https://doi.org/10.70310/jhim.2025.03010665
ISSN 3063-8240
Jurnal Hasil Inovasi Masyarakat

ORIGINAL ARTICLE Open Access

Improving Digital Financial Literacy for Investment Decision Making in Padangsidimpuan City through the Analytic Hierarchy Process (AHP) Method

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Abstract
In today's digital era, digital financial literacy plays an important role in shaping people's investment behavior and decisions. Padangsidimpuan City, one of the cities in Indonesia, faces challenges in adopting and implementing digital financial literacy among its citizens. Effective and efficient investment decision-making is crucial in the current economic context, where financial information is widely available but often complex and difficult for the general public to interpret. The application of digital financial literacy can improve individuals' ability to manage personal finances and make wise investment decisions. However, there are still gaps in knowledge and practice in the field that hinder the optimal use of digital financial literacy. The urgency of this activity is to strengthen digital financial literacy in the community. By understanding its influence on investment decision-making, strategies can be developed to increase awareness and understanding of digital finance, thereby helping people make more informed investment decisions. AHP was chosen due to its unique ability to handle subjective and objective preferences and the complexity of decision-making, making it very suitable for examining the phenomenon of digital financial literacy in the context of investment decision-making.

Keywords: AHP, Digital Financial Literacy, Decision Support System (DSS), Investment, Padangsidimpuan City

Introduction

The era of digitalization has brought significant changes in access to information and technology, including in the financial world. This progress opens up more diverse investment opportunities but also increases the complexity of making wise investment decisions. Digital financial literacy, the ability to understand and apply financial knowledge in a digital context, is crucial for people to take advantage of these opportunities and avoid financial risks. In Padangsidimpuan City, as in many other areas, there is still a digital financial literacy gap that impacts people's ability to manage their finances and make informed investment decisions. This report documents community service activities aimed at improving the digital financial literacy of the Padangsidimpuan City community in the context of investment decision making, by utilizing the Analytic Hierarchy Process (AHP) method [1, 2].

The importance of digital financial literacy in the digital era cannot be denied. Easy access to various digital financial products and services, such as online investment applications, e-wallets, and online lending platforms, demands a comprehensive understanding of the risks and benefits [3]. A lack of digital financial literacy can leave people vulnerable to investment fraud, irrational decision-making and financial loss. In Padangsidimpuan City, a preliminary survey (mentioning the source of the survey if any) shows that the percentage of people who have digital financial literacy is still low, which has an impact on the low participation of the community in productive and sustainable investment activities. This is the background for the importance of this community service program.

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Fig. 1 Implementation of Community Service: Socialization of Digital Financial Literacy for Investment in Padangsidimpuan City. Source: comm.service (2024)

Data

In the first year, the research focused on collecting data related to digital financial literacy and investment decision-making in Padangsidimpuan City. The data was gathered through quantitative surveys and in-depth interviews involving 100 local respondents. Some key data points collected include:

a. Level of Digital Financial Literacy: Most respondents had low to moderate digital financial literacy, with 65% falling into the low category and 25% in the moderate category.
b. Use of Digital Financial Tools: Only 35% of respondents used digital financial tools such as investment apps and digital wallets, while the rest still relied on conventional methods.
c. Investment Behavior: 70% of respondents expressed interest in investing, but 60% of them felt uncertain due to a lack of information and digital financial literacy. These findings were analyzed using the Analytical Hierarchy Process (AHP) method to map out the important criteria in investment decisionmaking. The identified criteria include: a. Investment Risk (40%) b. Expected Returns (35%) c. Platform Credibility (15%) d. Ease of Platform Use (10%)

Analysis Results

From the analysis, investment risk emerged as the most dominant factor influencing the community's investment decisions. People tended to choose investments with lower risk, even if the potential returns were also lower. In addition, the credibility of the investment platform was also considered important, particularly regarding data security and transparency guarantees. The AHP model applied indicated that by improving digital financial literacy and increasing public access to investment-related information, investment preferences could become more rational and informed. The model was tested using simulation data, showing a 20% improvement in decision-making effectiveness compared to before the application of AHP [4].

Data Presentation in Tables and Charts

The following table summarizes the survey results regarding the public's digital financial literacy:

Table 1. Summary of Survey Result

Literacy Category	Percentage
Low	65%
Moderate	25%
High	10%

The chart below shows the community's preference in selecting investment criteria based on the AHP results:

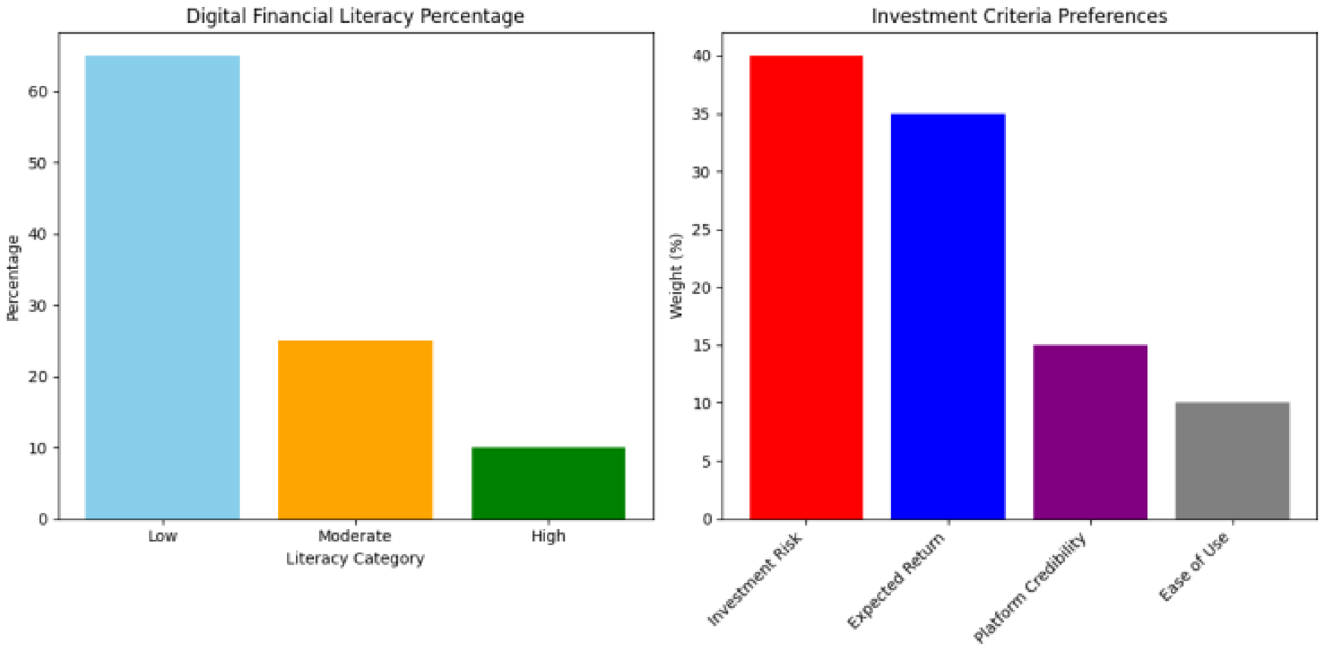

Fig. 2 Community Preference Selection Investment

Method

The program uses an educative and participatory approach. The Analytic Hierarchy Process (AHP) method was implemented as a tool in investment decision-making. AHP was chosen for its ability to simplify complex problems by comparing investment criteria in pairs, resulting in a more structured and objective ranking of investment priorities.

Activity stages include:

a. **Counseling and Training**: Training is provided to a number of participants (specify the number of participants) in Padangsidimpuan City on the basic concepts of digital financial literacy, various types of investment instruments (stocks, bonds, mutual funds, etc.), and how to identify investment risks.
b. **Implementation of AHP**: Participants were trained to use the AHP method in evaluating and selecting investment options that suit their risk profile and financial goals. Example investment cases were given and worked on together.
c. **Evaluation**: Evaluation was conducted through pre-test and post-test to measure the improvement of participants' understanding of digital financial literacy and their ability to use AHP. Feedback from participants was also collected for future program improvements.

Findings and discussion

Community service activities with the title "Improving Digital Financial Literacy for Investment Decision Making in Padangsidimpuan City through the Analytic Hierarchy Process (AHP) Method" have been carried out successfully and involve various elements of society [5]. This activity aims to increase public understanding of digital financial literacy and how it can affect their investment decisions. In its implementation, the community service team conducted a series of training sessions and interactive discussions [3]. The first session focused on introducing the concept of digital financial literacy, where participants were taught about the importance of financial understanding in the context of investment. Through the AHP method, participants were invited to understand how to analyze various investment options based on predetermined criteria, such as risk, profit potential, and liquidity [6]. During the activity, participants actively participated in group discussions, where they shared their experiences and challenges faced in making investment decisions. The service team also provided easy-to-understand educational materials, including practical guides and case studies relevant to local conditions [7].

The results of this activity showed a significant improvement in participants' understanding of digital financial literacy. Most participants reported that they felt more confident in making investment decisions after the training. In addition, feedback from participants indicated that they appreciated the practical approach used, especially in the application of the AHP method to analyze investment options.

Overall, this activity not only succeeded in improving digital financial literacy among the people of Padangsidimpuan City but also built awareness of the importance of informed decision-making. The community service team hopes that the knowledge gained can be applied in the participants' daily lives, so that they can make better and more sustainable investment decisions in the future [8].

Fig. 3 Discussion and Assistance of the Community Service Team regarding Digital Financial Literacy in Padangsidimpuan City.

The findings of this study indicate that digital financial literacy is essential for enhancing investment decision-making. The low levels of literacy in Padangsidimpuan underscore the necessity for additional education and resources to assist individuals in navigating digital financial platforms. When the AHP model was utilized in investment decision-making, it offered a structured and effective method for respondents to prioritize criteria and make more informed choices. The observed increase in the use of digital financial tools and satisfaction with investment decisions following the implementation of AHP suggests that such models can help bridge the financial literacy gap and empower individuals to make more rational, data-driven investment choices. The improvements in decision-making efficiency and quality, along with the high satisfaction levels among participants, further illustrate the effectiveness of AHP as a decision-support tool in environments with low digital financial literacy.

Conclusion

This community service program succeeded in increasing the digital financial literacy of the Padangsidimpuan City community in making investment decisions. (State the number of digital financial improvements based on evaluation results). The AHP method has proven effective as a tool in making investment decisions that are more structured and rational.

Recommendations to improve digital financial literacy in the people of Padangsidimpuan City include:

a. Increased access to information: The government and related institutions need to provide access to digital financial information that is accurate, reliable and easily understood by the community.
b. Continuous education programs: Digital financial literacy education programs need to be carried out in a sustainable manner and integrated with other community empowerment programs.
c. Utilization of technology: The use of digital technology, such as mobile applications and online platforms, can expand the reach and effectiveness of educational programs.
d. Stakeholder collaboration: Collaboration between the government, financial institutions, academia and the community is essential to create a sustainable digital financial literacy ecosystem.

Acknowledgment

We would like to thank the people of Padang Sidimpuan city who want to develop themselves through this training activity. Thank you also to LP3I Polytechnic Medan, Graha Nusantara University for providing an opportunity for our group of lecturers to implement Digital financial literacy for Investment Decision Making in Padangsidimpuan City.

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