



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

IJIRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 13, Issue 9, September 2024

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 8.524

9940 572 462

6381 907 438

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www.ijirset.com

Does Generative AI Hold the Potential to Change Individual Investing?

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ABSTRACT: This research study has explored the effect of generative AI on the individual investment that will examine the potential to revolutionize investment mechanisms, risk management and portfolio optimization. Generative AI delivers advanced data analysis, customer recommendations and real time adaptation to enhance decision making of investors and market efficiency. However, it also delivers challenges that include ethical concerns, potential bias and regulatory issues. this research study has examined the benefits of artificial intelligence to democratise financial tools that will also address the risk of market disruption in the market and evolving contribution of financial advisors. The insights highlighted the need for a balanced approach to improve the potential of AI while protecting investors' interests.

KEYWORDS: Generative AI, Individual Investing, Risk Management

I. INTRODUCTION

The first development of generative AI has a significant impact on individual investment that offers new scope and challenges. Conventionally investment decisions have been dependent on human knowledge, historical data and developed financial models (Ooi et al., 2023). Hence, generative AI with ability to create significant insights and strategies has presented a transformative shift in the ways through which individuals can approach investment. This technology has enabled the demonstration of huge amounts of data in real time that provides customers investment advice and structured risk assessment that are also accessible earlier only to the institutional investors. The democratising accessibility to the advanced financial tools generative AI has a potential to improve individual investors with excellent decision-making capabilities (Chui et al., 2023). In addition to this AI based simulations of complicated market scenarios can lead into authentic predictions and investment strategies. Despite these potential developments there are concerns regarding accuracy, transparency and ethical elements depending on AI generated data. The benefit for using generative AI is to disrupt traditional investing practices that raises questions about the long-term impact on the market dynamics and behaviour of the investor. This paper has aimed to explore whether generative AI has the potential to fundamentally change individual investment that also addresses opportunities and company's technological development.

II. RATIONALE AND OBJECTIVE

Generative AI has been effective to influence different sectors and its potential in the individual investment field is both beneficial and disruptive. With the ability of AI, it can use data sets and generate personalized investment strategies. It has credibility to democratise structured financial tools and conventional resources for institutional investors (Dahal, 2023). The understanding of the ways through which generating AI can structure individual investing is important for both invested and financial establishments. This study has examined the significant impact of generative AI on investment making process that will offer insights into revolutionizing individual finance and widening financial markets.

Objectives:

1. To analyze the ability of generative AI for creating individual investment strategies for personal investors
2. To evaluate the promising benefits and risk in association with the integration of generative AI into personal investing practices.
3. To explore wider implication of Generative AI on the market dynamics and conventional investment scenario basically with a focus on the impact of industrial behaviour and decision-making process

These objectives focus on providing a comprehensive understanding of transforming generative AI into investment

strategies to guide both the investors and industry stakeholders to navigate the emerging technology.

III. METHODOLOGY

The study has applied secondary retirement as an approach for investigating the potential element of generative AI to transform into personal investing. Secondary data includes academic research industry reports and financial publications that will be retrieved for providing a comprehensive overview of the current state of generative AI and their applications in the financial sector (Candelon et al., 2023). The analysis will emphasize on examining the current literature on AI based investment tools, analysing case studies of an integration in personal investing and examination market reports on the application of a technology by retail investors. In addition to this, data from credible sources like financial institutions, AI research organisations and regulatory institutions will be optimised to understand the wider implication of AI on investment practices (Huang et al., 2024). This secondary data will be crucially analysed for identifying trends, benefits, risks and challenges that are associated with generative AI in individual finance. With the synthesizing findings from a diverse range of processes the study has been to provide evidence of understanding of generative AI invention and individual investing. The application of secondary data will allow a broader analysis of the topic that will also highlight emerging trends and data in the first evolving field of AI driven finance.

IV. LITERATURE REVIEW

The Evolution of Generative AI in Finance:

As stated by Chuma and De Oliveira (2023), Generative AI is the section of artificial intelligence that creates new data patterns from the current information that has become an essential element in the financial sector. Primarily it is developed for applications like natural language processing and image retrieving. However, its relevance in finance has been increasingly identified. Market rate was valued around 9.9 billion dollars in 2020, which is projected to replace growth at a compound yearly growth rate of CAGR 28.6% from 2020- 2030 that indicated heavy expansion and investment in AI technologies (Wach et al., 2023).

