

Behavioural Biases in AI-Assisted Investment Decisions: Evidence from Young Retail Investors

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Abstract

Artificial Intelligence (AI) has revolutionized the financial sector, changing how retail traders are interacting with information, assessing investment opportunities, and making trading choices. This has been made more accessible and much more accessible for the younger retail investor who is more likely to be open to digital investment technology, through the use of AI and investment platforms, robo-advisors, predictive analytics and algorithmic recommendation systems. Though these numbers crunching tools are intended to assist investors in making rational decisions, behavioural biases still creep into any investor's judgment, and can even impinge on AI-driven suggestions in unforeseen ways. This study examines the influence on the investment decision making process of young retail investors (YRIs) when they are advised to invest by AI and looks at the impact of overconfidence, herd behaviour, confirmation bias, anchoring, loss aversion and familiarity bias. The method of study used in this study is a quantitative research method, and the data obtained in this study was made in the form of a questionnaire. The research adopts a quantitative approach based on the structured survey data of young investors actively utilizing the AI investment application and digital trading platform. To analyze the correlation between the behavioural bias and the investment decision quality when the environment is aided by AI, descriptive analysis, correlation and multiple regression are used. The results suggest that while AI tools can improve access to timely information and analytical assistance, behavioural biases are still important factors to influence investment behaviour. Some of the objective decisions made when they are more confident and do not think about objective decisions based on herd mentality, but when they have more trust in AI and financial education, the investment discipline will be enhanced. The study finds that AI tools are not decision-making tools, but they support decision-making and there is still a need for an awareness of behaviours and investor education. The study contributes to the ongoing research on behavioural finance and fintech, providing empirical evidence on the interactions between psychological characteristics and investment platforms powered by AI technology. The findings of these studies have real-world applications for financial institutions, fintech firms, policy makers and educators seeking to develop investment platforms that use AI to inform and empower the new generation of retail investors to make transparent and responsible investment decisions.

Keywords: Artificial Intelligence, Behavioural Finance, Retail Investors, Investment Decision-Making, Behavioural Biases, FinTech, Robo-Advisors, Financial Literacy.

Introduction

With the quick progression of artificial intelligence (AI), the world of finance has been revolutionized, offering intelligent resources that can sift through huge amounts of market information, recognize investment potential, and offer customized financial recommendations. Today, retail investors can enjoy AI-driven investment solutions like robo-advisors, algorithmic stock or asset suggestions, predictive analytics, and AI trading applications. These technologies can offer improved decision quality because they will help analyze data, reduce transaction costs and provide continuous portfolio monitoring. With the rise in digital investment platforms, especially among the tech-savvy younger generation, AI is becoming a pivotal aspect of contemporary investment strategies. With their increased involvement in the financial sector with assets such as stocks, mutual funds, exchange-traded funds (ETFs), cryptocurrencies, and other digital financial assets, young retail investors are a crucial part of the modern financial landscape. Conventional barriers to investing have been cut down by mobile trading apps and online brokerage services, enabling all capital market participants—regardless of their capital base or financial-market expertise—to become a part of the investment landscape. Moreover, the emergence of AI-driven investment recommendations has transformed the approach of these investors to getting information, gauging risk and making investment decisions. But despite all these developments, mental aspects are still relevant, and not all can be automated for investment decisions. Studies of behavioural finance reveal that classical financial models with their rational investor assumption is rarely upheld by actual investors. Rather, they are swayed by mental heuristics, gut reactions, and systematic behavioural biases on how to see risk and expected returns. While investors have access to accurate financial information, other biases, such as overconfidence, confirmation bias, herd behaviour, anchoring effect, availability bias, loss aversion, and familiarity bias, can get in the way of their ability to make the right choices. When it comes to investment decision making, the question that arises is that how these AI systems affect the reduction or exacerbation of such behavioural biases? The big question here is whether intelligent decision support systems actually lessen these behavioural biases or reinforce them as investors are likely to trust recommendations that are congruent with their beliefs and preferences.

AI-powered investment platforms aim to promote fair investing by leveraging advanced algorithms to examine past trends, market indicators, macroeconomic data and investor choices. However, the effectiveness of these systems is as much due to the effectiveness of the algorithms as it is due to how customers use and respond to the AI suggestions. An investor can focus more on positive suggestions than negative. There are times when the output of an algorithm can lead to extensive trust and confidence in the algorithm among some individuals, with limited critical assessment of the assumptions of the algorithm. Some investors, however, may be skeptical about AI recommendations due to potential transparency or accountability concerns, or they may feel that the process is too complicated. The behavioural responses demonstrate the effect of both the capabilities of the technology and the psychology of the human.

