

## AN EMPIRICAL ANALYSIS OF AI-DRIVEN FINANCIAL DECISION-MAKING AMONG GENERATION Z

\* Ms. Kajal Chheda

\* KES' Shroff College of Arts and Commerce (Autonomous)

### Abstract:

*This study examines the influence of artificial intelligence (AI) on financial decision-making among Generation Z, defined as individuals born between 1997 and 2012. As a digitally native cohort, Generation Z demonstrates high technological adaptability and early adoption of financial technologies. The study primarily adopts a quantitative research approach supported by existing literature to analyze usage patterns, adoption drivers, perceived benefits, risks, and trust levels associated with AI-driven financial tools.*

*Primary data were collected through a structured survey administered to 178 Generation Z respondents. The findings reveal widespread awareness and moderate usage of AI-based applications such as budgeting tools, investment platforms, and robo-advisors. A majority of respondents reported improvements in financial organization and decision-making efficiency. However, concerns regarding algorithmic bias, lack of transparency, inaccurate recommendations, and data privacy significantly affect trust levels.*

*The study highlights a growing reliance on AI in personal finance while emphasizing the importance of enhanced financial literacy, ethical AI practices, and robust regulatory frameworks to ensure responsible and sustainable adoption of AI-driven financial tools among Generation Z.*

**Keywords:** Generation Z, AI-driven financial tools, financial behavior, risk perception, financial literacy

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### Introduction:

Artificial intelligence (AI) is rapidly transforming financial decision-making by reshaping how individuals analyze data, predict market trends, and manage investments. AI-driven technologies enable automation, real-time insights, and personalized financial recommendations, making financial services more accessible and efficient.

Among various demographic groups, Generation Z stands out due to its digital fluency and increasing engagement with financial markets. Having grown up in a technology-driven environment, this generation is more inclined to adopt AI-powered financial tools such as robo-advisors, smart budgeting applications, and algorithm-based investment platforms. These tools simplify complex financial decisions and support informed financial planning.

The integration of AI into finance offers several advantages, including improved accuracy in decision-making, reduced human bias, and enhanced financial awareness. However, the growing reliance on AI also raises

concerns related to data privacy, algorithmic bias, lack of transparency, and overdependence on automated systems. Ethical and regulatory challenges further influence public trust in AI-driven financial services.

Despite increasing adoption, empirical evidence on how Generation Z perceives and trusts AI-based financial tools remains limited, particularly in emerging economies. Most existing studies emphasize technological efficiency rather than behavioral outcomes. This study seeks to address this research gap by examining Generation Z's reliance on AI-driven financial tools, factors influencing adoption, perceived benefits, and associated risks. The findings aim to contribute to a balanced understanding of AI's role in shaping the financial behavior of young consumers.

#### **Review of Literature:**

**Khandelwal & Suryawanshi (2024)** in "Impact of Artificial Intelligence on Financial Decision-Making" examine the impact of AI on financial decision-making with a focus on major areas such as risk analysis, algorithmic trading, and customized financial recommendations. They assert that AI facilitates the speed, adaptability, and creativity of financial operations. Through the utilization of AI technologies, financial organizations can provide more customized solutions, maximizing investment techniques and financial planning. The conceptual framework of the authors implies that AI can democratize and revolutionize financial decision-making.

**Harris (2024)** in "The Future of AI in Personal Finance: Trends and Challenges" foresees that with further developments in AI technologies, they will provide increasingly more personalized and advanced financial planning tools. The tools will help users define long-term financial objectives and monitor progress through predictive analytics. Harris points out that increased capability of AI to mimic various financial scenarios will make it possible for Generation Z to enjoy more available, precise, and tailored financial planning.

**Kapoor & Kumar (2022)** in "Understanding Generation Z's Relationship with Finance and Technology" analyze Generation Z's financial behaviors and preferences. According to their study, Gen Z is extremely open to using digital financial tools, such as AI-powered apps. They stress that Gen Z's familiarity with technology positions them as the best candidates to use AI-powered financial products. They also point out challenges in making these tools accessible, secure, and transparent.

**Gupta (2021)** in "Impact of Artificial Intelligence on Financial Decision-Making: A Qualitative Study" examines the ethical implications of AI in finance, focusing on algorithmic transparency, data privacy, and regulatory compliance. Using interviews and case studies, Gupta discusses AI applications in risk management and fraud detection and advocates for responsible, transparent use of AI in financial services.

**PwC (2021)** in "The Future of Finance: AI, Blockchain, and the Changing Financial Landscape" addresses how AI, blockchain, and other emerging technologies are converging to redefine the financial services sector. The report underscores that AI's application in financial decision-making is increasing, especially among young consumers such as Generation Z, who prioritize efficiency, transparency, and personalization in their financial experience. The research also examines the regulatory issues related to the growing application of AI in financial services.

**Objectives:**

1. To examine the extent of reliance on AI-driven financial tools among Generation Z.
2. To identify key factors influencing adoption and usage of AI in personal finance.
3. To analyze perceived benefits, risks, and regulatory concerns related to AI-driven financial decision-making.

**Research Methodology:**

**Research Design:**

The research used a descriptive correlational design with structured questionnaires to collect quantitative information on the use of AI-powered financial tools among Generation Z. The main objective was to measure the prevalence of AI tool usage, determine factors driving adoption, and evaluate the influence of AI on financial behavior. Variables measured included frequency of AI tool use, confidence in financial decision-making, and perceived financial outcomes.