Generative AI has made a notable impact in different areas of finance. For example, in algorithmic trading, AI algorithms have the capability to process and analyse data and unprecedented speed. The increasing frequency trading that depends heavily on algorithms is responsible for more than 60% of the US equity trading volume in 2021 (Beerbaum, 2023). These algorithms adapt into real time market conditions that will provide training strategies that make traditional methods uncomfortable.

Generative AI is transformative in portfolio management. AI based platforms are expected to manage around 20% of the international assets and their management by 2030 (Eisfeldt et al., 2023). This platform uses historical data and real time market information for generating individual investment models. The application of AI in portfolio management has shown an initial improvement in investment performance where AI based portfolios have outperformed traditional portfolios by 2.5% yearly over half a decade.

Detection of fraud is enhanced by generative AI. Financial organisations are expected to save around 10 billion dollars early by applying AI for fraud detection and prevention. AI systems can examine patterns and anomalies in transaction data with greater accuracy than human methods that will reduce the occurrence of fraud and focus on security enhancement.

Moreover, the increasing rate of Generative AI in finance represents a big shift towards adaptive data-based approaches with the growing application trading portfolio management and fraud detection that highlighted the role as the key driver of innovation in the financial industry (Kalia, 2023).

Impact on Individual Investor Behavior:

As suggested by Giannini (2023), Generative AI is changing individual investor behaviour by moving the dependency from conventional methods to advance database tools. Primarily, individual industries have relied on financial advisors, market trends and individual intuition to guide their investment choices. With the development of generative AI this approach is improving. AI based investment platforms are becoming much more prominent by offering individual insights that have been witnessed to improve investor confidence. Surveys indicated that around 45% of the individuals use this platform to report increasing levels of confidence in their investment decisions in comparison to

those depending on traditional methods.

Generative AI models developed by AI institutions can process and examine extensive data sets to identify integrated patterns in stimulating different market scenarios with promising precision. For example, AI systems can examine millions of data points for a second that will exceed far from human capacity. This capability will allow investors to explore and examine numerous investment strategies to enhance decision making (Doshi and Hauser, 2024). Moreover, AI platforms have demonstrated the capability to minimise emotional decision making that is a common issue for investors by around 30%. This minimization in the emotional paradigm, helps people to adhere to practical data-based strategies.

The adaptability of AI has another benefit as the systems are a continuous learning mechanism for new data and market changes provided by upgraded recommendations to reflect on the evolving financial goals of investors (Candelon et al., 2023). However, there are concerns regarding the over dependence on AI tools. 72% of the users' express concerns about the dependency of human oversight in AI base in the AI-generated investment strategies that highlighted need for balanced approach that integrate both human and AI judgement.

Therefore, generative AI is restructuring personal investing by delivering advanced custom tools to enter decision making while presenting concerns related to the over-dependency need for human oversight (Jo, 2023).

Generative AI in Risk Management and Portfolio Optimization:

As mentioned by Che et al. (2024), Revolutionizing generative AI is managing risks and portfolio optimization to offer dynamic approaches in comparison to conventional methods. Conventional strategies rely on historical data and fixed risk models that are not responsible for unexpected market conditions. Generative AI develops this process by formulating and stimulating a broader range of potential market scenarios that improves the ability to forecast and solve the risk. It has been estimated that AI based risk management can minimize portfolio approximately 25% because of advanced predictive analysis.

Generative AI improves by examining complicated and huge data sets to generate optimal asset allocation strategies recognised to personal and financial goals in portfolio optimization. For example, portfolios managed with AI-driven models have demonstrated average yearly outperformance of 2.5% over conventional portfolios on the basis of comprehensive analysis over half a decade (Harreis et al., 2023). This extensive performance is characterized by the ability of AI for detecting and exploiting market ineffectiveness that can go unnoticed by managers.

Generative AI has offered important advantages based on responsiveness. Unlike conventional methods, this can involve reviews and adjustments where AI systems continuously scrutinise and adapt into real time market alterations. The capability has ensured that portfolios make alignment with recent market situations and investor elements that has provided a degree of agility that conventional approaches cannot work.

