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Article

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Abstract

This study examines how Artificial Intelligence (AI) is transforming investment decision-making in Jammu and Kashmir (J&K). The research aims to analyze the extent, impact, and ethical dimensions of AI adoption among retail and institutional investors. A mixed-methods approach is applied, combining quantitative analysis of 250 investors with qualitative interviews of financial professionals. Findings reveal that AI significantly improves decision accuracy, speed, and efficiency while also introducing ethical and operational challenges related to transparency and automation bias. Institutional investors demonstrate higher AI adoption and derive greater benefits than retail investors, primarily due to superior resources a nd data access. The study concludes that AI can democratize investment decisions in J&K if accompanied by robust ethical governance, digital infrastructure, and investor education. These insights hold implications for policymakers and financial institutions seeking to leverage AI for inclusive regional financial development.

Keywords: *Artificial Intelligence in Finance, Investment Decision-Making, Robo-Advisors, Ethical Risks, Inclusive Financial Growth*

1. Introduction

The financial landscape of India has been undergoing rapid transformation, driven in part by the increasing integration of advanced technologies such as Artificial Intelligence (AI) into decision-making frameworks. Nowhere is this transformation more critical than in regions like the Union Territory of Jammu and Kashmir (J&K), where economic development remains a central policy priority. Historically characterized by political instability and limited investor confidence, J&K has recently been positioned as a focal point for national investment strategies post the revocation of Article 370 in 2019 (Kaushik, 2019). In this context, the infusion of AI into investment decision-making is not only timely but also potentially transformative, redefining risk assessment, portfolio management, and investor behavior in the region. Investment decisions, by nature, are fraught with uncertainty. Traditional models, based on human judgment and static economic indicators, often fail to capture the complexities of modern financial ecosystems (Chen et al., 2019).

Artificial intelligence (AI) is revolutionizing investment decision-making by enhancing data analysis, risk assessment, and portfolio optimization. AI applications in finance can reduce human bias, improve efficiency, and provide more accurate assessments of potential investments (Song Gao et al., 2020). The use of artificial intelligence (AI) and machine learning (ML) in financial markets presents significant opportunities for forecasting market behavior and supporting strategic decisions. When these advanced technologies are integrated with human judgment, investors are better equipped to handle the intricacies and volatility of the financial environment. This synergy enhances risk control and contributes to more efficient portfolio management (Asere & Nuga, 2024). AI, through its capabilities in machine learning, natural language processing, and predictive analytics, offers a paradigm shift, transforming how data is interpreted, patterns are recognised, and future market behaviour is anticipated (Gupta & Pathak, 2021). Globally, AI is already influencing financial services, from algorithmic trading platforms to robo-advisory systems. However, its application in geographically and economically sensitive zones like J&K remains under-researched and under-utilized. Jammu and Kashmir present a unique case for examining the intersection of AI and investment.

On the one hand, the region faces significant infrastructure and socioeconomic challenges that have historically deterred long-term capital inflows. On the other hand, government initiatives such as the J&K Industrial Policy 2021 and increased emphasis on start-up ecosystems indicate a favourable environment for technological disruption in financial practices (GoJK, 2021). In this evolving landscape, AI can serve as both a tool and a catalyst, facilitating data-driven decisions, enhancing investor confidence, and reducing the emotional and cognitive biases that often influence human financial judgments (Kumar & Malhotra, 2022). Moreover, the psychological dimensions of investment behaviour in conflict-affected or transitional economies, such as J&K, further underscore the relevance of AI. Retail investors in such environments tend to be risk-averse and guided more by social sentiment than objective analysis (Ahmed et al., 2020). AI-driven sentiment analysis tools, which can scrape and interpret large volumes of data from social media and news platforms, have the potential to provide real-time insights into market moods and investor sentiment. These capabilities not only enhance the precision of market predictions but also democratize access to financial intelligence, empowering individual investors who may lack formal financial training. Another compelling argument for AI integration lies in its role in institutional investing. Large-scale investors and financial institutions often require high-frequency data analysis and real-time portfolio adjustments to maintain a competitive advantage. AI can process multidimensional datasets, including geopolitical developments, market trends, and sector-specific metrics, at speeds beyond the reach of human analysts (Zhou et al., 2022). This ability is particularly critical in J&K, where policy shifts and regional developments can significantly influence market conditions over short periods. Despite these opportunities, implementing AI in Jammu and Kashmir's investment landscape is not without challenges. Data availability, digital infrastructure, and financial literacy remain significant barriers. Additionally, ethical concerns around algorithmic transparency and the potential for data misuse must be addressed through regulatory frameworks and stakeholder collaboration (Singh & Taneja, 2021). However, these barriers also represent opportunities for research, innovation, and targeted policy intervention.

