



# International Journal of Multidisciplinary Research in Science, Engineering and Technology

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

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# Impact of Artificial Intelligence on Financial Decision-Making

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**ABSTRACT:** The present paper discusses the way artificial intelligence is playing a role in making financial decision in today's digitalized world. The proliferation of AI tools such as robo-advisors, smart budgeting applications and predictive models, enable individuals and enterprises make smart financial decision at a swift rate. The primary objective of this paper is to study the user attitudes toward AI in making financial decision, trust over AI, accuracy of suggestion, problem faced while making the decision, etc. The primary data were collected from 50 respondents through a structured questionnaire that was administered using google form survey. The result indicate that AI enhance the accuracy of decision making, reducing human error and make financial planning effective. While there are many questions concerning data security, privacy of personal data, dependence over technology which needs a concerned attention. Careful and cautious approach to AI driven financial decisions making is advisable.

**KEYWORDS:** Artificial Intelligence, Financial Decision-Making, Digital Finance, Automation, Predictive Analytics, Robo-Advisors, Data Privacy

## I. INTRODUCTION

Artificial Intelligence is causing the sector of finance to undergo a significant transformation that enhances the intelligence, speed, and accuracy of decision making. As the digital technologies make their way across the financial arena, they become essential in modern finance. This helps individuals and institutions perform activities related to money management and operation. Technologies such as machine learning, predictive analysis and algorithm trading have become an integral part in a multitude of areas in the financial world; including, banking, portfolio management and personal finance. As such they facilitate individuals and institutions to analyze vast quantities of data and produce better decision-making information. The ability to process data at seconds, and to extract patterns, identify anomalies and predict future trends with considerable accuracy can be regarded as one of the greatest assets of AI. Thus the individual is capable of making data-centric decision-making processes and reliance on the intuitive approaches to finance is diminished. From financial apps and budgeting programs to fully automated financial management platforms, individuals are increasingly relying on AI-powered services to help them manage and forecast financial affairs. The current study examines how Artificial Intelligence impacts financial decision-making, on the basis of aspects including accuracy, efficiency, trust and user satisfaction.

## II. REVIEW OF LITERATURE

AI-induced influence on finance issues has also been extensively analyzed in academia over the last ten years. Various researchers explored how AI can be utilized in making financial decisions. These research provide good empirical and theoretical basis for this study.

Kiron and Schrage (2019) recognized AI as an important driver to facilitate sophisticated strategic financial decisions by utilizing data-driven evidence. The research found organizations that adopt cutting-edge analytical tools make confident and fast decision compared to those that adopt traditional methods. This research support the increased use of AI in the corporate finance and treasury management world.



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Brougham and Haar (2018) studied individual perceptions of AI and automation in an environment involving decision-making at work. The research found that individual users felt that AI was helpful, but also raised significant concerns about transparency, trust, and potential job losses, which are all equally relevant for individuals in the financial world. Bag et al. (2021) show that adding AI to the core operations leads to a clear and measurable improvement of the quality of business decisions, as well as of operational processes, although an adequate readiness and data quality have to be addressed to enable the full benefit of AI, which this paper aims to support.

Davenport (2018) has given a broad perspective on the use of AI in finance and business analytics, detailing how organizations may operate and manage difficult, data-rich and high-volume environments with better accuracy of their decisions and shifting the entire industry from hindsight to foresight: he demonstrated how the introduction of AI could facilitate and revolutionize Finance.

To some extent, all of the above studies showed a positive correlation between AI and enhanced financial decisions but also highlighted concerns regarding AI decision opacity, ethics, regulation and need for establishing and maintaining user' trust, all of which this research endeavor attempts to probe within the Indian scenario.

### Research Objectives: -

- AI on how financial decision making of our everyday life are affected by it.
- To find out if AI contributes to enhancing the decision making in finances for accuracy and efficiency.
- To review user reliance or reliance toward AI-driven tools for finances.
- To outline advantages and disadvantages that users encounter during financial activities with AI.

### III. RESEARCH METHODOLOGY

#### Research Design

Quantitative descriptive research design is adopted in this study to investigate the effects of Artificial Intelligence on financial decision-making behavior. This is because it has been using survey instruments to obtain data that could be measured and compared across the respondents.

#### Data Collection

Both primary and secondary data was utilized. The primary data was collected from the respondents through a self-administered survey in the form of a Google Form that was sent through the electronic channel. Secondary data has been collected from the sources like peer-reviewed journal articles

**Sample Size** = 50.

**Method** Convenience sampling method was employed with the targeted individuals who utilize/experience digital finance tools and functions.

#### Research Instrument

Closed-ended questions which cover five themes were developed in this questionnaire: AI tool usage, trust, accuracy of the recommendations by AI, ease of use of the AI tools, and concerns about privacy & over-reliance on AI tools. These responses were converted to categorical & Likert type data and analyzed using percentage analysis.

#### Data Analysis: -

The table below shows thematic analysis for the response to the questionnaire over 5 categories. For each category, a summary table and graph is shown.

