Trusting the Algorithm: Fintech Literacy of Generation Z Investors in Using Roboadvisors in Indonesia

Netti Siska Nurhayati[1], Tia Yuliawati[2], Nugraha Nugraha[3], Maya Sari[4], Eka Surachman[5]

[1,2,3,4,5] Faculty of Economics and Business Education, Universitas Pendidikan Indonesia, Bandung, Indonesia

nettinurhayati@upi.edu

Abstract. This study aims to examine the level of fintech literacy among Generation Z investors in Indonesia in the context of using roboadvisory platforms. Drawing from the Technology Acceptance Model (TAM) and Diffusion of Innovation (DOI) theory, the research focuses on three dimensions: perceived ease of use, perceived usefulness, and personal innovativeness. A descriptive quantitative approach was employed, involving 183 Gen Z respondents with experience using roboadvisor applications. The findings reveal a high overall level of fintech literacy, with perceived usefulness scoring the highest, followed by perceived ease of use and personal innovativeness. While the results highlight the practicality and user-friendliness of roboadvisors, they also point to a moderate level of hesitation among users in adopting new technologies. These insights contribute to a better understanding of digital investment behavior and offer valuable implications for fintech developers, educators, and policymakers in designing inclusive and adaptive roboadvisor services tailored to the needs of young investors.

Keywords: Generation Z, Roboadvisor, Fintech Literacy, Technology Acceptance Model, Diffusion of Innovation.

1 Introduction

The rise of financial technology (fintech) has fundamentally reshaped how individuals plan, manage, and execute their financial decisions. One of the most significant innovations in this domain is the emergence of roboadvisors, an algorithm-driven investment platforms that offer financial planning services with minimal human intervention. These platforms appeal particularly to Generation Z, a cohort born between 1995 and 2010, who have grown up immersed in mobile technology, internet access and self-service digital tools [1]

Despite being digital natives, Generation Z does not automatically possess sufficient financial literacy, particularly when it comes to automated and long-term investment strategies. Studies have shown that many members of this generation struggle with financial planning and investment decision-making [2]. Roboadvisors with their

© The Author(s) 2026
R. Hurriyati et al. (eds.), *Proceedings of the 10th Global Conference on Business, Management, and Entrepreneurship (GCBME 2025)*, Advances in Economics, Business and Management Research 407,
https://doi.org/10.2991/978-94-6239-819-1_9

simplified interfaces and guided investment features serve as tools to bridge the gap between digital familiarity and financial capability [3].

Understanding the adoption of roboadvisory platforms requires an exploration of behavioral constructs related to technology acceptance. Several previous studies have utilized the Technology Acceptance Model (TAM) to assess individuals' capacity to comprehend and use digital technologies [4][5][6][7][8][9][10][11][12][13][14][15]. Within the TAM framework, two primary constructs, namely perceived ease of use and perceived usefulness are recognized as key determinants of digital technology adoption [16]. Drawing upon these foundations, this study employs the Technology Acceptance Model [16] and Diffusion of Innovation theory [17] to analyze three relevant constructs: perceived ease of use, perceived usefulness, and personal innovativeness. These dimensions provide a comprehensive framework for examining how Gen Z investors interact with and evaluate automated financial tools.

Perceived ease of use refers to the extent to which an individual believes that using a technological system requires minimal effort [16]. In the case of roboadvisors, this construct reflects how intuitive and accessible the platform is for novice investors, thereby lowering barriers to entry into the investment space [18].

Perceived usefulness describes the degree to which users believe that the technology enhances their ability to reach financial goals efficiently [16]. Roboadvisors that provide customized recommendations, diversified portfolios, and automatic rebalancing may be perceived as more valuable than traditional self-directed investing [19].

Personal innovativeness captures an individual's tendency to embrace and experiment with new technologies [17]. In the context of roboadvisors, this reflects the user's openness to relying on algorithmic decision-making rather than manual control, which involves a shift in both mindset and trust [20][21].