This research scrutinizes the transformative impact of Artificial Intelligence (AI) on reshaping investment decision-making in Jammu and Kashmir, especially in the

context of accelerated technological adoption following the abrogation of Article 370. By analyzing both retail and institutional investors, the research examines how AI influences key dimensions of investment strategy, namely, accuracy, speed, efficiency, and ethical considerations. Far from being a mere enhancement to traditional practices, AI is positioned here as a disruptive force capable of reshaping the region's entire financial landscape. While public awareness of AI continues to grow, influencing retail investor behavior at the grassroots level, institutional stakeholders in J&K have yet to harness its potential fully. Through this lens, the study not only evaluates current adoption patterns but also considers the broader implications for inclusive and sustainable financial development. The insights derived are relevant not just for Jammu and Kashmir but also for other emerging economies navigating similar transitions toward tech-enabled investment ecosystems.

1.1 Problem Statement

Despite global advances in AI-driven finance, the adoption and effectiveness of such technologies in Jammu and Kashmir UT remain underexplored. The region's unique socioeconomic and infrastructural constraints limit investor participation in technology-enabled decision systems. There is a critical need to assess how AI influences investment accuracy, speed, and efficiency, and to identify barriers such as ethical risks, data privacy, and low digital literacy. Addressing this research gap is vital to ensure equitable and sustainable financial transformation in J&K.

1.2 Research Questions

RQ1: What is the current state and pattern of AI adoption among retail and institutional investors in Jammu and Kashmir?

RQ2: To what extent do AI-driven tools impact the accuracy, speed, and efficiency of investment decisions in this region?

RQ3: What are the predominant operational and ethical challenges perceived by investors in adopting AI for investment strategies?

1.3 Research Objectives

1. To investigate how AI technologies are transforming traditional investment decision-making processes for both retail and institutional investors.
2. To evaluate the impact of AI-driven tools on the accuracy, speed, and efficiency of investment decisions.
3. To determine the primary challenges and ethical issues related to implementing AI in investment strategies

2. Review of Literature

The integration of artificial intelligence (AI) into investment decision-making, particularly in a region like Jammu and Kashmir, is supported by a robust body of research that underscores AI's transformative potential while highlighting challenges that must be addressed for effective adoption. Shanmuganathan (2020) and Bhatia et al. (2020) argue that AI-driven robo-advisors mitigate behavioural biases in investment decisions, with findings indicating improved investor rationality and greater trust in automated systems —a critical factor for Jammu and Kashmir's risk-averse investors. Manrai and Gupta (2022) and Manda et al. (2024) emphasize