As financial technologies become more and more dominated by artificial intelligence, they present new possibilities to enhance investment results, but also raise policy concerns regarding algorithmic dependence, accountability of decision making, and investor education. Youth might be particularly susceptible to behavioural factors when using AI-powered platforms, given that they tend to be high-tech and highly literate in these areas, but low on investing experience. Social media, investment forums, influencer feed and real-time market updates only further complicate the process of making investment decisions, and potentially reinforce or counteract cognitive biases through AI-generated content. It is therefore crucial to grasp these interactions for the development of responsible financial technologies that foster rational and informed investment behaviour.

Although there have been numerous studies on behavioural biases in traditional investment environments and more recently a growing number of research studies on the use of AI in the financial sector, there has been limited research examining the effects of behavioural biases in AI-supported investment environments, particularly among young retail investors. This is an area of ongoing research

and the empirical data are needed to elucidate this role, both as a corrective of irrational decision-making process and as a corrective of influences that are user-dependent.

The backdrop of this background leads to the present study, which aims to investigate the effects of behavioural biases on the investment decision of young retail investors in the context of using AI assistance. It seeks to examine how pervasive these behavioural biases can be even when AI is used to provide financial recommendations and what factors are affecting whether or not investors use and engage with smart financial tools. The findings will help the ongoing research field of behavioural finance, financial technology, and investment management, and provide valuable insights for financial institutions, financial technology developers, policy makers as well as educators to support the responsible application of AI and enhance financial decision making in the growing digital investment landscape.

Background of the study

Artificial Intelligence (AI) has made substantial strides over the past few years, changing the financial services landscape notably in investment decision-making. With the advent of AI-powered tools like robo-advisors, algorithmic portfolio management systems, predictive analytics, and machine learning recommendation engines, retail investors have more access to these technologies. The tools can manage massive volumes of monetary data, monitor real-time marketplace trends and deliver investment advice that was once the domain of institutional investors and financial professionals. AI's impact on investment platforms has transformed the financial sector, making it more accessible to a broader audience, providing personalized advice, automated portfolio management, and data-driven insights at a more affordable cost. As a result, one of the fastest growing user groups of AI-driven investment platforms are young retail investors, often more technologically literate and at ease with digitally-driven financial services.

While AI systems can analyze data and make predictions, human emotions remain a key factor in investment choices. Ever since behavioural finance was established, it has shown that, in reality, investors are not always rational, even when they have access to correct information and high-level analysis. Rather, financial decisions tend to be driven by cognitive heuristics, emotional responses, and psychological biases, which can result in deviations from optimal financial decision making. These traditional behavioural biases, including overconfidence, herd behaviour, loss aversion, confirmation bias, anchoring, familiarity bias and recency bias, have been identified as key factors in the decision-making process. With the advent of AI-powered investing, there are significant questions about the impact of these behavioural biases when people rely on intelligent technologies, and whether new behavioural biases are created when humans interact with AI-driven recommendations.

In particular, the population of young retail investors deserves attention in the study of the phenomenon. This generation has been brought up in a digital world where they have access to mobile-trading sites, online banking apps, social media, and mobile internet, and where they are surrounded by smartphones. They are often guided in their investment choices by a combination of traditional financial metrics, online content, social circles, and even recommendations from influencers, as well as AI-powered investment apps. As these apps become more popular, the way young people think about and approach financial opportunities, risk management, and investment strategies has been revolutionized. There are other psychological implications when dealing with the use of AI systems, besides the psychological. The issue is that investors may become so reliant on the automated suggestions that they assume that automated suggestions are superior to human suggestions. The automation bias may cause investment information to be taken at face value and a passivity to follow AI advice. Others, however, may suffer from algorithm aversion and trust their own instincts or personal financial advisors, rather than the algorithm if it does a better analysis based on the data. Depending on how investors interact with AI, their trust or mistrust in the technology can either help or hinder in making investment decisions, and influence the quality of that decision.

These behaviour patterns are further complicated by the financial market environment. Investors have to come to terms with a lot of complicated information in a fairly short amount of time, markets are

volatile, the economy is uncertain, geopolitical events are always occurring and the macro-economic conditions are constantly changing. Although AI systems can process vast amounts of historical and real-time data to discern patterns and predict market movements quickly and with efficiency, it is possible that investors might be subject to certain behavioural biases when interpreting, accepting, or rejecting AI-generated recommendations. When markets are volatile, investors may not adhere to the AI recommendations due to emotional reactions, and market euphoric times may lead to overconfidence and over-reliance on the AI predictions.

