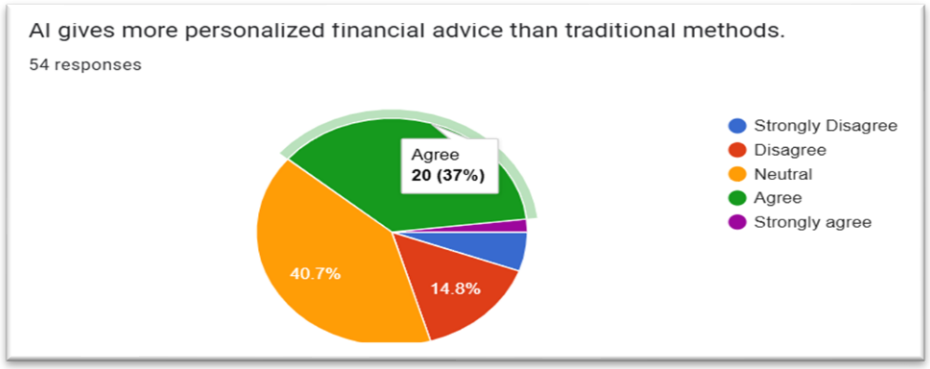
In response to AI's role in future financial planning, 35.2% agree and 22.2% strongly agree, showing that a majority (57.4%) believe AI will positively impact financial planning. 29.6% remain neutral, while only a small minority (9.3% disagree and 3.7% strongly disagree) are skeptical. This reflects a generally optimistic outlook on AI's potential to enhance financial planning.

- **AI may replace human financial advisors soon.**


ANALYSIS AND INTERPRETATION

Among 54 respondents, 40.7% remained neutral, while 24.1% agreed and 3.7% strongly agreed that AI could replace human financial advisors soon. However, a combined 31.5% disagreed or strongly disagreed. This indicates mixed opinions, with a strong neutral leaning, reflecting uncertainty or hesitation about AI fully replacing human roles.

- **AI gives more personalised financial advice than traditional methods.**




ANALYSIS AND INTERPRETATION

Here, 37% agreed and 3.7% strongly agreed that AI offers more personalized financial advice, while 40.7% remained neutral. Only a minority (14.8% disagreed and 3.7% strongly disagreed) expressed skepticism. This suggests a positive perception, with many respondents seeing potential in AI for personalization, though some await more evidence.

- **Using both AI and human advisors is better than using one alone.**

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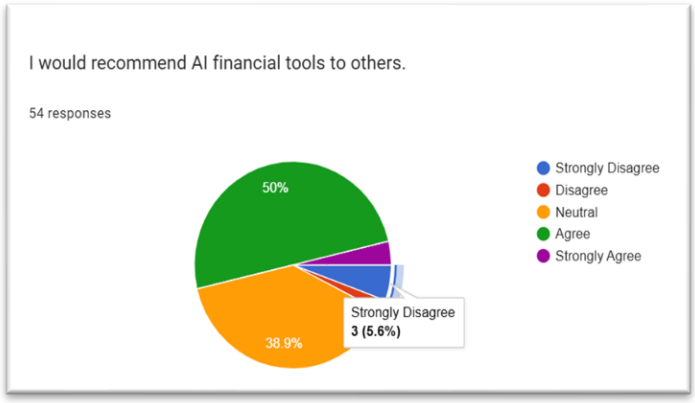
ANALYSIS AND INTERPRETATION

A significant portion, 37% agreed and 20.4% strongly agreed, favoring a hybrid model. About 33.3% remained neutral, while only 7.4% disagreed. This shows a clear inclination toward integrating AI with human advisors, highlighting trust in collaboration over replacement.

- **I would recommend AI financial tools to others.**




ANALYSIS AND INTERPRETATION

Half of the respondents (50%) agreed and 5.6% strongly agreed with recommending AI financial tools. 38.9% were neutral, and very few opposed the idea (3.7% disagreed and 1.9% strongly disagreed). This indicates a strong endorsement and general satisfaction with AI tools in finance.

## 5. Conclusion

AI has significantly reshaped financial planning by enabling smarter decision-making, improving risk analysis, and streamlining processes through advanced data analysis and automation. Technologies like robo-advisors have made financial services more user-friendly and efficient. However, the growing use of AI also raises concerns around data privacy, bias in algorithms, and compliance with regulations. For AI to be used effectively and responsibly in finance, it's essential to balance technological advancement with ethical safeguards, ensuring fairness, transparency, and long-term sustainability in the financial sector.

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