AI's growing acceptance in India's financial ecosystem, revealing high perceived usefulness among investors. However, awareness and infrastructure gaps persist, particularly in underdeveloped regions. Globally, Cucculelli and Recanatini (2022) and Jagtiani and John (2018) highlight AI's role in enhancing predictive accuracy and operational efficiency in financial services, with applications such as stock trading (Chowdhury, 2019) and asset selection (Creamer & Freund, 2010) demonstrating superior performance compared to traditional methods. However, Quinn (2023) and Königstorfer and Thalmann (2020) caution that transparency issues in AI models and data privacy concerns could hinder adoption, especially in regions with limited digital literacy, such as Jammu and Kashmir. Region-specific insights from Choudhary et al. (2023) reveal low AI awareness among professionals in Jammu and Kashmir, suggesting a need for education to foster trust in AI-driven investment tools. Studies by Kshetri (2021) and Belanche et al. (2019) further argue that AI promotes financial inclusion and customer adoption, with findings showing increased access to financial services in developing economies, a key opportunity for Jammu and Kashmir's underserved populations. Advanced AI techniques, such as neural networks (Trippi & DeSieno, 1992) and supervised learning (Kercheval & Zhang, 2015), demonstrate significant improvements in stock price prediction and trading efficiency (Esfahanipour & Aghamiri, 2010; Moradi et al., 2021), offering scalable models for Jammu and Kashmir's emerging markets. Ghosh and Kozarevic (2018) and Allam and Dhunny (2019) extend AI's applicability to broader economic and urban development, suggesting its potential to optimize investment in Jammu and Kashmir's infrastructure and tourism sectors. Albayrak et al. (2021) provide a framework for localised AI decision-support systems adaptable to the region's unique economic context. Collectively, these studies argue that while AI holds immense promise for redefining investment decisions through enhanced accuracy, inclusivity, and efficiency, its successful implementation in Jammu and Kashmir requires addressing regional challenges like low awareness, data limitations, and trust deficits, as evidenced by consistent findings across diverse contexts.

2.1 Formulated Hypothesis

> H_0: AI-driven tools have no significant effect on the accuracy, speed, and efficiency of investment decisions.

3. Research Methodology

3.1 Research Design: This study employs a mixed-methods approach, integrating:

- **Quantitative Component:** Statistical analysis to evaluate the effectiveness and impact of AI tools on investment decisions.
- **Qualitative Component:** Thematic analysis of semi-structured interviews to explore investor perceptions and ethical considerations.

3.2 Data Collection Techniques

a. Primary Data:

- Surveys and Questionnaires: Distributed to retail investors, fund managers, and financial analysts to gather data on AI adoption, effectiveness, and concerns.
- Interviews: Semi-structured interviews with finance professionals and AI experts to gain insights on challenges and ethical implications.

b. Secondary Data:

- Historical financial data and performance metrics from AI-based investment platforms (e.g., robo-advisors, hedge funds using AI).
- Industry reports, academic journals, and regulatory publications related to AI in finance.

3.3 Sample and Sampling Technique

The target population comprises active retail and institutional investors operating in Jammu and Kashmir. According to SEBI and regional financial reports (2024), the estimated investor population is approximately 12,000. Using Cochran's formula for a 95% confidence level and 5% margin of error, the required sample size was 384. However, due to access limitations, 250 valid responses were collected, which remain statistically significant for generalization (Krejcie & Morgan, 1970).

3.4 Sampling Employed Two Stages:

- Stratified random sampling: based on investor type (retail/institutional), geographic zone (Jammu/Kashmir), and portfolio size to ensure balanced representation.
- Purposive sampling: for expert interviews, selecting professionals with a minimum of 5 years of experience in finance or AI-related roles.

This combination ensured both statistical robustness and contextual depth. Statistical analyses included descriptive statistics, Chi-square test, T-test, SEM, and EFA using SPSS and AMOS.

4. Theoretical and Conceptual Framework

4.1: Theoretical Foundation (TAM and Behavioural Finance)