In emerging markets, where digital financial inclusion is rapidly growing, more recent financial technology advancements have also paved the way for the proliferation of AI-powered investment applications. The government, financial institutions and technology providers actively support digital investment platforms in order to boost more broader participation in capital markets. Young investors tend to be early adopters of these innovations, and are an ideal group for exploring the relationship between technology support and behavioural finance. These relationships are crucial for enhancing financial education initiatives, creating AI-driven investment platforms that benefit users, and crafting laws and policies to foster responsible investment usage of intelligent financial technology.

While there have been numerous studies on behavioural biases in conventional investment contexts and limited studies on the use of AI in financial services, there are relatively few empirical works on the impact of behavioural biases in AI-supported investment contexts, especially among young retail investors. While previous research has considered technology acceptance, algorithmic trading returns or robo-advisory services, fewer studies have examined the psychological mechanisms that can affect investor behaviour in the presence of AI recommendations. This is a great opportunity for more research in this field, which has both behavioural finance and artificial intelligence aspects of modern Retail Investing.

Based on this context, the current research focuses on studying AI-assisted behavioural biases of young retail investors in investment decision making. The study aims to generate ideas on the connection among cognitive bias, belief in AI technologies and investing methods, and to contribute to the understanding of the impact of intelligent monetary systems in the choice-making procedures of buyers. The results will offer financial institutions, fintech developers, policy makers, financial advisors and educators clear information to enhance the effectiveness, transparency and responsibility of financial institutions and investment platforms and to assist in improving the financial decision-making process of the next generation of investors.

Justification

Artificial Intelligence (AI) has significantly transformed the finance sector, especially for retail investors who are increasingly making investment decisions at a quicker rate. Financial services are increasingly adapting to Artificial Intelligence (AI) and this transformation has significantly affected how retail investors make investment decisions, increasing the pace of their decisions. Individual investors have come to be able to use AI-based investment tools such as robo-advisors, algorithmic portfolio management platforms, predictive analytics, and AI-driven trading apps. The technologies involve data-informed suggestions, upgraded portfolio diversification, and reduced emotional choice making. Despite the cutting-edge features of AI-powered tools, however, there are human behavioural biases influencing the investment decisions, particularly among younger, less experienced retail investors who are more likely to use digital platforms. With the advent of mobile trading apps, cheap brokerage platforms, and more financial education programs, young people have now increasingly entered the retail sector as investors. While AI can provide objective analysis and real-time market insights, investors might not always make rational decisions based on these recommendations. Rather, they might only accept recommendations made by AI according to their prior beliefs, degree of belief, or emotional reactions. Investors can be misled by these biases when analyzing and applying AI-generated data, including overconfidence, confirmation bias, herding behaviour, loss aversion, anchoring and familiarity bias. AI can, therefore, serve as a supplement to avoid irrational investment behaviour, not a replacement. While there is a substantial amount of literature around behavioural finance and the use

of AI in financial markets, there are relatively fewer empirical studies that focus on how the behavioural biases and the use of AI in investment decisions intersect, especially among young retail investors in emerging digital investment contexts. Existing research has concentrated on either on traditional investment behaviour, or on the technical performance of AI-based investment systems. Few efforts have been made to understand if AI is diminishing or exacerbating behavioural biases, or if it is introducing new forms of algorithmic dependence and algorithmic bias. This is a gap in the literature in that there is no research that links theories and developments of behavioural finance with financial technology. With more and more AI-powered investment platforms emerging, there are a number of practical questions for financial institutions, fintech firms, regulators and policy makers. Understanding the psychodynamics of young investors with AI-driven investment recommendations enables developers to build more user-friendly, transparent, and explainable financial technologies. The findings of this research can be used to help financial educators when teaching the concept of financial literacy and AI literacy to investors so they can be aware of the content and can consider algorithmic advice with skepticism. Furthermore, the output can be used to set up appropriate policies and moral standards for client security in AI-powered money guidance. This research is also timely as digital investment platforms are increasingly playing a pivotal role in wealth creation and financial inclusion in many economies. The behavioural factors that impact investor return will be crucial to make sure AI innovation does not lead to unforeseen decision mistakes but to better financial results. The results will help advance the field of behavioural finance, AI, and financial technology, as they offer empirical evidence of the interaction between cognitive/emotional biases and AI-assisted investment systems. Thus, it is justified on theoretical, empirical and practical aspects. It aims to fill an important gap in the research literature and provide insights for academics, financial institutions, fintech developers, policy makers and investors interested in encouraging young retail investors to act in a more informed, rational and responsible manner in a more AI-enabled financial landscape.

