

Impact of Artificial Intelligence on Investment Decision-Making among Generation Z

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Abstract

With the advent of robo-advisory, machine learning, predictive analytics and other forms of AI, Artificial Intelligence (AI) has been increasingly adopted in the field of financial services. AI technology is revolutionizing how young investors interact with financial information and make decisions on investment choices. Generation Z is considered a significant group since they are more familiar with technology and technology-powered financial services than other generations. However, the incorporation of AI technology in investment practices has raised concerns about trust issues, financial literacy, transparency, the use of AI investment tools, risk and the degree of dependency on automated suggestions by investors. This study seeks to investigate the usage of AI in making investment decisions by Generation Z investors in the Bangalore region. The descriptive research methodology is selected for this study and primary data is obtained via a well-designed questionnaire survey conducted among Generation Z members aged 18 to 27 years, who are knowledgeable about digital investment platforms. In the current research, purposive sampling technique is applied and there will be a total number of 202 participants. In the process of organising and analysing data IBM SPSS Statistics software will be used via descriptive and inferential statistics techniques according to research objectives. This study aims to provide a customer-based perspective on AI-supported investment decision-making and recommendations for the application of AI technology in investments.

Keywords: Artificial Intelligence, Investment Decision-Making, Generation Z, Financial Literacy, AI-Supported Investment, Robo-Advisory, Technology Adoption

Introduction

The financial sector has seen significant technological developments since the invention of Artificial Intelligence, robo-advisors, predictive analytics, machine learning, and algorithms. Technology allows processing huge amounts of financial data and helps investors find trends in the market, estimate risks, compare different investment options, and get personalized information. As a result, the rise of availability of digital platforms for investments has changed the process of getting financial information and making decisions about investments.

Generation Z is especially important in this regard since people who belong to this generation have grown up with smartphones, mobile apps, online banking, and FinTech solutions. Technological literacy makes investment apps using artificial intelligence easy and accessible to young investors. However, technological literacy alone is not sufficient to

make appropriate decisions regarding investments. Trust in AI, financial literacy, risks perception, transparency, and critical evaluation of automated recommendations can influence AI usage in investment practices.

There is a need for research that combines the analysis of AI adoption, financial literacy and investment decision-making process. This study hence explores the use of AI-based investment instruments among GenZ investors in the city of Bangalore along with the issues related to financial literacy and use of AI-based investment platforms.

Objectives of the Study

- To identify the factors affecting the adoption of AI-driven investment platforms among Generation Z investors.
- To study the role of financial literacy in using AI for investment decisions among Generation Z investors.
- To identify the challenges faced by Generation Z investors while using AI-based investment platforms.

Literature Review

The Technology Acceptance Model was created by Davis in 1989 to explain technology adoption through perceptions of usefulness and ease of use [1]. Such constructs as perceived usefulness and perceived ease of use are relevant to AI-driven investment platforms since investors are likely to accept them based on the belief that technology increases decision quality and decreases efforts or saves time. Social influence and facilitating conditions were additionally considered by Venkatesh et al. (2003) in the Unified Theory of Acceptance and Use of Technology [2]. Trust is a significant aspect in the context of automation in decision-making systems in finance. According to Lee and See (2004), appropriate trust in the system is a precondition for its appropriate use [3].

Similarly, trust and expertise perception were considered by Lourenco et al. (2020) as factors of acceptance of recommendations provided by robo-advisors [4]. These aspects are especially important for investment platforms due to the nature of recommendations.

A second perspective would be that of financial literacy. According to Lusardi and Mitchell (2014), financial knowledge is important for financial decision making [5]. AI assistance in investments would enable people to make better judgments concerning risk and returns, analyze recommendations, and identify unrealistic propositions in contrast to blindly relying on algorithmic results. It is also argued by behavioural finance that investment decisions could be impacted by various cognitive and emotional biases [6].

Perceived risk was identified by Featherman and Pavlou (2003) as a critical determinant of technology adoption [7]. Privacy, cybersecurity, accuracy and transparency may have an effect on the willingness to adopt new financial technologies. This means that the following aspects of AI investment adoption should be considered: usefulness, ease of use, trust, risk, social influence and financial literacy.

Research Gap

Although AI-based financial services have been growing at a fast pace, there is a lack of empirical data on the way in which the investors from generation Z in India integrate the advice from artificial intelligence with their financial judgment. Most of the previous literature either focuses on the adoption of technology or on the acceptance of robo-advice or financial literacy. The current research aims to bring together all these areas.

Theoretical Framework

Table 1: Key Constructs and Theoretical Foundations

Construct	Theoretical Foundation	Role in Study
Artificial Intelligence Adoption	Technology Acceptance Model	Independent Variable
Perceived Usefulness	Technology Acceptance Model	Independent Variable
Perceived Ease of Use	Technology Acceptance Model	Independent Variable
Trust in AI	Trust in Automation	Independent Variable
Financial Literacy	Financial Capability Theory	Independent Variable
Risk Perception	Behavioural Finance	Independent Variable
Social Influence	UTAUT	Independent Variable
Investment Decision-Making	Behavioural Finance	Dependent Variable

Research Methodology

The research will be carried out using the descriptive design. The population of the study will be the members of Generation Z that have aged between 18 and 27 years in the Bangalore area. The target population will include students, young professionals and young investors who know about the use of digital investment and AI-based investments tools. Data will be obtained from learning institutions, professional circles and online sources. The purposeful sampling method will be employed since the respondents should have knowledge of the AI-based investment tool [8].