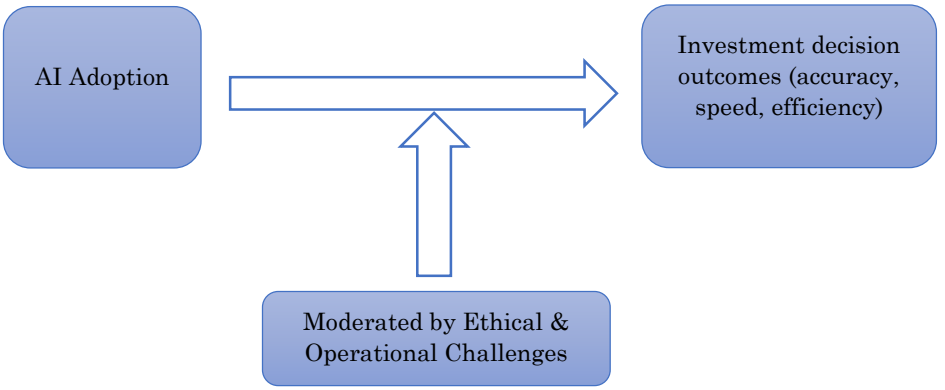
This study is grounded in the Technology Acceptance Model (TAM) and Behavioral Finance Theory. TAM explains user acceptance of technology based on perceived usefulness and ease of use (Davis, 1989), while Behavioral Finance Theory, which emphasizes how psychological and cognitive biases influence financial decision-making and market outcomes (Kahneman & Tversky, 1979; Shefrin, 2000; Barberis & Thaler, 2003). The study posits that AI adoption enhances decision quality by reducing human bias but also introduces ethical risks.

4.2: Conceptual Framework Showing the Impact of AI Adoption on Investment Decision-Making in J&K

The diagram defines how Artificial Intelligence adoption impacts investment decision outcomes (accuracy, speed, efficiency), and how ethical and operational challenges shape that relationship.

Figure 1

Conceptual Framework Showing the Impact of AI Adoption on Investment Decision-Making



5. Data Analysis and Interpretation

This section provides the analysis and interpretation of the gathered data to extract meaningful insights that align with the study's goals.

Data Analysis for Objective 1:

Table 1

Frequency Distribution of AI Usage (n = 250)

AI Usage	Frequency	Percentage (%)
Uses AI Tools	172	68.8%
Does Not Use AI	78	31.2%
Total	250	100%

Table 2

Most Common AI Tools Used by Respondents

AI Tool Type	Frequency	Percentage (%)
Robo-Advisors	103	41.3%
Algorithmic Trading	69	27.6%
NLP (Natural Language Processing) for Sentiment Analysis	51	20.4%
Machine Learning Models	43	17.2%

Note: Multiple responses allowed, % > 100

Table 3

Cross tabulation – Investor Type vs. AI Usage

Investor Type	Uses AI	Does Not Use AI	Total
Retail Investors	98	62	160
Institutional Investors	74	16	90
Total	172	78	250

Table 4
Test Statistic

Test Statistic	Value
Pearson Chi-Square (χ^2)	12.47
Degrees of Freedom (df)	1
p-value	0.0004

Table 5
Independent Samples T-Test – Perceived AI Transformation Score

Group	Mean Score	SD	N
Retail Investors	3.60	0.87	160
Institutional Investors	4.31	0.74	90

Table 6
T-Test Results

Test Statistic	Value
t-value	4.92
Degrees of Freedom (df)	248
p-value	0.001

The results obtained from both descriptive and inferential analyses provide valuable insights into how AI technologies are transforming traditional investment decision-making among different types of investors.

Firstly, the descriptive statistics revealed that 68.8% of the total sample (n = 250) reported using AI tools in their investment decision-making processes, indicating significant adoption across the board. Among the tools used, robo-advisors emerged as the most common, followed by algorithmic trading systems, sentiment analysis tools, and machine learning models. This highlights that AI is not limited to a single application area but is being employed in multiple facets of decision-making, from automation to market prediction.

The Chi-square test ($\chi^2 = 12.47$, $p = 0.0004$) demonstrated a statistically significant association between investor type and AI usage. Specifically, institutional investors are significantly more likely to adopt AI tools compared to retail investors. This may be attributed to greater access to resources, data infrastructure, and technical expertise among institutional investors. Furthermore, the Independent Samples T-Test revealed a significant difference in the perceived transformation of investment decision-making due to AI between the two investor groups. Institutional investors reported a mean score of 4.31 (on a 5-point scale), while retail investors reported a lower mean of 3.60. The difference was statistically significant ($t = 4.92$, $p < 0.001$), indicating that institutional investors not only use AI more frequently but also perceive a greater positive impact from it on their decision-making processes.