#### Usage of AI-Based Financial Tools

Responses were obtained from respondents on whether they are currently using AI-driven financial instruments like UPI apps, budgeting tools, robo-advisors, or investment applications. From the response it is found that this has become mainstream as almost three-fourth of the respondents are now a part of the AI-driven financial system.



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Category	No. of Respondents	Percentage (%)
Actively use AI financial tools	36	72%
Occasionally use AI tools	9	18%
Do not use AI tools	5	10%
Total	50	100%

Table 1: AI Tool Usage Among Respondents (n = 50)

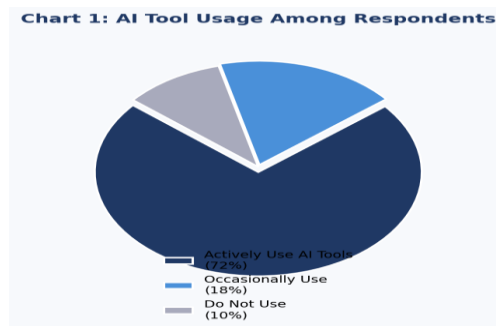


Fig. 1: AI Tool Usage Distribution — Pie Chart

**Interpretation:** As many as 72% of users actively use an AI-enabled financial tool while 18% users use it sometimes. 10% of people have not come into contact with the AI-finance sphere.

### Level of Trust in AI-Generated Financial Recommendations

Trust is a major factor when it comes to adopting AI. Participants were questioned about how much they trust the AI recommendations regarding finance, from being very trusting, to preferring a human.

Trust Level	No. of Respondents	Percentage (%)
High Trust in AI recommendations	18	36%
Moderate Trust (AI + own judgment)	17	34%
Low Trust / Prefer Human Advice	15	30%
Total	50	100%

Table 2: Trust Level in AI Financial Decisions (n = 50)

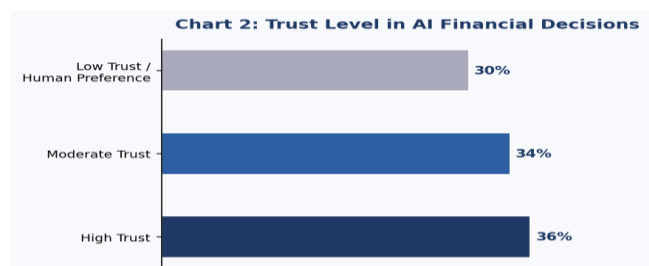


Fig. 2: Trust Level in AI Decisions — Horizontal Bar Chart



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**Interpretation:** From 70%, we can observe that the trust level of the respondents is moderate to high in AI's recommendations and the remaining 30% are still inclined to human's advice., 36%, we could predict that these would be digitally savvy respondents and possibly of younger generation.

### Perceived Accuracy of AI Financial Insights

Accuracy is one of the critical aspects of AI utility. Respondents were asked to rate the extent to which the AI tools accurately capture their personal financial position and produce reliable forecasts.

Accuracy Perception	No. of Respondents	Percentage (%)
Highly Accurate	22	44%
Moderately Accurate	21	42%
Not Very Accurate	7	14%
<b>Total</b>	<b>50</b>	<b>100%</b>

Table 3: Perceived Accuracy of AI Financial Tools (n = 50)

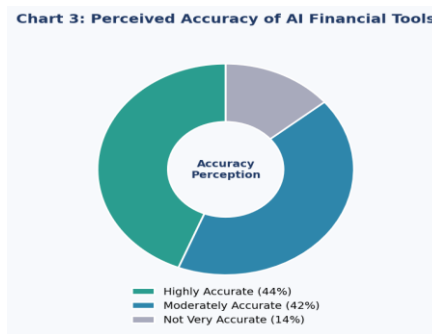


Fig. 3: Perceived Accuracy of AI Financial Tools — Donut Chart

**Interpretation:** We found that a robust 86% of respondents believe the AI tools are either highly or somewhat accurate when generating financial advice., 14% found that they were not, possibly attributed to improper inputs or skewed expectations.

### Ease of Use and Accessibility

It is also important for the usability of AI tools to have an impact on their acceptance and use on a day-to-day basis. Respondents commented on how easy to use and how they perceive the user-friendliness of the financial applications with AI.

Ease of Use Rating	No. of Respondents	Percentage (%)
Very Easy to Use	24	48%
Moderate Complexity	19	38%
Difficult to Use	7	14%
<b>Total</b>	<b>50</b>	<b>100%</b>

Table 4: Ease of Use of AI Financial Tools (n = 50)



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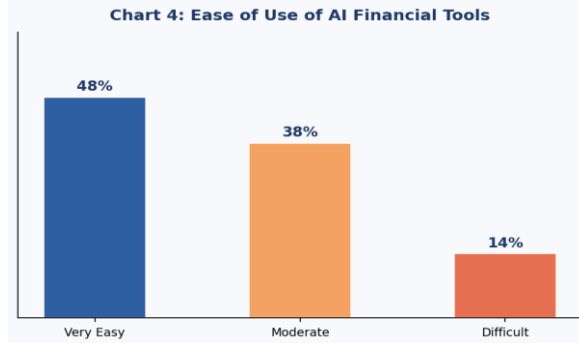


Fig. 4: Ease of Use of AI Financial Tools — Bar Chart

**Interpretation:** About half of them (48%) find the AI finance tool very easy to use, and 38% find the AI tool moderately easy to use. Increased prevalence of mobile-first design and intuitive UPI interfaces has already drastically reduced the ease-of-use bar to the user. The 14% who found it somewhat difficult could be mostly older users or people with poor digital literacy, a target user group who would require dedicated UX improvement.