Table 2: Sampling Design

Element	Description
Population	Generation Z individuals aged 18 to 27 years in the Bangalore region
Target Population	Students, young working professionals and young investors familiar with AI-based investment applications
Sampling Frame	Individuals accessed through educational institutions, professional circles and online platforms
Sampling Technique	Purposive Sampling
Sample Size	202 Respondents
Sampling Unit	Generation Z Individual
Geographical Scope	Bangalore Region

Primary data will be obtained using a structured questionnaire. The descriptive statistics employed for analysis includes frequency, percentage, mean, and standard deviation. These will be used for analysis of respondent profiles, use of AI, perception about it, financial literacy and challenges.

Multiple regression will be used to analyze determinants of AI-based investment platform adoption among the respondents. Variables included as determinants include perceived usefulness, perceived ease of use, trust, social influence, and perceived risk. Pearson correlation and linear regression will be used to establish the relationship between financial literacy

and AI-based investment decision making. The challenge severity will be evaluated based on the mean score and standard deviation of the challenge and ranking of the challenges. Reliability of the questionnaire is determined by the alpha value which is stated to be 0.85 [8].

Hypotheses

H₁ : Perceived usefulness, perceived ease of use, trust, social influence and perceived risk do not significantly affect the adoption of AI-based investment platforms by Generation Z investors.

H₂ : Perceived usefulness, perceived ease of use, trust, social influence and perceived risk significantly affect the adoption of AI-based investment platforms by Generation Z investors.

H₃ : There is no significant relationship between financial literacy and the usage of AI for making investment decisions by Generation Z investors.

H₄ : There is a significant relationship between financial literacy and the usage of AI for making investment decisions by Generation Z investors.

Results and Discussion

This analysis is based on the responses gathered from Generation Z participants in the Bangalore area. According to the dissertation, 81.19% of the respondents use AI-based investment tools. AI is used primarily to reduce the time needed for analysis of investments, to find new opportunities for investments, to get timely information about the market and make more rational decisions [9].

Table 3: Selected AI Investment Usage Indicators

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Indicator	Result
Respondents who have used AI-based investment tools	81.19%
AI helps reduce analysis time often or always	59.40%
Opportunity discovery at least sometimes	76.73%
AI helps avoid emotional decisions often or always	51.98%
Personalization as an important factor	62.37%
Ease of use as an important factor	60.89%
Real-time market insights as an important factor	65.85%
Recommendation accuracy as an important factor	59.41%

As per the dissertation, personalization, ease of use, real-time market insights, and recommendation accuracy are critical factors that influence adoption of AI-based investment platforms. The results are supported by the Technology Acceptance Model where perceived usefulness and perceived ease of use offer justification for adopting technology [1]. Perceived trust and perceived risk are relevant factors since investment involves money, and individuals might want to be assured about the accuracy and transparency of AI-driven recommendations.

The research reveals the importance of financial literacy as well. The respondents are familiar with financial terminology

and are able to assess or validate the AI-based recommendations rather than solely depend on the AI system. Thus, the AI-based tool might act as the decision support system, but the decision-making process itself remains in the hands of humans [9].

Table 4: Major Challenges in AI-Based Investment Platforms

Challenge	Respondents Rating It as Moderate to Very Major
Privacy of financial information	64.36%
Uncertainty regarding accuracy of recommendations	59.41%
Lack of transparency of AI system	58.42%
Over-dependence on AI	60.39%

Privacy of financial information appears to be a challenge; over-dependence on AI, uncertainty about recommendation accuracy, and lack of transparency follow next.

Key Findings

- Tools of investment based on artificial intelligence are frequently used by the surveyed Gen Z population.
- Time savings, identifying opportunities, market information, and reducing the influence of emotions are some of the benefits.
- Personalization, usability, real-time availability of information, and accuracy of recommendations are key factors in adopting AI investment tools.
- Financial literacy is an important factor in assessing the information generated through AI.
- Not all of the surveyed participants solely rely on AI for investment-related information.
- The key barriers include privacy concerns, reliance on AI, accuracy of recommendations, and lack of transparency.

Implications and Recommendations

The developers of AI investment platforms should focus on the explainability feature. The recommendations should be accompanied by the explanation of the rationale behind the recommendation, its risks, and limitations. It is important that financial institutions improve their messaging on security and privacy issues. It can be considered by regulators and industry organizations to develop relevant standards on transparency and data protection. Educational programmes in financial and AI literacy need to be enhanced among young investors. Young investors need to be advised to consider AI outputs as inputs for decision-making and validate the recommendations through other sources of information. This could assist in balancing the speed of decision-making through AI with the sound judgement of investors.

Conclusion

The research shows that Artificial Intelligence has become an integral part of the investment decision process among Generation Z investors in Bangalore area. Through the use of AI technologies, young investors get fast access to information, analysis, and investment inputs. Nevertheless, the proper use of AI technologies by investors requires trust, financial literacy, transparency and responsibility. Thus, the results of the research support the idea that AI should serve as

an assistant and not substitute for human judgement in investment decision-making.

Limitations & Future Research

Limitations of the research include a regional approach (Bangalore), a purposive sample, 202 sample size, and self-reported data. Moreover, the sample of respondents includes a high number of students that can prevent generalization among the investors with higher experience. Future researchers can apply larger probability sampling, conduct inter-regional comparison and intergenerational one, analyze the impact of novice vs. experienced investors, and long-term effects of the use of AI in decision making.

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