

The Relationship Between Generative Artificial Intelligence, Investments and the Usage of GenAI

An Empirical Study on Ethical Perceptions, Investment Skills, Trust and the Usage of Generative AI

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Abstract—The rapid advancement of Generative Artificial Intelligence (GenAI) has significantly transformed decision-making processes across various sectors, particularly finance and investment. Despite growing adoption, limited empirical evidence exists on how ethical perceptions, user skills, and behavioural factors influence the usage of GenAI in financial contexts, especially within the Indian market. This study examines the relationship between GenAI, investments and the usage of GenAI by focusing on fairness, accountability, transparency, investment skills, satisfaction and trust in AI systems. A quantitative research approach was adopted, using primary data collected through a structured questionnaire administered to 290 respondents familiar with GenAI tools and investment-related activities. Descriptive analysis, correlation analysis and multiple linear regression were used to test six hypotheses. The results reveal that fairness, accountability, transparency, investment skills and trust in AI systems have a positive and significant influence on the usage of GenAI, while satisfaction shows only a partial influence, indicating that expectation fulfilment plays a more critical role than overall satisfaction. The study offers practical implications for AI developers, financial institutions, investors and policymakers on strengthening ethical AI governance and investment literacy to enhance the sustainable use of GenAI in the financial sector.

Keywords—Generative Artificial Intelligence; Fairness; Accountability; Transparency; Investment Skills; Trust in AI; Usage of GenAI

I. INTRODUCTION

Technological innovation has always shaped global financial systems. Over the last decade, Artificial Intelligence has evolved from a theoretical concept into an applied discipline that is revolutionising healthcare, manufacturing and, especially, finance. Generative Artificial Intelligence (GenAI) represents the latest advancement in this field, enabling machines not only to analyse data but to create new outputs—financial models, market forecasts and textual analyses—by learning complex patterns from existing datasets [1], [3].

Globally, financial institutions employ GenAI to automate research, generate portfolio strategies, forecast price movements and detect anomalies. In India, this momentum is reinforced by national initiatives such as Digital India and AI for All, while regulators such as the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI) encourage the use of AI for fraud detection, compliance monitoring and market-risk assessment. Indian fintech firms such as Zerodha, Groww, Paytm Money and Policybazaar have begun deploying AI algorithms to provide customised financial advice based on investor behaviour and risk tolerance.

Although GenAI has shown transformative potential, a clear research gap remains in quantifying its influence on financial decision-making. Traditional performance metrics do not capture the intangible benefits of AI integration, such as enhanced predictive capacity and faster decision cycles, and unequal technological readiness, limited access to quality datasets, and regulatory uncertainty further restrict accurate evaluation of outcomes. This study, therefore, examines how ethical

perceptions—fairness, accountability and transparency—together with investment skills, satisfaction and trust in AI systems, influence the usage of GenAI among investors.

The specific objectives of the study are to: (i) examine the impact of fairness, accountability and transparency on the usage of GenAI; (ii) assess the influence of investment skills and satisfaction on GenAI usage; (iii) evaluate the role of trust in AI systems as a determinant of usage; and (iv) provide recommendations for AI developers, financial institutions and policymakers to encourage the responsible and effective use of GenAI in investment decision-making.

II. REVIEW OF LITERATURE AND HYPOTHESES DEVELOPMENT

A. Fairness

Fairness refers to the unbiased and equitable treatment of all users by an AI system. Huynh and Aichner [1] found that fairness, accountability and transparency are key determinants of cognitive trust in generative AI, and that fairness significantly affects the subsequent usage of AI tools. Niu and Mvondo [4] similarly reported that perceived fairness directly affects satisfaction and loyalty toward ChatGPT.

B. Accountability

Accountability reflects the extent to which AI systems and developers take responsibility for the outcomes of AI-driven decisions. Huynh and Aichner [1] showed that accountability positively correlates with user trust, while Shin [8] emphasised that accountability mechanisms reduce perceived risk and strengthen user confidence,

particularly in sensitive domains such as investment decision-making.

C. Transparency

Transparency concerns the openness with which an AI system communicates its processes, decisions and data handling. Huynh and Aichner [1] and Niu and Mvondo [4] found that transparency significantly increases cognitive trust and mitigates ethical concerns, reducing uncertainty and encouraging continued usage of GenAI tools.

D. Investment Skills

Investment skills denote an individual's capability to make informed and rational financial decisions. Legenzova and Lecké [2] found that financial socialisation improves investment literacy and performance, enabling skilled investors to interpret AI-generated insights more effectively and achieve better financial outcomes.

E. Satisfaction

Satisfaction reflects the extent to which users' expectations are met by GenAI systems. Rehman et al. [6] found that GenAI usage improves satisfaction and engagement, while Niu and Mvondo [4] showed that satisfaction mediates the relationship between ethical perceptions and loyalty, promoting continued dependence on AI tools for decision-making.

F. Trust in AI Systems

Trust represents users' belief in the reliability, safety and ethical behaviour of GenAI. Rahman and Sharma [5] found that trust mediates the relationship between ethical responsibility and GenAI adoption in financial contexts, acting as a crucial behavioural factor that complements fairness, accountability, transparency, investment skills and satisfaction in determining the effective usage of GenAI.

G. Conceptual Framework and Hypotheses

Based on the reviewed literature, the usage of GenAI is proposed as the dependent variable, influenced by six independent variables: fairness, accountability, transparency, investment skills, satisfaction and trust in AI systems. Accordingly, the following hypotheses were formulated:

- H1: Fairness has a significant effect on the usage of GenAI.
- H2: Accountability has a significant effect on the usage of GenAI.
- H3: Transparency has a significant effect on the usage of GenAI.
- H4: Investment skills have a significant effect on the usage of GenAI.
- H5: Satisfaction has a significant effect on the usage of GenAI.
- H6: Trust in AI systems has a significant effect on the usage of GenAI.