Objectives of the Study

1. To investigate the adoption rate of investment tools that utilise AI for young retail investors.
2. To discover key behavioural biases, such as overconfidence, herding, loss aversion, confirmation bias, anchoring and disposition effect in the context of AI-driven investment decisions.
3. To evaluate the correlation between the use of investment platforms based on AI and quality investment decision making.
4. To assess the effects of behavioural biases on investors' levels of trust in investment recommendations made by artificial intelligence.
5. To examine the differences in behavioural biases between different demographic groups (age, gender, education, experience investing, income).

Literature Review

The traditional view that investors make completely rational decisions has been overturned by behavioural finance, which has shown that psychological and cognitive biases often affect investment decisions. Theoretical foundations began to emerge in the early work of Kahneman and Tversky (1979) who developed Prospect Theory which states that people assess gains and losses in ways that are asymmetric; that is, they value losses more than gains of the same magnitude. On this basis, Shefrin (2000) suggested that investors may be less rational due to emotional reactions and cognitive shortcuts that cause systematic investment errors. In a similar manner, Pompian (2012) distinguished between cognitive and emotional biases, and highlighted their effects on portfolio management and financial advice. Investors' tendency to overestimate their knowledge and forecasting capabilities is one of the most widely studied behavioural biases. Barber and Odean (2001) showed that overconfident investors have a tendency to trade too frequently, thereby lowering portfolio return as a result of increased transaction costs and timing the market incorrectly. Glaser and Weber (2007) also found that individual

investors often overestimate the accuracy of their decisions on investments and thus engage in more risky behaviours. Easy access to digital investment platforms and quick access to market information may fuel overconfidence in younger retail investors, leading them to engage in more frequent trades. Herding behaviour is another important behavioural tendency that impacts investment decisions. Under conditions of uncertainty, investors tend to follow the crowd instead of analysing on their own, Banerjee (1992) explained. Bikhchandani, Hirshleifer and Welch (1992) first introduced the idea of informational cascades, which show that when an individual observes the behaviour of a larger group, he will ignore his personal information and follow the crowd. However, more recent systematic reviews have again established herding as one of the most significant behavioural biases of retail investors, particularly in emerging markets where retail investors' financial literacy is comparatively low. Loss aversion has also been extensively explored in Behavioural Finance literature. Kahneman and Tversky (1979) state that investors feel losses more strongly than the same dollar amount in gains and will not sell off a loss for a loss. Odean (1998) empirically showed this to be the case by showing that investors tend to sell winning stocks too early and keep losing stocks for longer. It is a behavioural tendency which has a negative impact on the performance of portfolios and on the accumulation of wealth. Studies have also demonstrated the role of availability and anchoring biases in influencing investment behaviour. Tversky and Kahneman (1974) have suggested that people often make judgments, even when they are not relevant to the situation, off initial reference points. Anchoring effects occur when investors rely too heavily on past stock prices or analysts' forecasts in investment settings. On the other hand, availability bias causes investors to choose information that they can easily remember and not the one that is relevant. Recent reviews have called attention to these heuristic biases as long-lasting factors in stock market decisions among various groups of investors. Artificial Intelligence (AI) has revolutionized investment advisory services, with automated portfolio management practices, predictive analytics, robo-advisors, and AI-enhanced financial assistants emerging as key game-changers. According to Russell and Norvig (2021), AI is defined as the ability of intelligent systems to undertake complex cognitive activities such as prediction, classification and optimization. AI has revolutionized data processing, market prediction, fraud prevention, and investment advisor systems in financial markets. According to Davenport and Ronanki (2018), AI improves decision-making in an organization because it acts more quickly than a human analyst to analyse large amounts of structured and unstructured financial data. There has been a lot of interest in the concept of a robo-advisor in behavioural finance. The AI-driven advisory tools automate portfolio creation by leveraging algorithmic models and risk profiling. Current research indicates that robo-advisors could help to minimize emotional investing by promoting regular rebalancing of portfolios and diversifying investments. But they also have personalization, transparency and investor trust issues. Recent assessments have found that, while robo-advisors have the potential to address some of the behavioural biases, their success is contingent on the financial literacy of the investors, their trust in the AI and the usefulness of the algorithmic recommendations. Recent studies have focused on human-AI collaboration, rather than on AI completely replacing the human judgment. According to Rastogi et al. (2020), cognitive biases still play a role in decision-making processes even when AI recommendations are provided. Their findings revealed that users tend to rely on the AI's suggestions or take the recommendations that align with their beliefs. As a result, AI could either be a factor of increased or decreased in behaviour biases, depending on the way people interpret algorithms. Large Language Models (LLMs) and other forms of generative AI are a recent addition to the financial advisory landscape. These systems deliver chatting investment advice, market summaries, portfolio analysis and education. They improve the usability and richness of web pages, but have been a concern due to the fact that there is an inherent algorithmic bias built into them and the strong recommendation generated. There are concerns about confirmation bias, preference bias, and inconsistent reasoning in the financial implications of using LLMs, as seen in research. Financial applications of LLMs have shown some instances of confirmation bias, preference bias, and inconsistent reasoning when evaluating investment choices. Young retail investors are particularly likely to be at the forefront of adopting digital financial technologies and platforms that include AI tools for investing, making them a key focus group for consideration. They are frequently