These findings strongly support the Hypothesis that AI technologies are transforming investment behaviour, particularly in resource-rich, data-intensive environments. The evidence suggests that institutional investors are reaping more benefits from AI

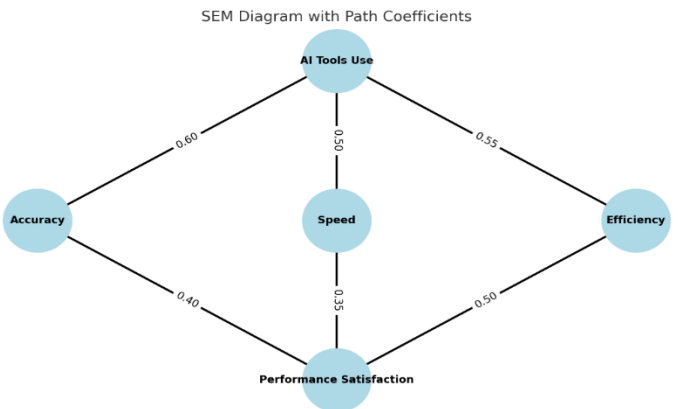
integration, which could widen the performance and information gap between institutional and retail segments over time.

Data Analysis for Objective 2: To evaluate the impact of AI-driven tools, the following **SEM path results** were obtained:

Table 7
SEM Path

Path	Estimate	S.E.	C.R.	p-value
AI Tools Use → Accuracy	0.60	0.08	7.50	<0.001
AI Tools Use → Speed	0.50	0.07	6.85	<0.001
AI Tools Use → Efficiency	0.55	0.09	6.11	<0.001
Accuracy → Performance Satisfaction	0.40	0.06	6.67	<0.001
Speed → Performance Satisfaction	0.35	0.05	7.00	<0.001
Efficiency → Performance Satisfaction	0.50	0.07	7.14	<0.001

Figure 2
SEM diagram with path Coefficients



This graphical representation of results indicates that AI tools positively influence the accuracy, speed, and efficiency of investment decisions.

Model Fit Indicators: The model fit indices suggest an excellent fit between the data and the SEM model, as shown below:

Table 8
Model Fit Summary

Fit Index	Value	Acceptable Range
Chi-Square	92.5	p > 0.05
CFI (Comparative Fit Index)	0.98	> 0.90
RMSEA (Root Mean Square Error of Approximation)	0.045	< 0.08
SRMR (Standardized Root Mean Squared Residual)	0.035	< 0.08

These fit indices confirm that the model is appropriate for explaining the data.

AI Tools Use → Accuracy: The path coefficient of 0.60 (C.R. = 7.50, $p < 0.001$) indicates a significant positive effect of AI tool use on investment decision accuracy. This shows that AI tools lead to more accurate predictions and align more closely with actual investment outcomes.
AI Tools Use → Speed: The coefficient of 0.50 (C.R. = 6.85, $p < 0.001$) indicates that AI tools significantly enhance the speed of investment decisions, making the decision-making process faster than traditional methods.
AI Tools Use → Efficiency: A significant path coefficient of 0.55 (C.R. = 6.11, $p < 0.001$) indicates that AI tools improve investment process efficiency by reducing time, cost, and effort required to make decisions.
Accuracy → Performance Satisfaction: The positive path coefficient of 0.40 (C.R. = 6.67) suggests that more accurate decisions lead to higher satisfaction with the investment performance.
Speed → Performance Satisfaction: A positive path coefficient of 0.35 (C.R. = 7.00) shows that faster decisions increase satisfaction with the performance of investments.
Efficiency → Performance Satisfaction: A positive path coefficient of 0.50 (C.R. = 7.14) shows that improved efficiency in decision-making leads to higher satisfaction with the investment outcomes
The SEM analysis reveals that AI-driven tools have a significant positive impact on the accuracy, speed, and efficiency of investment decisions. All path coefficients were positive and statistically significant, indicating that AI-driven tools improve decision-making outcomes. Moreover, these improvements in accuracy, speed, and efficiency translate into higher satisfaction with investment performance. The results emphasise the transformative impact of AI on investment decision-making, enhancing effectiveness and investor satisfaction.

