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# AI-Driven Financial Advisory and Retail Investment Behavior: A Survey-Based Study of Tech-Savvy Professionals in Pune's IT Hubs

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## Abstract

The rapid integration of Artificial Intelligence (AI) into financial services has transformed the landscape of retail investing. AI-driven advisory platforms, commonly referred to as robo-advisors, are increasingly influencing investment decisions, particularly among tech-savvy professionals. This study examines the impact of AI-driven financial advisory on retail investment behavior in Pune's IT hubs, focusing on decision-making patterns, risk perception, and portfolio allocation strategies.

The research is grounded in Behavioral Finance, Efficient Market Hypothesis, and Algorithmic Trading. A hybrid research design is adopted, combining quantitative survey analysis of 420 IT professionals with statistical modeling. The findings indicate that AI advisory significantly enhances diversification, reduces behavioral biases, and increases investment discipline. However, over-reliance on automation introduces new risks, including algorithmic opacity and reduced investor engagement. The study contributes to emerging literature on fintech adoption and provides implications for regulators, financial advisors, and investors.

**Keywords:** AI Advisory, Robo-Advisors, Retail Investors, Behavioral Finance, Fintech  
**JEL Classification:** G11, G23, O33

## Introduction

The financial advisory industry is undergoing a profound transformation driven by advancements in Artificial Intelligence (AI) and digital technologies. Traditional financial advisory models, which rely on human expertise, are increasingly being complemented—and in some cases replaced—by AI-driven platforms capable of delivering personalized investment recommendations at scale.

Robo-advisory platforms utilize algorithms to analyze investor profiles, assess risk tolerance, and construct optimized portfolios. These platforms have gained significant traction among younger, tech-savvy investors, particularly in urban IT hubs such as Pune. The adoption of AI-driven advisory tools is reshaping retail investment behavior, influencing asset allocation decisions, risk perception, and long-term investment strategies.

The theoretical foundation of this transformation lies in Behavioral Finance, which highlights the role of cognitive biases in investment decisions. AI systems aim to mitigate these biases by providing data-driven recommendations. Additionally, the Efficient Market Hypothesis suggests that information efficiency can be enhanced through algorithmic processing, while Algorithmic Trading underpins the technological framework of automated investment strategies.

This study investigates the extent to which AI-driven advisory influences retail investment behavior in Pune's IT sector, addressing both performance outcomes and behavioral shifts.

## Literature Review

### 1. Evolution of Financial Advisory Models

The financial advisory landscape has undergone a significant transformation over the past two decades, evolving from relationship-driven human advisory to technology-enabled, data-driven solutions. Traditional advisory models relied heavily on human expertise, subjective judgment, and client-advisor interaction. While these models provided personalized recommendations, they were often limited by scalability, high costs, and potential biases in decision-making.

The emergence of fintech has disrupted this paradigm by introducing automated advisory systems, commonly known as robo-advisors. These platforms leverage artificial intelligence and machine learning algorithms to analyze investor data, assess risk tolerance, and construct optimized portfolios.

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Unlike traditional advisors, AI-driven platforms can process vast datasets in real time, enabling faster and more efficient decision-making. This shift reflects a broader trend toward digital transformation in financial services, where efficiency, accessibility, and cost-effectiveness are prioritized.

## **2. Theoretical Foundations of AI in Finance**

The integration of AI into financial advisory is grounded in several foundational theories. The Efficient Market Hypothesis posits that financial markets incorporate all available information into asset prices, making it difficult to achieve consistent outperformance. AI systems enhance market efficiency by rapidly processing large volumes of information and identifying patterns that may not be visible to human investors.

Additionally, the principles of Algorithmic Trading provide the technological backbone for AI-driven advisory. These systems use quantitative models to execute trades and manage portfolios, reducing human intervention and minimizing errors.

Another critical theoretical perspective is Behavioral Finance, which challenges the assumption of rational decision-making. Behavioral biases such as overconfidence, anchoring, and herd behavior often lead to suboptimal investment decisions. AI-driven advisory platforms aim to mitigate these biases by enforcing rule-based, data-driven strategies.

## **3. AI and Investment Decision-Making**

A growing body of empirical research highlights the impact of AI on investment decision-making. Studies indicate that robo-advisors improve portfolio diversification, reduce transaction costs, and enhance long-term investment performance. By automating asset allocation and rebalancing processes, AI systems promote disciplined investing and reduce the likelihood of impulsive decisions.

Research also suggests that AI-driven platforms are particularly effective in managing risk. By continuously monitoring market conditions and adjusting portfolio allocations, these systems can respond more quickly to market fluctuations compared to human advisors. This dynamic adaptability is especially valuable in volatile market environments.

However, the literature also identifies certain limitations. One major concern is the lack of transparency in AI decision-making processes, often referred to as the “black box” problem. Investors may find it difficult to understand how recommendations are generated, leading to trust issues. Additionally, algorithmic models are only as good as the data they are trained on, raising concerns about data quality and model bias.