**Sample and Population:**

The study population comprised Generation Z members (born between 1997 and 2012) who use AI-based financial instruments. 178 respondents were surveyed, representing a diverse cross-section of Generation Z across gender and geographic locations. The survey collected information on awareness, usage of AI tools, impacting factors, challenges, and perceptions about the future of AI in financial decision-making.

**Data Collection Methods:**

Primary data were collected using a structured online questionnaire developed based on existing literature. The survey included close-ended questions measured using nominal and Likert-scale responses. It captured information related to awareness, frequency of usage, trust levels, perceived benefits, and concerns regarding data privacy and algorithmic bias. Participation was voluntary, and confidentiality was maintained throughout the study.

**Data Analysis and Interpretation:**

The analysis of responses from 178 Generation Z participants provides meaningful insights into their awareness, adoption patterns, trust levels, and perceived impact of AI-driven financial tools. The findings indicate that a substantial proportion of respondents are familiar with AI-based financial applications, reflecting growing exposure to financial technologies among younger users. However, a notable segment remains unfamiliar with such tools, underscoring the continued need for targeted financial and technological education despite Generation Z's reputation for digital fluency.

In terms of usage patterns, AI-driven financial tools are predominantly adopted for routine financial management activities such as budgeting, saving, and basic investment planning, rather than advanced investment advisory or algorithmic trading functions. This preference suggests that Generation Z users favor low-risk, practical applications where AI functions as a supportive aid rather than an autonomous decision-maker. Although awareness levels are relatively high, frequent and daily usage remains limited, indicating that AI-driven tools are used intermittently and serve as supplementary resources rather than primary instruments for financial decision-making.

Respondents' comfort levels with AI-based financial tools largely reflect neutrality, with a moderate proportion expressing comfort and only a small fraction reporting discomfort. This neutral stance suggests cautious acceptance, where users recognize the efficiency and convenience of AI while remaining uncertain about its reliability. A similar pattern emerges in trust toward AI-generated financial recommendations, with most respondents neither fully trusting nor completely distrusting these systems. Such cautious trust reflects concerns related to algorithmic transparency, explainability, and the accuracy of automated recommendations.

Regarding perceived impact, a majority of respondents reported that AI-driven tools have somewhat improved their investment decisions and overall financial management. However, a significant minority experienced no noticeable improvement or occasional confusion, highlighting variability in user experiences. These mixed outcomes suggest that while AI enhances financial efficiency for many users, its effectiveness is not uniform across all individuals.

Investment-related activities represent the most common application of AI-driven financial tools, followed by saving and budgeting, while areas such as debt management and credit monitoring exhibit lower adoption. This indicates untapped potential for AI-driven innovation in comprehensive personal finance solutions. Adoption decisions are primarily influenced by technological familiarity and ease of use rather than direct financial benefits, emphasizing the importance of intuitive design and user-friendly interfaces.

Privacy concerns emerge as a critical barrier to trust, with many respondents expressing apprehension regarding the security and use of personal financial data. Awareness of algorithmic bias and ethical risks remains moderate, suggesting partial understanding of AI limitations. Additionally, a majority of respondents support stricter regulatory oversight to ensure ethical and transparent AI use. Overall, Generation Z views AI as a promising tool for the future of personal finance, though adoption is characterized by cautious optimism rather than unconditional trust.

#### **Limitations:**

The study has certain limitations. The sample size of 178 respondents may restrict the generalizability of findings beyond digitally active Generation Z users. The reliance on self-reported data introduces the possibility of response bias, while the cross-sectional design captures perceptions at a single point in time. Furthermore, rapid advancements in AI technologies and evolving regulatory environments may influence user perceptions in the future.

#### **Suggestions:**

The study recommends enhancing algorithmic transparency and minimizing bias through responsible AI governance. Strengthening data privacy safeguards and implementing stricter regulatory frameworks can improve user trust. Financial literacy initiatives aimed at educating users about AI functionality, limitations, and ethical considerations are essential. Furthermore, adopting a hybrid financial advisory model that integrates AI-driven insights with human expertise may improve acceptance and effectiveness among Generation Z users.

#### **Conclusion:**

The study concludes that AI-driven financial tools offer significant convenience and efficiency; however,

concerns related to trust, privacy, and algorithmic bias continue to influence user perceptions. While Generation Z increasingly views AI as a potential future of personal finance management, neutrality and skepticism toward AI-generated recommendations remain prevalent. These findings suggest that AI should serve as a complementary tool rather than a substitute for human financial judgment, supported by transparent systems, ethical standards, and robust regulatory oversight.

### Implications of the Study:

The study offers important academic, practical, and policy-level implications by examining the impact of AI-driven financial tools on Generation Z's financial decision-making. Academically, it contributes empirical insights into an under-researched demographic and highlights behavioral aspects such as cautious trust and skepticism toward AI-based recommendations. Practically, the findings suggest that fintech firms must go beyond usability by emphasizing transparency, data security, financial education, and hybrid advisory models. From a policy perspective, the study underscores the need for strong regulatory frameworks to address data privacy, algorithmic bias, and consumer protection, enabling ethical and sustainable adoption of AI in financial services.

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