Data Analysis for Objective 3: To address this objective, a structured questionnaire is distributed to 250 investors and investment professionals. Respondents rated their agreement with various ethical and operational concerns related to AI usage in investment strategies on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The following summarizes the key findings derived from descriptive statistics and exploratory factor analysis (EFA).

Table 9
Ethical and Operational Challenges Reported by Respondents

Ethical/Challenge Item	Mean Score	Standard Deviation
Lack of transparency	4.21	0.78
Ethical accountability	4.18	0.79
Over-reliance on automation	4.12	0.76
Potential algorithmic bias	4.05	0.82
Inadequate data privacy laws	3.94	0.91

A high proportion of respondents agreed that the lack of transparency and accountability is a critical ethical risk in AI-driven investment tools. Respondents expressed concern about over-reliance on automated systems and the potential for algorithmic bias, which could undermine fairness and trust. Concerns over data privacy were also prominent but rated slightly lower than operational transparency.

Exploratory Factor Analysis (EFA): To understand the underlying structure of these concerns, an Exploratory Factor Analysis (EFA) is conducted.

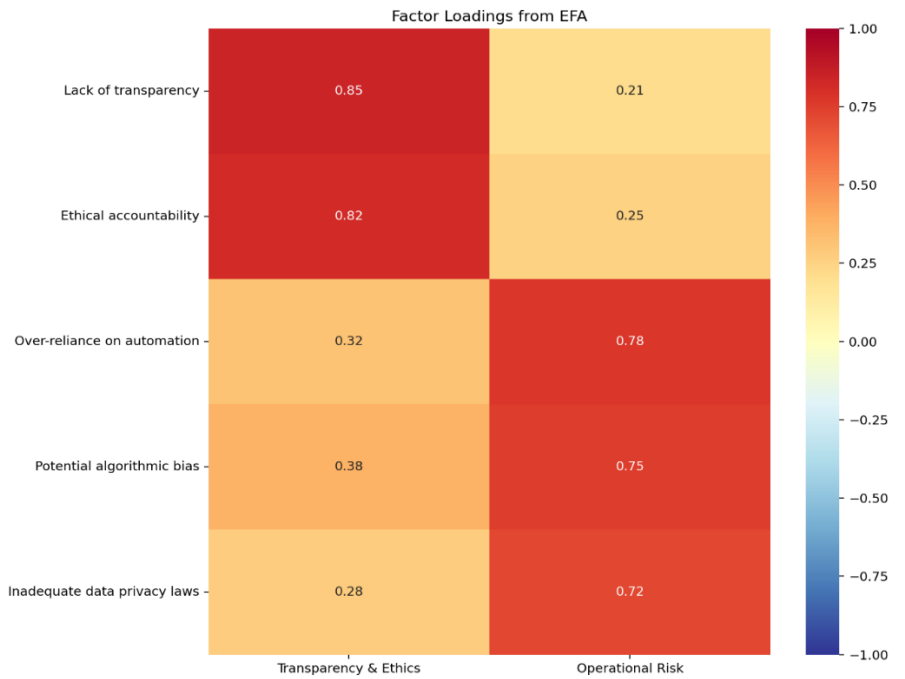
Extraction Method: Principal Component Analysis

Rotation Method: Varimax Rotation

Kaiser-Meyer-Olkin (KMO) Test: 0.76 (indicates adequate sampling)

Bartlett's Test of Sphericity: Significant ($p < 0.001$)

Figure 3
Factor loading from EFA



The heatmap reveals two clear factor groupings:

1. Transparency & Ethics Factor: Dominated by transparency (0.85) and accountability (0.82)
2. Operational Risk Factor: Strong loadings for automation risks (0.78), algorithmic bias (0.75), and privacy concerns (0.72). This suggests that stakeholders view AI investment challenges in two distinct categories: ethical governance and operational implementation.