In Indonesia, although fintech adoption is growing rapidly, the use of roboadvisory services remains relatively nascent. Compared to other Southeast Asian countries, such as Singapore or Malaysia, public awareness and user trust toward automated investment platforms are still developing. Limited academic research has explored how fintech literacy influences the adoption of roboadvisors among Indonesian Generation Z, particularly in terms of their interaction with AI-driven financial tools.

This research seeks to fill that gap by investigating the fintech literacy of Generation Z investors in Indonesia, focusing specifically on their perceived ease of use, perceived usefulness, and personal innovativeness in using roboadvisory platforms. By doing so, this study aims to offer insights for fintech developers, educators, and policymakers in designing more inclusive, adaptive, and educational roboadvisory systems aligned with Sustainable Development Goals (SDG) 8 and 9, namely promoting inclusive economic growth and fostering innovation and digital infrastructure.

2 Method

This study adopts a quantitative descriptive approach to examine the level of fintech literacy among Generation Z investors in Indonesia in the context of using roboadvisor platforms. The study focuses on measuring three key dimensions of fintech literacy:

perceived ease of use, perceived usefulness, and personal innovativeness. These dimensions are derived from the Technology Acceptance Model (TAM) and the Diffusion of Innovation (DOI) theory, which are widely used to assess individual acceptance and usage of financial technologies.

The target population of this research is Generation Z in Indonesia, defined as individuals born between 1995 and 2010 [22], who have experience using roboadvisor investment platforms such as Bibit, Ajaib, Pluang, or Bareksa. The sample was selected using purposive sampling, with criteria that respondents must (1) belong to the Gen Z age group, and (2) have used roboadvisor features for investment. A minimum of 183 respondents were collected to ensure the adequacy of the data for descriptive analysis.

Primary data were collected using a structured questionnaire distributed online through Google Forms. The questionnaire consists of closed-ended statements measuring the three dimensions of fintech literacy, adapted to the context of roboadvisor use. Each item was measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 1. Questionnaire Items

Variable	Dimensions	Indicators	Scale
Fintech Literacy (X)	Perceived Ease of Use (X1)	X1.1 Easy to learn and understand X1.2 Easy to use X1.3 Easy to become skilled	Ordinal
	Perceived Usefulness (X2)	X2.1 Helps achieve investment goals X2.2 Simplifies the investment process X2.3 Efficient and practical to use	Ordinal
	Personal Innovativeness (X3)	X3.1 Enjoys learning new financial technologies X3.2 Likes trying new investment platforms X3.3 Tends to be an early adopter X3.4 Confident in using automated tools	Ordinal

The data collected were analyzed using descriptive statistical methods to determine the average scores (mean) for each indicator and dimension. This analysis was conducted using Microsoft Excel and SPSS (version 26). The results provide an overview of how Generation Z investors perceive roboadvisors in terms of ease of use, usefulness, and their readiness to adopt new technology.

3 Results and Discussion

3.1 Results

The table 2 presents the descriptive analysis of fintech literacy among Generation Z investors in Indonesia based on three dimensions: perceived ease of use, perceived usefulness, and personal innovativeness.

Table 2. Descriptive Statistics of Fintech Literacy

No.	Variable / Dimensions / Indicators	Mean
	Total Fintech Literacy	**4,22**
A	**Perceived Ease of Use (X1)**	**4,27**
	X1.1 Easy to learn and understand	4,25
	X1.2 Easy to use	4,39
	X1.3 Easy to become skilled	4,16
B	**Perceived Usefulness (X2)**	**4,38**
	X2.1 Helps achieve investment goals	4,34
	X2.2 Simplifies the investment process	4,39
	X2.3 Efficient and practical to use	4,40
C	**Personal Innovativeness (X3)**	**4,06**
	X3.1 Enjoys learning new financial technologies	4,21
	X3.2 Likes trying new investment platforms	4,21
	X3.3 Tends to be an early adopter	3,79
	X3.4 Confident in using automated tools	4,02

The descriptive results indicate that Generation Z investors in Indonesia have a high level of fintech literacy in using roboadvisors, with an overall average score of 4.22 on a 5-point Likert scale. Among the three dimensions, perceived usefulness recorded the highest mean (4.38), followed by perceived ease of use (4.27), and personal innovativeness (4.06).