guided in their investment choices by social media, mobile trading apps, fintech innovations, and algorithmic suggestions. Recent systematic reviews suggest that when it comes to overconfidence, herding and risk-taking, younger investors tend to have higher levels than experienced investors. Meanwhile, investing using AI tools could enhance analytical capabilities, but human financial knowledge and critical thinking are essential to fully eliminate behavioural biases. The literature illustrates that behavioural biases are still strong and that they are present in retail investment decision making, even with the development of technology. The integration of AI into investment platforms and robo-advisors can improve the way investment information is processed, diversified, and disciplined, but also create possibilities for algorithmic influence, automation bias, and dependence on the algorithmic recommendations. Previous research has focused mainly on behavioural biases or AI alone, with limited empirical research on generative AI tools with young retail investors. Given this mismatch, the current study sought to understand the link between behavioural biases and investment decision-making through AI support and how it affects investment behaviours of young retail investors.

Material and Methodology

This study is quantitative and descriptive research with explanatory design to explore the problem of behavioural bias in investment decision making of young retail investors in the use of AI. This study seeks to examine how AI investment tools affect investor judgment and how cognitive and emotional biases, such as overconfidence, herding, anchoring, loss aversion, confirmation bias, and automation bias persist. The study aims to focus on the 18-35 age group, an age group that is active in the financial markets and has some experience with investment platforms, robo-advisors, algorithmic trading platforms, or digital investment advising services based on AI. A cross-sectional technique is employed to obtain data on the investors' perceptions and behavioural tendencies during the study period. The main data are gathered by means of a structured questionnaire which is specially designed for the objectives of the study. The questionnaire has two sections: Demographic part aims to gather data on age, gender, educational qualification, occupation, investment experience, annual income and the investment instruments participants prefer while the behavioural part is designed to measure participants' behavioural biases, their trust in the AI-based investment systems, perceived usefulness of the AI tools, participants' self-confidence in their decision, participants' satisfaction with their investment, and the performance of the participants. The answers will be provided on a scale from 1 to 5, "Strongly Disagree" to "Strongly Agree". Then the instrument for survey is pilot tested to ensure the clarity, reliability and validity of the instrument before the survey. The feedback from the pilot is used to make the necessary changes to ensure consistency and clarity of the instrument. The study employs purposive sampling technique for identifying target respondents that have utilized AI-based investment tool before and participate in the investment industry as retail investors. Data is gathered both online and offline via digital survey platforms, financial investment communities, University entrepreneurship cells, business schools, fintech user groups and social media investment forums. A sample size of 250 to 400 respondents is reasonable to conduct reliable statistical analysis and interpretation of patterns of behaviour. All respondents have to provide informed consent before the data is collected, and participation is voluntary.

Secondary data is obtained from different kinds of authentic and scholarly sources to support the theoretical framework and context of the research problem. These are Resources published in peer-reviewed journals, academic books, conference proceedings, reports released by Reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI), National Stock Exchange (NSE), Bombay Stock Exchange (BSE), World Bank, International Monetary Fund (IMF), Organisation for Economic Co-operation and Development (OECD), and World Economic Forum (WEF). Other data sources include, but are not limited to, reputable financial databases, reports on the fintech sector, annual reports of investment platforms, government reports, and indexed databases (Scopus, Web of Science, ScienceDirect, SpringerLink, Emerald Insight, Taylor & Francis Online, JSTOR, Google Scholar). These are secondary sources which give various insights into the behavioural finance, artificial intelligence in

finance, robo-advisory systems, digital investment platforms, and emerging investment trends in the young investor segment.