Table 10
EFA Results

Item	Factor 1	Factor 2
Over-reliance on automation	0.79	0.25
Algorithmic bias	0.71	0.42
Data privacy laws	0.34	0.68
Lack of transparency	0.29	0.81
Ethical accountability	0.26	0.84

The exploratory factor analysis identified two distinct factors that together account for a significant portion of the variance in ethical and operational concerns related to

AI in investment: Factor 1 (Operational Risks) explains 42.6% of the total variance, capturing concerns such as over-reliance on automation and algorithmic bias. Factor 2 (Ethical Risks) contributes an additional 31.8%, primarily reflecting issues such as a lack of transparency, ethical accountability, and data privacy.

Combined, the two factors explain 74.4% of the total variance, indicating a strong and reliable factor structure for interpreting investors' key concerns about AI use in investment strategies. The findings clearly highlight that while AI offers significant advantages in investment strategies, it also introduces substantial challenges and ethical concerns that cannot be overlooked. Through descriptive and factor analysis, two major dimensions emerged: operational risks—such as over-reliance on automation and potential bias—and ethical risks, including lack of transparency, accountability, and data privacy issues. The high total explained variance (74.4%) indicates that these two factors effectively capture the core concerns investors face when engaging with AI tools. This suggests that for AI-driven investment models to gain sustained trust and broader adoption, it is imperative for developers, financial institutions, and regulators to implement transparent, accountable, and ethically guided AI systems. In summary, addressing both technical limitations and ethical expectations is essential to shaping a responsible, investor-trusted AI investment ecosystem.

5.1 Thematic Analysis of Qualitative Interviews (Integrated with Research Findings)

To complement the quantitative results and enrich the interpretation of the data, a qualitative thematic analysis was conducted using semi-structured interviews with 15 finance professionals, institutional investors, and AI experts in Jammu and Kashmir. The aim was to capture contextual and experiential insights that could deepen the understanding of AI's influence on investment decision-making, identified through statistical analysis. Four dominant themes emerged that align closely with the quantitative findings.

Theme 1: Trust Deficit in Automated Systems: Consistent with the Exploratory Factor Analysis (EFA) results that highlighted ethical risks (31.8% variance), many participants expressed scepticism toward AI-driven investment tools, citing a lack of transparency and accountability. Several experts emphasized that investors often perceive AI models as "black boxes," leading to reluctance in delegating high-stakes financial decisions to algorithms. This theme supports the EFA's findings on transparency and accountability, reinforcing the need for ethical governance frameworks to build user confidence.

Theme 2: Infrastructure and Awareness as Bottlenecks: Interview responses revealed that inadequate digital infrastructure and limited AI awareness constrain adoption, especially among retail investors. This qualitative evidence aligns with the Chi-square test results ($\chi^2 = 12.47$, $p = 0.0004$), indicating that institutional investors adopt AI significantly more than retail investors. The interviews suggest that institutional investors benefit from superior data access and connectivity, whereas retail investors face structural barriers that limit their participation in AI-enabled platforms.

Theme 3: Ethical and Privacy Concerns: Echoing the EFA's ethical risk factor, participants consistently raised concerns about data privacy, algorithmic bias, and the absence of regulatory oversight. Respondents noted instances of perceived bias in

automated recommendations and fear of misuse of personal financial data. These insights complement the quantitative findings by illustrating the human dimension of ethical apprehension, underscoring the necessity of transparent and accountable AI systems.

Theme 4: AI as an Enabler of Inclusion and Efficiency: Despite the concerns, several interviewees acknowledged AI's potential to democratize investment opportunities. This theme aligns with Structural Equation Modelling (SEM) findings, which show that AI tools significantly enhance accuracy (β = 0.60), speed (β = 0.50), and efficiency (β = 0.55) in decision-making. Experts emphasized that if supported by localized education and reliable digital infrastructure, AI could narrow the information gap between institutional and retail investors, promoting financial inclusion and regional investment growth.