Within the dimension of perceived usefulness, the indicator "efficient and practical to use" scored the highest (4.40), suggesting that users highly value the time-saving and convenience aspects of roboadvisor platforms. In the perceived ease of use dimension, "easy to use" scored the highest (4.39), showing that the interface and user experience are generally accessible to Gen Z users.

Meanwhile, personal innovativeness scored slightly lower, particularly on the indicator "tends to be an early adopter" (3.79), indicating some hesitance among users in adopting new investment technologies, despite their overall interest and confidence in using automation tools.

These findings highlight the importance of maintaining simplicity and functional benefits in roboadvisor platforms, while also strengthening users' openness to innovation through targeted education, personalized features, and gamified onboarding experiences.

3.2 Discussion

The findings of this study indicate that Generation Z investors in Indonesia exhibit a relatively high level of fintech literacy in the use of roboadvisor platforms. Among the three measured dimensions, perceived usefulness was rated the highest, followed closely by perceived ease of use, while personal innovativeness scored slightly lower.

These results provide several insights into the behavior and perceptions of young investors toward algorithm-based investment tools.

The high score in perceived usefulness suggests that Generation Z recognizes the practical benefits of roboadvisors in simplifying investment processes, supporting financial goals, and improving convenience. This finding aligns with prior research indicating that ease, speed, and automated diversification are key reasons why users adopt roboadvisory services [19]. Roboadvisors allow users to avoid the complexity of traditional investment by offering automated portfolio allocation and rebalancing, which is particularly attractive to new or passive investors [3].

Perceived ease of use also received a strong average score, reflecting that most respondents find roboadvisor platforms intuitive and user-friendly. This supports the Technology Acceptance Model (TAM), which posits that ease of interaction with a system is a major determinant of technology acceptance [16]. Prior studies have emphasized the importance of user interface design, app layout, and step-by-step onboarding in increasing users' comfort with fintech platforms [18].

However, personal innovativeness showed the lowest mean among the three dimensions. In particular, the indicator "tends to be an early adopter" received the lowest score (3.79), indicating that even though Gen Z is generally tech-oriented, not all are proactive in trying new investment technologies. This suggests a gap between digital fluency and investment readiness, where users may feel cautious in trusting algorithms to handle financial decisions, especially those involving risk and return trade-offs [20][23].

These findings imply that while Gen Z investors in Indonesia are open to using roboadvisors, there remains a need to foster greater confidence and curiosity in automated financial tools. Financial literacy campaigns that focus not only on technical knowledge but also on developing trust in digital automation and AI-driven recommendations could play a vital role. In addition, roboadvisor providers could enhance personalization and transparency features, such as risk explanations, goal-based simulations, and chatbot guidance to further engage younger users [23][24][25].

Overall, the study supports the relevance of fintech literacy, understood through the TAM and DOI frameworks as a useful construct to assess the preparedness of Gen Z to engage with emerging financial technologies like roboadvisors. It also emphasizes the importance of combining technological usability with psychological acceptance to support more inclusive investment behaviors in the digital age.

4 Conclusion

Based on the findings, Generation Z investors in Indonesia demonstrate a high level of fintech literacy in using roboadvisors, especially in terms of perceived usefulness and ease of use. This indicates that roboadvisors are generally seen as practical, accessible tools for managing investments. However, the lower score in personal innovativeness suggests that not all Gen Z users are proactive in adopting new financial technologies, highlighting a potential gap between digital fluency and willingness to trust automated investment systems.

These results imply that while young investors are comfortable using roboadvisors, additional efforts are needed to strengthen their confidence and curiosity toward innovation in digital finance. Developers and educators should focus on enhancing user trust, simplifying complex features, and promoting financial education that supports algorithm-assisted decision-making. This study offers valuable insight for improving roboadvisor engagement and advancing inclusive fintech strategies for Indonesia's next generation of investors.

5 Acknowledgment

The authors would like to express their sincere gratitude to all parties who have provided valuable input and support throughout the research process and the preparation of this article. The first author also gratefully acknowledges the financial support provided by the Research and Community Service Institute (LPPM) of Universitas Pendidikan Indonesia.

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