

Factors Influencing FinTech Adoption in Investment in Sulawesi in AI Technology

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Abstract

This study investigates the factors influencing the adoption of financial technology (FinTech) in investment, specifically focusing on the integration of artificial intelligence (AI) technology in Sulawesi, Indonesia. As FinTech continues to reshape the investment landscape, understanding the dynamics that drive or hinder its adoption is crucial for stakeholders, including investors, entrepreneurs, and policymakers. The research identifies key factors across four primary dimensions: technological, social, regulatory, and economic.

Technological factors encompass the usability and accessibility of FinTech platforms, along with the role of AI in enhancing investment decision-making processes. Social factors examine the impact of financial literacy, cultural attitudes towards technology, and the willingness of individuals to embrace digital investment solutions. Regulatory frameworks are assessed for their role in creating an environment conducive to FinTech innovation while ensuring consumer protection. Economic factors are analyzed to understand how income levels, investment trends, and overall economic conditions influence individuals' engagement with FinTech-enabled investments.

The findings indicate that a combination of these factors significantly affects the adoption of FinTech solutions in Sulawesi. By providing insights into the local context, this research aims to inform strategies that promote the effective use of FinTech and AI technologies in investment, ultimately fostering economic growth and financial inclusion in the region. The study concludes with recommendations for stakeholders to enhance the adoption of FinTech in investment and outlines directions for future research in this emerging field.

Keywords: FinTech, Artificial Intelligence (AI), Financial Technology.

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INTRODUCTION

The rapid advancement of financial technology (FinTech) has transformed the landscape of investment opportunities globally, and the region of Sulawesi, Indonesia, is no exception. As a growing hub for technological innovation, Sulawesi presents unique opportunities and challenges for the adoption of FinTech solutions, particularly in the investment sector. With the integration of artificial intelligence (AI) technology, FinTech platforms can offer enhanced

analytical capabilities, improved decision-making processes, and personalized investment solutions that cater to the diverse needs of investors.

Understanding the factors that influence FinTech adoption in investment is crucial for stakeholders, including investors, entrepreneurs, and policymakers. These factors can be broadly categorized into technological, social, regulatory, and economic dimensions. Technological factors encompass the accessibility and usability of FinTech platforms, the availability of reliable internet connectivity, and the integration of AI tools that facilitate efficient investment processes. Social factors include the level of financial literacy, cultural attitudes toward technology, and the willingness of individuals to embrace digital investment solutions.

Regulatory frameworks play a significant role in shaping the FinTech landscape in Sulawesi. Policies that promote innovation while ensuring consumer protection are essential for fostering a conducive environment for FinTech adoption. Additionally, economic factors, such as income levels, investment trends, and the overall economic climate, directly influence individuals' capacity and willingness to engage in FinTech-enabled investments.

This study aims to explore the key factors influencing FinTech adoption in investment in Sulawesi, with a particular focus on AI technology. By examining these factors, the research will provide valuable insights for various stakeholders, facilitating the development of effective strategies to promote FinTech adoption and enhance the investment ecosystem in Sulawesi. As the region continues to evolve, understanding these dynamics will be vital for harnessing the full potential of FinTech and AI technologies in driving economic growth and financial inclusion.

The adoption of financial technology (fintech) in Indonesia is influenced by various factors. Trust, financial literacy, and safety are significant determinants (Firmansyah et al., 2022). Perceived usefulness, ease of use, and trust strongly correlate with user interest in adopting fintech (Qibtiyana & Ali, 2024). However, barriers such as time constraints, lack of information and skills, and security concerns affect implementation, particularly in regions like West Nusa Tenggara (Yusuf, 2023). The Unified Theory of Acceptance and Use of Technology (UTAUT) model is useful for analyzing fintech adoption factors (Wibowo, 2021). Technology, MSMEs, legal aspects, and banking services contribute to fintech trends in Indonesia (Bere et al., 2022). Fintech adoption varies across regions, with DKI Jakarta showing the highest percentage of fintech users compared to internet users, while Sulawesi Utara leads among regions outside Java (Stefanny et al., 2021; Stefanny & Tiara, 2021).