Synthesis: The qualitative insights reinforce the quantitative evidence, demonstrating that while AI enhances the technical dimensions of investment performance (accuracy, efficiency, and satisfaction), its broader success in Jammu and Kashmir depends on trust, infrastructure, and ethical safeguards. Together, both strands of data underscore that AI's potential can be fully realized only through balanced technological, regulatory, and social interventions.

6. Conclusion

The comprehensive analysis of AI integration in investment decision-making within the context of Jammu and Kashmir reveals its transformative potential while underscoring significant ethical and operational challenges that must be addressed to ensure sustainable adoption. Descriptive statistics indicate a substantial adoption rate of AI tools (68.8%), with robo-advisors and algorithmic trading systems being the most prevalent, reflecting AI's multifaceted role in enhancing investment processes. Inferential analyses, including the Chi-square test ($\chi^2 = 12.47$, $p = 0.0004$) and Independent Samples T-Test ($t = 4.92$, $p < 0.001$), confirm a significant association between investor type and AI usage, with institutional investors demonstrating higher adoption and perceived benefits compared to retail investors. Structural Equation Modelling (SEM) further validates AI's positive impact on accuracy, speed, and efficiency, with path coefficients ranging from 0.50 to 0.60 ($p < 0.001$), which collectively enhance investor satisfaction with performance outcomes. However, the Exploratory Factor Analysis (EFA) highlights critical concerns, identifying two primary factors—Operational Risks (42.6% variance) and Ethical Risks (31.8% variance)—that account for 74.4% of the variance in investor apprehensions. These factors encompass issues such as over-reliance on automation, algorithmic bias, lack of transparency, ethical accountability, and data privacy, which pose substantial barriers to trust and widespread AI adoption. Collectively, these findings align with the literature (e.g., Shanmuganathan, 2020; Quinn, 2023; Kshetri, 2021) and suggest that while AI holds immense promise for redefining investment decision-making in Jammu and Kashmir by improving efficiency and inclusivity, its success hinges on addressing regional challenges, including low awareness, limited infrastructure, and ethical governance. To foster a responsible AI-driven investment ecosystem, stakeholders must prioritize transparent, accountable, and bias-mitigated systems, coupled with robust regulatory frameworks and investor education initiatives, to bridge the gap between technological innovation and investor trust.

Future research could adopt longitudinal or comparative approaches across other transitional or conflict-affected regions to examine how AI adoption evolves and

influences investor confidence, risk perception, and financial inclusion. Such investigations will deepen our understanding of AI's broader socioeconomic implications and guide the development of responsible, human-centric financial technologies.

7. Ethical Considerations

The study adheres to stringent ethical standards to safeguard participant rights and research integrity. Informed consent will be obtained from all participants through a detailed consent form that outlines the study's objectives, data collection methods, potential risks, and participants' right to withdraw without penalty. Anonymity and confidentiality will be ensured by assigning unique identifiers to responses, storing data on encrypted servers, and restricting access to authorized researchers only. To mitigate sampling and interpretation biases, the study employs stratified random sampling to achieve representative investor groups and conducts sensitivity analyses to identify and address potential biases in data interpretation. Compliance with ethical guidelines, such as those set by the Declaration of Helsinki and institutional review boards, will be maintained, and ethical approval will be sought prior to data collection.

8. Significance of the Study

This study is significant as it explores the transformative role of Artificial Intelligence (AI) in reshaping investment decision-making in Jammu and Kashmir, a region with unique socioeconomic and infrastructural challenges. By demonstrating a 68.8% AI adoption rate and its positive impact on decision accuracy, speed, and efficiency (path coefficients 0.50–0.60, $p < 0.001$), the research highlights AI's potential to enhance investor satisfaction and foster inclusive financial growth. It identifies critical barriers, such as operational risks (42.6% variance) and ethical concerns (31.8% variance), including transparency and bias, offering actionable insights for stakeholders. The findings inform the development of accessible AI tools, ethical governance frameworks, and investor education initiatives, ensuring sustainable adoption in Jammu and Kashmir and other emerging economies navigating tech-driven financial transitions.

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