## **4. Behavioral Finance and AI Intervention**

The application of Behavioral Finance provides critical insights into how AI influences investor behavior. Traditional investors are prone to cognitive biases that can negatively impact investment outcomes. For instance, overconfidence may lead to excessive trading, while loss aversion may cause investors to hold losing positions for too long.

AI-driven advisory platforms address these issues by implementing systematic investment strategies that are not influenced by emotions. By providing objective recommendations based on data analysis, these systems help investors maintain discipline and adhere to long-term investment goals.

Empirical evidence suggests that AI adoption leads to a reduction in behavioral biases and improved investment outcomes. However, some studies argue that over-reliance on AI may reduce investor engagement and financial literacy, as individuals become dependent on automated systems.

## **5. Global Evidence on Robo-Advisory Adoption**

Globally, the adoption of robo-advisory platforms has been driven by factors such as cost efficiency, accessibility, and technological advancement. In developed markets, robo-advisors have gained widespread acceptance among retail investors, particularly younger demographics who are more comfortable with digital technologies.

Studies from the United States and Europe indicate that robo-advisors are effective in delivering consistent performance and improving portfolio diversification. These platforms typically offer lower fees compared to traditional advisory services, making them attractive to cost-conscious investors.

However, global research also highlights challenges related to regulatory oversight, data privacy, and investor protection. The rapid growth of fintech has outpaced regulatory frameworks in many regions, creating a need for updated policies to address emerging risks.

## **6. Indian Context and Pune's IT Ecosystem**

In India, the adoption of AI-driven financial advisory is still in its nascent stage but is growing rapidly, particularly among urban and tech-savvy populations. The increasing penetration of smartphones, internet connectivity, and digital payment systems has facilitated the growth of fintech platforms.

Pune, as a major IT hub, represents a unique environment for studying AI adoption in financial advisory. The city's workforce comprises highly educated professionals with strong technological proficiency and relatively high disposable incomes. This demographic is more likely to experiment with innovative financial solutions, including robo-advisory platforms.

Existing studies in the Indian context have primarily focused on mutual fund performance and traditional investment behavior, with limited attention to AI-driven advisory. This creates a significant research gap, particularly in understanding how AI influences investor behavior in emerging markets.

## **7. Research Gap**

Despite the growing body of literature on fintech and AI in finance, several gaps remain. First, most studies focus on developed markets, with limited empirical evidence from emerging economies such as India. Second, existing research often examines either performance outcomes or behavioral aspects in isolation, without integrating the two.

This study addresses these gaps by providing a comprehensive analysis of both performance and behavioral dimensions of AI-driven financial advisory in Pune’s IT sector. By combining quantitative and qualitative

**Research Objectives**

1. To analyze the impact of AI advisory on investment decision-making
2. To evaluate changes in risk perception and portfolio allocation
3. To assess investor trust in AI-driven platforms
4. To examine behavioral biases in AI-assisted investing

**Hypotheses**

- H1: AI advisory significantly influences investment decisions  
 H2: AI reduces behavioral biases among investors  
 H3: AI-driven portfolios exhibit higher diversification

**Data Analysis and Results**

**Demographic Profile**

Category	Percentage
Age 22–30	48%
Age 31–40	37%
Age 41+	15%

**AI Adoption**

Factor	Score (5-point)
Ease of Use	4.28
Trust in AI	3.95
Cost Efficiency	4.35

**Investment Behavior Changes**

Metric	Before AI	After AI
Diversification Score	2.8	4.1
Trading Frequency	High	Moderate
Risk Awareness	3.2	4.3

**Interpretation:**

AI advisory improves diversification and reduces impulsive trading behavior.

**Regression Analysis**

Variable	Coefficient	Significance
AI Usage	0.64	Significant
Financial Literacy	0.38	Significant
Income Level	0.21	Significant

$R^2 = 0.71$

**Interpretation:**

AI usage has the strongest positive impact on investment performance and behavior.

**ANOVA Results**

Source	F	Sig
Between Groups	11.24	0.001

**Interpretation:**

Significant differences exist between AI users and non-users.

**Behavioral Bias Reduction**

Bias	Reduction (%)
Overconfidence	32%
Herd Behavior	27%
Loss Aversion	18%

**Robustness Analysis**

Results remain consistent across alternative models, confirming validity.

**Discussion**

The findings of this study provide strong empirical support for the transformative role of AI-

**Research Methodology**

**1. Research Design**

- Survey-based study of 420 IT professionals in Pune
- Stratified sampling across IT hubs (Hinjewadi, Magarpatta, Kharadi)

**2. Data Collection**

Primary data collected using structured questionnaires.

**3. Statistical Tools**

- Regression Analysis
- ANOVA
- Correlation Analysis

Sample size formula:

$$n = \frac{Z^2 p(1-p)}{e^2} = \frac{Z^2 p(1-p)}{e^2}$$

( $\beta = 0.64$ ,  $p < 0.01$ ) highlights the growing influence of algorithmic decision-making in modern financial markets. These results align with the theoretical underpinnings of Behavioral Finance, which suggests that investors are prone to cognitive biases that often lead to suboptimal decision-making.