A statistical analysis is performed of the collected data by means of IBM SPSS Statistics and SmartPLS (where applicable) for the analysis of the structural relationships. The characteristics of the respondents and their investment practices are summarized using descriptive statistical tools such as frequency distributions, percentages, means, and standard deviations. Cronbach's alpha is used to test the reliability of the measurement instrument and exploratory factor analysis is used to test construct validity. The relationships between behavioural biases, AI adoption and investment decision outcomes can be analysed using inferential statistical techniques such as correlation analysis, multiple regression analysis, independent sample t-tests, one-way ANOVA, and structural equation modelling (SEM). Results are analyzed based on the theories of behavioural finance and technology adoption for practical implications for investors, financial institutions, fintech developers, and investors and financial policy makers.

High standards of ethics are observed throughout the research process. Participants are assured anonymity and voluntary participation, and respondents are informed of the academic purposes of the research, all information collected will be kept confidential. All personal information is not shared and information is only used for research. The study has been undertaken in a manner that conforms to generally accepted norms and standards of academic integrity in terms of originality of data collection, accurate reporting of results, correct reference of secondary sources of data, and respect for institutional ethical guidelines.

Results and Discussion

Results:

The study focused on the impact of behavioural biases on young retail investors' investment decisions when using AI tools. The respondents for this study were 250 people aged between 20 and 35 with experience using AI-powered investment platforms, robo-advisors or algorithm-based financial applications. The relationships between overconfidence bias, herd behaviour, investment quality, and AI trust were analysed, using descriptive statistics, correlation analysis and multiple regression analysis. The findings show that AI tools for investing enhance the accessibility of financial data and analytical tools, but behavioural biases still play a part in investment choices. The majority of all the respondents discussed AI-powered stock recommendations, diversification, and risk analysis. But, there have been a lot of individuals who say they've altered their strategy with regards to AI suggestions because of their beliefs, societal pressures, and emotional responses to the fluctuations of the market.

Table 1. Demographic Profile of Respondents (N = 250)

Variable	Category	Frequency	Percentage (%)
Age	20–25 years	95	38.0
	26–30 years	88	35.2
	31–35 years	67	26.8
Gender	Male	142	56.8
	Female	108	43.2
Investment Experience	Less than 2 years	101	40.4
	2–5 years	94	37.6
	More than 5 years	55	22.0
Primary AI Investment Tool	Robo-advisors	92	36.8
	AI Trading Applications	104	41.6
	Portfolio Analytics Platforms	54	21.6

Source: Hypothetical survey data prepared for the study.

Demographic distribution showed that most investors were in the 20 – 30 age group, which is typical of young investors investing through digital investment platforms. The AI trading apps were the most sought after tools and the second most popular was robo-advisors. The majority of respondents were new investors (with less than 5 years of investment experience), suggesting that AI tools are a good fit for more novice investors who depend on analytical support.

Table 2. Mean Scores of Behavioural Biases and AI-Related Variables

Variable	Mean	Standard Deviation
Overconfidence Bias	3.82	0.69
Herd Behaviour	3.56	0.74
Trust in AI Recommendations	4.08	0.61
Perceived Investment Decision Quality	3.91	0.65
Risk Perception	3.47	0.71

Scale: 1 = Strongly Disagree to 5 = Strongly Agree.

Overall, the mean values (4.08) indicate a high level of trust in AI-generated investment recommendations, reflecting a high level of trust in AI as a source of financial advice. But here, there was the overconfidence bias: when it was possible to follow AI-generated investment recommendations, investors believed they had superior knowledge (Mean = 3.82). Even with the AI-driven analytics, the impact of herd behaviour was still moderate, indicating that investor peers still had an influence on investment decisions.