### Key Concerns and Perceived Risks

Although AI technology in finance was viewed very positively and believed to be accurate in general, several drawbacks were listed by the respondents.

Key Concern Identified	% of Respondents Citing This Concern
Data Privacy & Security Risks	68%
Over-dependence on Technology	54%
Lack of Transparency in AI Logic	46%
Potential Inaccuracy / Algorithmic Bias	32%

Table 5: Key Concerns About AI in Financial Decision-Making (n = 50)

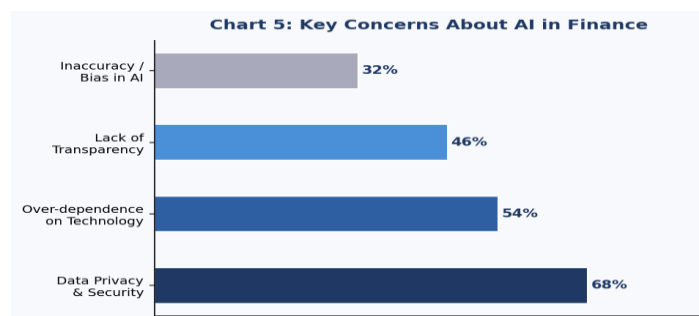


Fig. 5: Key Concerns About AI in Finance — Horizontal Bar Chart

**Interpretation:** Data privacy and security became the most prevalent fear (68%). This suggests that individuals have an increasing awareness of the improper use of their financial data as well as the cybersecurity threats it presents. Over-reliance on automation and transparency have continued to remain high at (54%) and (46%) respectively. This shows a user-driven desire for understandable AI. AI bias is the least frequent concern at (32%) but it is nonetheless significant to financial organizations. This shows that users recognize that AI does not offer objectivity in all scenarios.



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### IV. FINDINGS

In conclusion from the data and analysis gathered above, the main points of significance from this research study are:

1. High adoption rate in AI in finance - 72% of respondents currently actively use AI enhanced financial tools, showing it has now become more mainstream and is not just adopted by early technology adopters.
2. Moderate to high confidence in AI - 70% of respondents trust the recommendations of AI to some extent, however are not overly reliant on it.
3. Confidence in AI's accuracy - 86% of respondents believe that AI enhanced financial tools are either highly or moderately accurate, showing users are seeing AI's greatest strength.
4. ease of use is a success - 86% of respondents are comfortable or highly comfortable with the ease of use for these tools, due to the mobile first strategy used within the leading financial applications.
5. Security and privacy is the top fear - 68% of respondents identify data security and privacy concerns as the greatest fear that they have followed closely by becoming too dependent (54%) and not having enough clarity (46%).
6. Removal of human bias yet introduces algorithmic bias - 32% of respondents state that AI reduces human biases while still being cautious of inherent bias.
7. The young and digitally inclined show more trust and confidence in the tools - from the method of convenience sampling used in this research, it can be seen that there is more trust in the AI technology from users who are digitally inclined.

### V. CONCLUSION

Ultimately, the research demonstrates that AI is playing a significant and beneficial role in the financial decision-making of both individuals and institutions. Access to quick, more accurate, and transparent financial insights now exists for average people in ways it only did for institutional investors and major corporations. Unfortunately, the rapid adoption of this technology without corresponding awareness also opens up the space for risk, as the research illustrates how users, though drawn to the simplicity and precision of the tools, have real and valid concerns regarding data privacy, the 'black box' aspect of the technology, and dependence. However, these issues of privacy, transparency, and over-reliance are not simply emotional reactions; they are systemic vulnerabilities that must be managed through thoughtful system development, clear regulation, and appropriate user education. A healthy equilibrium needs to be struck between the processing power and ability of AI and the preservation of human intelligence, ethics, and literacy. It should assist rather than dictate decisions.

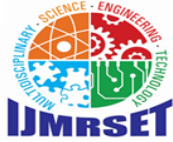
### VI. RECOMMENDATIONS

- It is crucial that financial institutions and AI developers are transparent about their use of data, ensuring adequate security and clear privacy policies to maintain long-term user confidence.
- XAI frameworks should be introduced and users should be made aware of the ways financial advice is provided by AI.
- User education programs, particularly for the elderly and for those with low digital literacy, are key to ensure the fair use of AI.

The opportunities presented by AI in making financial decisions for individuals across the world are unprecedented. The way we achieve these opportunities, in a private and transparent way that respect the dignity of human beings, will show us whether AI is truly a leveler in financial inclusion, or another source of systemic risk.

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