III. RESEARCH METHODOLOGY

This study adopts a quantitative, descriptive-cum-analytical research design. Primary data were collected through a structured, self-administered questionnaire comprising two sections: demographic information and Likert-scale items (1 = Strongly Disagree to 5 = Strongly Agree) measuring fairness, accountability, transparency, investment skills, satisfaction, trust in AI systems and usage of GenAI. Items were adapted from validated scales used in prior studies [1], [2], [4], [6], [7].

The target population comprised MBA and undergraduate students, along with a limited number of postgraduate family members, who actively use GenAI tools and participate in investment-related activities. Respondents were drawn from higher-educational institutions in Coimbatore district, Tamil Nadu. Non-probability convenience sampling, supplemented by snowball sampling, was adopted owing to the absence of a complete sampling frame of GenAI users and investors.

A total of 500 questionnaire links were distributed electronically via Google Forms between November 2025 and February 2026. Of the 305 responses received (61% response rate), 290 valid responses were retained after screening for incomplete and straight-line responses. This sample size exceeds the recommended minimum of 10–15 responses per predictor for multiple regression analysis. Internal consistency of all constructs, assessed using Cronbach's Alpha, exceeded the recommended threshold of 0.70. Descriptive statistics, correlation analysis and multiple linear regression were performed in SPSS to test the six hypotheses.

IV. RESULTS AND DISCUSSION

A. Demographic Profile

Of the 304 respondents who reported demographic details, 56.6% were male, 41.1% female and 2.3% preferred not to disclose their gender. The majority (30.6%) were aged 20–22 years, followed by 23–25 years (24.7%). MBA students constituted 62.5% of the sample, with the remainder drawn from other postgraduate and undergraduate programmes.

B. Descriptive Statistics

TABLE I. DESCRIPTIVE STATISTICS OF STUDY VARIABLES

Variable	Mean	SD
Fairness	2.94	0.92
Accountability	3.01	0.98
Transparency	3.12	1.03
Investment Skills	3.14	0.82
Satisfaction	3.19	0.86
Trust in AI	3.14	0.89
Usage of GenAI	3.13	0.65

C. Multiple Linear Regression Analysis

Multiple linear regression was conducted to examine the combined influence of the six predictors on the usage of GenAI. The model was statistically significant, $F(6, 278) = 23.51$, $p < .001$, and explained 33.7% of the variance in

GenAI usage ($R = .580$, $R^2 = .337$, Adjusted $R^2 = .322$, $SE = .514$).

TABLE II. REGRESSION COEFFICIENTS (DV: USAGE OF GENAI)

Predictor	B	β	t	Sig.
(Constant)	1.138	—	6.605	.000
Fairness	.062	.089	1.707	.089
Accountability	.103	.162	3.057	.002
Transparency	.068	.112	2.164	.031
Investment Skills	.132	.172	3.158	.002
Satisfaction	.148	.205	3.713	.000
Trust in AI	.129	.184	3.336	.001

systems on 290 respondents. The results confirm that ethical AI practices, investment literacy and trust-building mechanisms are key drivers of GenAI adoption, while overall satisfaction alone is insufficient unless closely tied to expectation fulfilment. The study contributes to the literature by integrating ethical, skill-based and behavioural factors into a single empirical framework and offers practical implications for AI developers, financial institutions, investors and policymakers to strengthen responsible AI governance, transparency and investment literacy. Future research may incorporate additional constructs such as perceived usefulness, ease of use and AI anxiety, and adopt longitudinal or cross-country designs to enhance generalisability.

D. Hypotheses Testing Summary

TABLE III. SUMMARY OF HYPOTHESIS TESTING

Hyp.	Relationship	Result
H1	Fairness → Usage of GenAI	Supported*
H2	Accountability → Usage of GenAI	Supported
H3	Transparency → Usage of GenAI	Supported
H4	Investment Skills → Usage of GenAI	Supported
H5	Satisfaction → Usage of GenAI	Partially Supported
H6	Trust in AI → Usage of GenAI	Supported

*Supported at the correlation level; not significant as an independent predictor once other variables are controlled for in the regression model.

E. Discussion

The findings indicate that accountability, transparency, investment skills and trust in AI systems exert a positive and statistically significant influence on the usage of GenAI, consistent with the FAT (Fairness–Accountability–Transparency) framework and Trust Theory [1], [8]. Fairness was positively associated with GenAI usage at the correlation level, supporting Huynh and Aichner [1], though its unique contribution weakened once accountability, transparency and trust were controlled for—suggesting these constructs share overlapping influence on user confidence.

Investment skills emerged as a strong predictor, consistent with Legenzova and Leckè [2], confirming that financially literate users are better able to interpret and act on AI-generated insights. Satisfaction showed a positive but only partial influence, echoing Rehman et al. [6], who found that expectation fulfilment—rather than overall satisfaction—more strongly predicts continued usage of generative AI tools. Trust in AI systems significantly influenced usage, reinforcing Rahman and Sharma [5] and confirming trust as a central mechanism linking ethical perceptions to behavioural adoption of GenAI in financial contexts.

V. CONCLUSION

This study examined the relationship between Generative Artificial Intelligence, investments and the usage of GenAI by testing the influence of fairness, accountability, transparency, investment skills, satisfaction and trust in AI

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