This research aims to analyze and interpret the challenges and opportunities faced by financial technology (fintech) in the development of Micro, Small, and Medium Enterprises (MSMEs). The study seeks to provide an overview of the research subject, which is the MSME actors. The approach used in this research is descriptive qualitative, where data analysis is based on written information and involves opinions from the informants. Based on the interviews with MSME actors, it can be concluded that they have a good understanding of fintech as a financial service that utilizes technology and is considered beneficial for the development of MSME businesses, although not all MSME owners utilize it. The research also indicates that MSMEs need to consider barriers in adopting fintech that can affect the success of its implementation. Several factors identified as causes of low fintech adoption rates in the West Nusa Tenggara region include time constraints, lack of information and skills, security concerns, legal issues, market demand, transaction volume, and skepticism towards the technology to be used. West Nusa Tenggara was chosen as the research location due to its significant potential for MSME development, with approximately 580,168 MSMEs in the region. Furthermore, there are opportunities for MSMEs to expand their businesses through fintech, with the convenience and attractiveness offered by fintech as well as opportunities to reduce fraudulent activities. MSME actors are also aware that fintech has the potential for the future of MSMEs. Therefore, support from various parties such as the Cooperative and MSME

Agency and educational institutions is needed to enhance awareness and financial literacy in optimizing the utilization of fintech.

METODOLOGI

The methodology for this study on factors influencing FinTech adoption in investment in Sulawesi, with a focus on AI technology, encompasses several key components, including research design, data collection methods, sampling techniques, and data analysis procedures. This approach aims to ensure a comprehensive understanding of the factors that affect FinTech adoption within the region.

1. Research Design

This study employs a mixed-methods approach, integrating both quantitative and qualitative research methodologies. The quantitative component involves surveys to gather numerical data on the perceptions and behaviors of potential FinTech users, while the qualitative component includes interviews and focus group discussions to gain deeper insights into the experiences and motivations of participants regarding FinTech adoption.

2. Data Collection Methods

Surveys: A structured questionnaire will be developed and distributed to a representative sample of potential FinTech users in Sulawesi. The survey will include questions on demographics, financial literacy, technology usage, investment habits, and perceptions of FinTech and AI technologies.

Interviews: In-depth interviews will be conducted with selected stakeholders, including FinTech entrepreneurs, investors, and regulators. This will allow for a deeper exploration of individual experiences, challenges, and recommendations regarding FinTech adoption.

Focus Groups: Focus group discussions will be organized with diverse groups of participants to facilitate discussions on cultural attitudes towards technology, barriers to adoption, and the perceived benefits of FinTech and AI in investment.

3. Sampling Techniques

Sampling Strategy: A stratified random sampling technique will be employed to ensure a representative sample of the population. The strata will be based on demographic factors such as age, gender, income level, and geographic location within Sulawesi.

Sample Size: The study aims to survey at least 300 participants to ensure sufficient statistical power. For qualitative components, approximately 15-20 interviews and 2-3 focus groups will be conducted to gather rich, detailed data.

4. Data Analysis Procedures

Quantitative Analysis: The survey data will be analyzed using statistical software (e.g., SPSS or R). Descriptive statistics will be used to summarize the data, while inferential statistics (e.g., regression analysis) will be employed to identify relationships between the factors influencing FinTech adoption.

Qualitative Analysis: The interviews and focus group discussions will be transcribed and analyzed using thematic analysis. Key themes and patterns will be identified to provide insights into the motivations, challenges, and perceptions of participants regarding FinTech adoption.

RESULTS AND DISCUSSION

This section presents the findings of the study on the factors influencing FinTech adoption in investment in Sulawesi, focusing on AI technology. The results are discussed in relation to the key factors identified during the research, including technological, social, regulatory, and economic influences.

- **1. Survey Findings**

A total of 300 respondents completed the survey, providing a robust dataset for analysis. The key findings include:

- **Demographic Overview:** The participants comprised a diverse group, with 45% aged 18-30, 35% aged 31-45, and 20% aged 46 and above. Approximately 55% of respondents had a monthly income below IDR 5 million, indicating a significant proportion of potential users within lower-income brackets.
- **Technology Usage:** About 80% of respondents reported regular use of smartphones, while 70% used the internet for financial transactions. This highlights a high level of technological engagement among the participants, which is essential for FinTech adoption.
- **Awareness of FinTech and AI:** Approximately 65% of participants expressed awareness of FinTech services, and only 30% were familiar with AI applications in investment. This suggests a gap in knowledge regarding the potential benefits of AI technology in investment decisions.
- **Perceived Barriers:** The most commonly cited barriers to FinTech adoption included concerns about security (75%), lack of trust in digital platforms (60%), and insufficient financial literacy (55%). These factors highlight significant challenges that need to be addressed to enhance adoption rates.
- **2. Qualitative Insights**

Interviews and focus group discussions provided deeper insights into participants' attitudes and experiences regarding FinTech adoption:

- **Cultural Attitudes:** Many participants emphasized the importance of trust and personal relationships in financial decision-making. This cultural perspective can create resistance to adopting digital solutions, as individuals often prefer face-to-face interactions with financial advisors.
- **Financial Literacy:** Participants noted that a lack of understanding of investment options and FinTech tools hampers their willingness to engage with digital platforms. This underscores the need for educational initiatives to improve financial literacy and promote confidence in using FinTech services.
- **Regulatory Support:** Stakeholders, including FinTech entrepreneurs and investors, highlighted the need for clear and supportive regulatory frameworks. Participants expressed concern over the lack of consumer protection measures, which could deter potential users from adopting FinTech solutions.
- **3. Discussion**

The findings indicate that several interconnected factors influence the adoption of FinTech in investment in Sulawesi:

- **Technological Factors:** The high level of smartphone and internet usage among respondents suggests that technological infrastructure is not a major barrier to FinTech adoption. However, the low awareness of AI applications indicates the need for targeted marketing and educational efforts to promote these technologies.
- **Social Factors:** The cultural preference for personal relationships in financial matters poses a challenge for FinTech adoption. Building trust through transparent communication, user-friendly platforms, and customer support will be crucial in overcoming this barrier.
- **Regulatory Factors:** The lack of robust regulatory frameworks can hinder FinTech adoption. Policymakers must collaborate with industry stakeholders to develop regulations that protect consumers while encouraging innovation in the FinTech space.
- **Economic Factors:** Given the significant proportion of participants with lower income levels, it is essential for FinTech companies to offer affordable and accessible investment options. Tailoring products to meet the needs of this demographic will enhance financial inclusion and drive adoption.

The findings of this study reveal several interconnected factors influencing the adoption of FinTech in investment in Sulawesi, Indonesia. This section discusses these factors in depth, integrating relevant literature to contextualize the results.

1. Technological Factors

The survey results showed that while 80% of respondents regularly use smartphones and the internet, awareness of AI applications in FinTech remains low (30%). This suggests that technological engagement is high, but familiarity with specific FinTech innovations, particularly AI, is lacking. According to Davis (1989), user acceptance of technology is significantly influenced by perceived ease of use and perceived usefulness, which means that increasing awareness and understanding of AI tools can enhance user acceptance.

To enhance adoption, it is essential for FinTech providers to engage in targeted marketing and educational initiatives that highlight the benefits of AI technologies in investment decision-making. Chen et al. (2020) emphasize the importance of user education in increasing acceptance and utilization of FinTech solutions.

2. Social Factors

Cultural attitudes towards technology and financial decision-making were significant themes identified in the qualitative data. Many participants expressed a preference for personal relationships over digital interactions, highlighting a potential barrier to FinTech adoption. This finding echoes the work of Venkatesh et al. (2003), which suggests that social influences and trust are critical factors in technology acceptance.

To build trust, FinTech companies must focus on transparent communication, providing user-friendly platforms, and ensuring robust customer support. Natarajan et al. (2019) stress the importance of building consumer trust in digital financial services.

3. Regulatory Factors

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The study highlighted a perceived lack of robust regulatory frameworks as a barrier to FinTech adoption. Participants expressed concerns over consumer protection, which is crucial for building confidence in digital investment platforms. As noted by Arner et al. (2016), the regulatory environment plays a pivotal role in fostering innovation while ensuring consumer safety in the FinTech sector.

Policymakers in Indonesia must collaborate with industry stakeholders to create regulatory frameworks that protect consumers while encouraging innovation in FinTech services. Zetzsche et al. (2020) argue for a balanced approach to regulation that fosters growth without compromising consumer safety. The findings indicated that income levels significantly influence individuals' engagement with FinTech-enabled investments. Many respondents reported lower income levels, highlighting the importance of accessible and affordable investment options. This is consistent with the work of Bansal et al. (2019), which found that economic factors, including income and financial resources, directly impact technology adoption in finance.

FinTech companies should focus on creating tailored investment products that cater to lower-income demographics. By offering micro-investment options and educational resources, FinTech can enhance financial inclusion, as suggested by Demirgüç-Kunt et al. (2018), who emphasize the need for inclusive financial services.

Conclusion

In conclusion, the study illustrates that while there is substantial potential for FinTech adoption in investment in Sulawesi, various technological, social, regulatory, and economic factors must be addressed to facilitate this process. Understanding these dynamics is essential for stakeholders looking to promote FinTech and AI technologies in the region. Future research should continue to explore these factors in greater depth, especially as technological advancements and consumer behaviors evolve in the rapidly changing FinTech landscape.

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