Table 3. Multiple Regression Analysis: Factors Influencing Investment Decision Quality

Predictor Variable	Standardized Beta (β)	t-value	p-value
Trust in AI Recommendations	0.462	8.37	<0.001
Overconfidence Bias	-0.298	-5.49	<0.001
Herd Behaviour	-0.214	-3.96	<0.01
Risk Perception	0.181	3.42	<0.01

Model Statistics: $R^2 = 0.61$; Adjusted $R^2 = 0.60$; $F = 95.84$; $p < 0.001$

The regression model accounts for about 61% of the variation in the quality of investment decisions. The relationship that had the highest positive correlation was with trust in AI recommendations, with a clear relationship where people trust more in the AI investment recommendations, improved investment performance. Conversely, the overconfidence bias and herd behaviour were found to have a negative effect on the quality of decisions, suggesting that behavioural attitudes negatively affect the efficiency of the investment system aided by AI. Risk perception was found to be positively correlated with investment quality and investors careful consideration of the risks they faced in their investments were better investors.

Discussion:

These insights highlight the potential of AI technologies to revolutionize investment decision-making, providing valuable insights into the market, portfolio recommendations, and predictive analytics. AI can't, however, remove the impact of behavioural biases. Rather, the psychology of the investor is the crucial element in understanding and leveraging AI-driven tips. AI's trustworthiness points to greater adoption of AI-driven investment apps among millennial retail investors. By leveraging AI systems, investors can reduce information asymmetry, automate financial analysis, and gain better access to market intelligence, making more informed and timely decisions. The analysis corresponds to recent studies that show how AI has increased efficiency in the investment process, and can process huge amounts of data that would be too complex for humans to analyze.

Notwithstanding these benefits, overconfidence was one of the most powerful behavioural impediments. Some respondents indicated they would ignore AI recommendations due to not feeling the recommendations were appropriate for their own investment knowledge or sense of intuition. This behaviour might reduce the effectiveness of the AI system because investors are unaware of the risk associated with blindly following AI suggestions that they agree with. This corresponds with the theory of behavioural finance that states cognitive biases are well documented and will remain even when there is objective information.

Similarly, investors' decisions continued to be influenced by herd mentality. When the markets were uncertain, respondents said they used AI-generated advice and trusted in social media conversations, word-of-mouth from friends and family, and online investment groups. AI isn't social influence, it's a supplement to it, in other words. Thus, investors' behaviour is still influenced by their emotions and the sentiment of the market.

Risk perception had a positive effect on the investment decision quality. People who took the time to consider the market volatility and financial uncertainty were more likely to consider their own assessment of volatility and financial uncertainty as well as insights they gained from using AI tools before investing. The balance seems to be a factor contributing to less impulsive behaviour, and improved portfolio performance.

Overall, the study demonstrates the potential of how AI-driven investment platforms can be a valuable resource for young retail investors in making financial decisions. But a lot of well-entrenched behavioural biases to overcome, despite all the technology. AI and investor education along with the adoption of behavioural awareness programs, explainable AI models and transparent recommendation systems could lead to better quality investments and decrease irrational investment decisions by investors.

The results indicate that financial institutions, FinTech companies, and policy makers should pay attention to not only enhancing the capability of AI algorithms but also boost the behavioural competence of investors. With the financial education initiatives, these groundbreaking AI tools can empower young retail investors to make informed and informed investing decisions in today's intricate financial environment.

Limitations of the study

There are some limitations to this study that need to be taken into consideration when interpreting the findings from this study. First, the research is done with young retail investors so their results might not necessarily be applicable to older investors, institutional investors or investors with more years of investing experience. Younger people could have different financial behaviour behaviours to the older person because of their financial knowledge, risk aversion, investment goals and their experience with digital tools. Secondly, this study has mainly relied on self-reported data, which is collected through survey or questionnaires, rendering the results of this study susceptible to response bias, recall bias and social desirability bias. Participants might not be able to accurately report on their actual investment behaviour and the role play of AI affecting their decisions. The other one is the rapid pace at which the AI-powered investing platforms are evolving. AI tools, recommendation engines and robo advisors, though, will evolve over time and the results may be based on the technology landscape at the time of data collection. As AI technology continues to evolve, it may influence investors' behaviour and investment decisions. In addition, certain psychological, economic and situational factors can influence behavioural biases like anchoring, overconfidence, confirmation bias, and herd behaviour that may not be reflected in a single research model. The research also does not account for the possibility or the effect of unknown macro-economic events, market volatility or regulatory changes that have a significant impact on investment decisions irrespective of the AI application. Moreover, the findings from the research might also be limited to a particular geographical area or country due to cultural, economic and regulatory differences in other markets. Where applicable, the cross sectional nature of the study provides information on investors' behaviour at a particular moment in time but is not an effective way of capturing behavioural biases that evolve into investors' behaviour over the course of

time when they use financial AI tools. Lastly, the study focuses on the human decision-making using AI and the behavioural biases, but it might not thoroughly assess the underlying AI systems' technical precision, transparency or explainability. The restrictions offer prospects for future investigation through longitudinal studies, cross-country comparisons, experimental approaches, and sophisticated analytics to gain deeper insights into behavioural biases in AI-driven investment contexts.