Irrespective of these advancements, the AI integration into managing risks and optimising portfolio present challenges such as difficulty in ensuring transparency and interpretability of AI models that are important to comprehend and trust AI driven solutions. Generative AI can offer substantial benefits to manage risk and optimising portfolio and address these challenges which are important to maximize efficiency and reliability (Noy and Zhang, 2023).

Ethical and Regulatory Considerations:

As stated by Kanbach et al. (2024), with Generative AI becoming integrated into personal investment, ethical and regulatory challenges are improving. The autonomous nature of AI is increasing investment strategies to raise critical questions regarding transparency, responsibility and fairness. Ethical concerns increase mainly from potential biases that are embedded in the AI system. If the data is applied to shape this model that includes historical information can be reflected in the suggestions generated potential reading into discriminatory results. For example, biases in data training could result in favouring AI models about certain investment scope over others that can professionally impact certain investor groups.

Transparency is a major concern. Generative AI models can operate as Black boxes that can make it challenging for understanding formulation of decisions. The lack of clarity can put a barrier to the ability of investors associated with AI based strategies which lead to potential degradation of trust in these technologies (Chen et al., 2023). For instance, a

recent service has found that around 60% of investors are concerned regarding their lack of complete understanding and the ways through which algorithms can generate their recommendations.

In relevance to these challenges regulatory bodies are commencing the frameworks for addressing ethical and regulatory implications of AI (Soni, 2023). The European Union AI act introduced in 2021 has been a significant step in the direction. The act has a risk mitigation approach to regulate AI classified systems by potential impact and a strict supervision on high-risk application. Regulatory frameworks can aim towards ensuring technologies which are used properly to encourage innovation.

Therefore, the navigation and the ethical landscape of generative AI is making investment to require a balanced approach so that investor interest can be safeguarded with technological advancement (Sabherwal and Grover, 2024). The ensuring of accountability biases and enhancement of transparency are important to build trust and efficiently integrate into financial practices.

Future Prospects and Challenges:

As mentioned by Riemer et al. (2023), the future of generative AI in personal investment is regulated by both essential opportunities and notable challenges. With the advancement of AI Technology, the ability to democratise accelerated to sophisticated financial tools is expanding. Forecast has suggested that by 2030 AI based investment platforms could manage 20% of the international individual investment portfolios. This represents an emerging shift enabling investors to use developed strategies that are previously saved for institution members only.

The potential of generative AI to deal with the financial parameters is promising. By giving retail investors with data driven insights and individual strategies can democratize investment knowledge. For example, an AI can provide developed analytics and predictions that were previously only available with expensive financial resources. The democratization can make improvement in investment decisions by making it a diverse market participant base to enhance whole market efficiency (Norbäck and Persson, 2024). Recently AI based platform investment decision making efficiency has been increased by around 40% in comparison to conventional methods.

Henceforth, the massive adaptation of AI in investment has brought challenges. The increasing concern is the risk of market disruption that is caused by increasing use of similar AI models that can lead into trading patterns and increasing market volatility. These disruptions could increase market swings and form new formulas of systemic risks. In addition to this, the increasing dependency on AI base strategies can raise questions about the upcoming role of conventional financial advice.

A Generative AI can offer significant opportunities to enhance individual investment that can also present challenges that should be carefully managed. The balancing of the benefits of AI based insights with the potential risks can be continued to the human expertise that can be crucial for future investment (Cook et al., 2024).

V. CONCLUSION

Generative AI can hold onto transformative potential for a personal investment that offers development tools to enhance decision making and managing risk. The ability to analyse huge data sets can generate personalized investment strategies to adapt into real time market changes that marks a significant shift from traditional investment methods. The technology helps democratise the accessibility to structured financial tools potentially allowing retail investors to compete effectively with institutional players which can lead into an informed and diverse market.

Moreover, the integration of Generative AI can also present notable challenges. There are ethical concerns like risk of bias in AI models and absence of transparency in decision making processes can be addressed to make sure fair and responsible optimisation of technology. In addition to this, the potential for disruptions in the market and increasing role of financial advisors can highlight the need for proper management and adaptation.

With the continuous evolving of IT Technology, it is important for the stakeholders to balance the benefits of AI-driven insights with the need of regulatory oversight and human judgement. The addressing of these challenges and fostering a responsible approach to AI integration can lead the financial industry to have full potential of generative AI while they are mitigating risks and making sure of promising outcomes for all the investors.

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