One of the most critical contributions of AI advisory systems is their ability to mitigate behavioral biases such as overconfidence, herd behavior, and loss aversion. The empirical findings indicate a reduction of 32% in overconfidence bias and 27% in herd behavior among AI users. This suggests that algorithm-driven recommendations promote disciplined investing by eliminating emotional decision-making. Unlike traditional advisory models, which may still be influenced by subjective judgment, AI systems rely on data-driven insights, thereby enhancing objectivity.

From a portfolio management perspective, AI-driven advisory platforms significantly improve diversification. The increase in diversification score from 2.8 to 4.1 demonstrates the effectiveness of algorithmic asset allocation strategies. This supports the principles of Efficient Market Hypothesis, which posits that efficient information processing leads to optimal market outcomes. AI systems can process vast amounts of financial data in real time, enabling more accurate portfolio construction and risk management. However, the study also identifies potential limitations associated with AI-driven advisory. One of the primary concerns is the issue of algorithmic opacity, often referred to as the “black box” problem. Investors may not fully understand how recommendations are generated, leading to blind reliance on technology. This raises questions about accountability and transparency, particularly in cases where algorithmic decisions result in financial losses.

Another important dimension is the changing role of financial advisors. While AI systems enhance efficiency and scalability, they may reduce the need for human intervention. However, the findings suggest that a hybrid model—combining AI with human expertise—may offer the most effective solution. Human advisors can provide contextual judgment and emotional reassurance, complementing the analytical capabilities of AI.

Furthermore, the study highlights the role of financial literacy in moderating the impact of AI advisory. Investors with higher levels of financial knowledge are better equipped to interpret AI-generated recommendations and make informed decisions. This suggests that the benefits of AI advisory are not uniform across all investor segments and depend on the user’s ability to engage with the technology.

### Policy and Industry Implications

The rapid adoption of AI-driven financial advisory systems necessitates a comprehensive regulatory framework to ensure investor protection and market stability. The role of Securities and Exchange Board of India becomes critical in establishing guidelines for transparency,

accountability, and ethical use of AI in financial services.

One of the key policy implications is the need for **algorithmic transparency**. Regulators should mandate disclosure requirements that enable investors to understand the underlying logic of AI recommendations. This includes information on data sources, risk models, and decision-making processes. Such transparency can enhance investor trust and reduce the risks associated with blind reliance on automated systems.

Another important aspect is **data security and privacy**. AI-driven platforms rely heavily on personal and financial data to generate recommendations. Ensuring the confidentiality and security of this data is essential to prevent misuse and maintain investor confidence. Regulatory frameworks should incorporate strict data protection standards and compliance mechanisms.

From an industry perspective, financial institutions must adapt to the evolving landscape by integrating AI into their service offerings. Asset management companies and fintech firms should focus on developing user-friendly platforms that combine advanced analytics with intuitive interfaces. The emphasis should be on creating value for investors through improved performance, lower costs, and enhanced user experience.

The findings also suggest the need for **investor education initiatives**. As AI advisory becomes more prevalent, investors must be equipped with the knowledge and skills required to effectively use these platforms. Educational programs should focus on explaining the benefits and limitations of AI, as well as promoting financial literacy.

Additionally, the study highlights the importance of **hybrid advisory models**. While AI systems offer efficiency and scalability, human advisors provide personalized guidance and emotional support. Financial institutions should explore integrated models that leverage the strengths of both approaches to deliver superior outcomes.

### Conclusion

This study provides comprehensive insights into the impact of AI-driven financial advisory on retail investment behavior among tech-savvy professionals in Pune’s IT hubs. The findings clearly demonstrate that AI advisory systems enhance investment efficiency by improving diversification, reducing behavioral biases, and promoting disciplined decision-making.

The empirical analysis confirms that AI usage has a significant positive impact on investment outcomes, with a strong explanatory power ( $R^2 = 0.71$ ). The reduction in behavioral biases such as overconfidence and herd behavior underscores the potential of AI to transform investor behavior and improve financial decision-making.

At the same time, the study acknowledges the challenges associated with AI adoption, including algorithmic opacity and reduced investor engagement. These issues highlight the need for a balanced

approach that combines technological innovation with human oversight.

The implications of this study extend beyond individual investors to the broader financial ecosystem. Regulators, financial institutions, and policymakers must work together to create an environment that fosters innovation while ensuring investor protection. The integration of AI into financial advisory represents a significant step toward the modernization of financial services, but it must be accompanied by appropriate safeguards.

In conclusion, AI-driven financial advisory is not merely a technological advancement but a paradigm shift in the way investment decisions are made. As financial markets continue to evolve, the ability to leverage data-driven insights while maintaining human judgment will be critical to achieving sustainable investment success.

Future research should explore the role of advanced technologies such as machine learning and predictive analytics in further enhancing portfolio performance. Additionally, comparative studies across different regions and demographic groups can provide deeper insights into the adoption and impact of AI advisory systems.

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