Future Scope

As AI becomes more prevalent in investment platforms, there are many potential avenues for future AI-based research into youth retail investor behavioural biases. Future research could explore the impact on investor trust, decision-making accuracy, and overall investment outcomes of various AI-powered advisory tools, such as robo-advisors, generative AI chatbots, and algorithmic recommendation engines. A cross-country, cross-age, cross-income and cross-literacy study would yield more insights into the differences in cultural and demographic acceptance and effectiveness of investment support from AI. Other studies could also delve into whether investors develop some behavioural biases as they get more experienced with AI-powered financial technologies, including overconfidence, herding, loss aversion, anchoring, and confirmation bias. Longitudinal studies could be used, in future research, to evaluate the effects of repeated use of AI tools on the investment behaviour over time, instead of just cross-sectional analysis. There is a need for experimental research that could help to determine the best combination of human decision-making and AI assistance. Furthermore, the inclusion of psychological factors like trust in AI, perceived transparency, technology readiness, and risk tolerance might improve the current behavioural finance frameworks. Future research could explore the effectiveness of explainable and interpretable AI recommendations in decreasing irrational investment actions compared to opaque algorithmic recommendations, given the rapid advancement of explainable artificial intelligence (XAI). Additionally, ethical issues surrounding algorithmic bias, data privacy, and accountability within AI-driven investment platforms can be explored. New technologies like blockchain-based investment platforms, decentralized finance (DeFi) and tailored AI financial advisors are other ways to grasp evolving investor dynamics. The research will help develop more trustworthy, clear and investor-centric AI systems, which will assist the upcoming generation of retail investors in making well-informed decisions to better minimize behavioural biases.

Conclusion

AI has revolutionized investment platforms, reshaping how young retail investors access financial information, assess investment opportunities, and make portfolio decisions. The advantages of AI tools, such as real-time analysis, personalized investment recommendations, predictive tools, and automated portfolio management, empower investors to make more informed and efficient decisions. But, this research shows that behavioural biases will persist even in the presence of advanced technology and that this technology sometimes actually changes how these biases are manifested in an investment environment that is assisted by AI. The findings indicate that even when presented with AI-generated insights, overconfidence, confirmation bias, herd behaviour, anchoring and loss aversion are still relevant in young investors' decision-making process. While AI systems facilitate the dissemination of factual information more easily and reduce cognitive load, many investors tend to overlook the risks involved when considering recommendations that align with their own beliefs and are overly dependent on algorithmic recommendations without conducting the due diligence necessary. This can result in over-trading, not diversifying enough or not reacting to market situations. Moreover, it emphasizes the importance of financial education and tech-savvy to gauge the impact of an AI-driven investment approach. If you have a better understanding of the financial system, AI recommendations can be used to help guide your decision-making process but do not replace it. In contrast, less experienced investors will be more prone to take automated advice and may rely too heavily on the algorithms and make decisions based on the algorithmic information. The results indicate that AI should be used in conjunction with, and not in place of, human reasoning and analysis. The other big ramification is that of accountable AI design in the digital investment phases. The transparency, explanations, and user-

friendly interfaces give investors the ability to better understand the basis for the AI-driven recommendations and make better financial decisions. Furthermore, by taking measures to ensure fairness, accountability, privacy, and transparency in algorithmic investment advisory services, including limiting the use of AI advice, regulatory authorities and financial institutions can encourage responsible use of AI. Behavioural finance principles should be an integral part of financial education courses and courses should be AI-literate, so that young investors can develop skills for a new financial world from a practical aspect. By enhancing critical thinking, risk assessment and knowledge of frequent behavioural errors, training can help investors make more balanced and rational decisions and efficiently use AI-powered financial tools. The study finds that overall, AI can improve the quality, speed and availability of investment information but remains unable to completely eradicate behavioural biases that can stem from people's psychology. Rather, investor behaviour and smart technology has created a new playing field for decisions to be made utilizing technology and investor judgment. As these AI systems get smarter and smarter, it will be essential for investors to know what they are seeing – and what it means – and to be disciplined enough to make a wise investment in what will be a digital-driven financial world.

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