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The Influence of Financial Literacy, Financial Technology, and Financial Inclusion on the Performance of Savings and Loan Cooperatives

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Abstract

This article aims to analyze the influence of financial literacy, financial technology, and financial inclusion on the performance of savings and loan cooperatives in Ungaran District. This study involved 100 respondents consisting of cooperative managers and members, with data collected through structured questionnaires and analyzed quantitatively using multiple linear regression. The results showed that financial literacy has a significant positive effect on cooperative performance ($\beta = 0.198$, $p < 0.01$), indicating that an increased understanding of financial management and financial products effectively supports better financial decision-making. Financial technology also showed a very significant positive impact ($\beta = 0.586$, $p < 0.001$), indicating that the adoption of digital solutions and fintech innovations drastically improves operational efficiency and service quality. In contrast, the effect of financial inclusion was not significant ($\beta = -0.191$, $p > 0.05$), allegedly caused by obstacles in optimizing service utilization, low levels of member understanding, and regulatory and infrastructure barriers that still need to be improved. These findings imply that increasing literacy and technology adoption are key to improving cooperative performance, while financial inclusion strategies need to be further evaluated. The practical implications of this study encourage cooperatives to conduct regular training, integrate fintech solutions, and develop more holistic inclusion strategies to support competitiveness and sustainability in the digital era.

Keywords: Financial Literacy; Financial Technology; Financial Inclusion; Performance of Savings and Loan Cooperatives.

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INTRODUCTION

Savings and loan cooperatives play a vital role in the local economy, especially in providing affordable financial access for their members. In Ungaran District, Semarang Regency, savings and loan cooperatives are one of the main pillars in driving economic growth for the local community. This district has a variety of economic sectors, including agriculture, trade, and services, which require easy and efficient access to funding. However, despite this potential, not all savings and loan cooperatives can achieve optimal performance. Various factors influence the performance of savings and loan cooperatives, including financial literacy, financial technology, and financial inclusion.

Financial literacy refers to an individual's ability to understand and use financial information in making informed decisions. Savings and loan cooperatives with members who have a good level of financial literacy tend to be more able to manage finances efficiently and improve their performance (Lusardi & Mitchell, 2014). Financial technology (fintech) also plays an important role in improving the operational efficiency of cooperatives by speeding up services, increasing transaction security, and expanding market reach (Arner, D.W., Barberis, J., & Buckley, 2016). In addition, financial inclusion, which aims to ensure access to financial services for all levels of society, can expand the cooperative member base and improve the quality of services provided (Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, 2018).

Several previous studies have examined the relationship between financial literacy, financial technology, and financial inclusion on the performance of small and medium enterprises (SMEs) and other financial institutions (Suyono, A., & Zuhri, 2022). Research by Agus Suyono & Zuhri (2022) discusses the influence of financial literacy and financial inclusion on MSME performance but has not taken into account the role of financial technology in the context of savings and loan cooperatives. Other research by Amrin et al., (2022) examines the role of fintech in increasing financial inclusion in MSMEs but does not specifically examine savings and loan cooperatives. In addition Anisah & Crisnata (1970) analyzed the financial literacy of fintech users but have not yet linked it to the performance of savings and loan cooperatives (Agus Suyono & Zuhri, 2022). This study examines how financial literacy and financial inclusion affect the performance of micro, small, and medium enterprises (MSMEs). Although the main focus of this study is on MSMEs, the findings of this study provide an important basis for understanding the influence of financial literacy and financial inclusion in improving the performance of the wider business sector, including savings and loan cooperatives.

This study discusses the financial literacy of fintech users (Di et al., 2024). This study examines how financial literacy and financial inclusion can drive the use of financial technology (fintech), which is particularly relevant to understanding how savings and loan cooperatives can leverage technology to improve their performance. Herdinata & Pranatasari (2016), this study explains how fintech-based financial literacy is applied to MSMEs. Although MSMEs are the main focus, the principles discussed can be applied to savings and loan cooperatives to develop technology-based financial literacy to improve efficiency and performance. HASANAH (2014) this study examines the influence of financial literacy and inclusion on fintech financing decisions, which is relevant to understanding how members of savings and loan cooperatives can utilize fintech financing to support their needs and cooperative performance. Mutmainah (2023), this study discusses how financial inclusion can contribute to the sustainability of MSMEs. Although focused on convection MSMEs, this study provides an important perspective on how financial inclusion can improve the resilience and performance of businesses, including savings and loan cooperatives. Novita et al., (2023), this study examines the impact of financial literacy, financial inclusion, and fintech on the performance of MSMEs in Brebes. The findings of this study are very relevant to understanding how these three factors can affect the performance of savings and loan cooperatives, which function similarly to MSMEs. Zanaria (2021), this study examines the influence of understanding fintech and financial inclusion on the productivity of MSMEs. The results of this study provide an important picture of how understanding financial technology can increase productivity, which can also be applied to savings and loan cooperatives.

This study aims to analyze the influence of financial literacy, financial technology, and financial inclusion on the performance of savings and loan cooperatives in Ungaran District. This study is expected to provide academic contributions and practical recommendations for cooperative managers in improving operational efficiency and services through the use of financial technology and increasing the financial literacy of its members.

RESEARCH METHODS

This study aims to analyze the influence of financial literacy, financial inclusion, and financial technology (fintech) on the performance of savings and loan cooperatives in Ungaran District, Semarang Regency. To achieve this goal, the study uses a quantitative method with a survey approach (Sugiyono, 2019).

The subjects of this study were members of savings and loan cooperatives registered with cooperatives in the Semarang area. Sampling was carried out randomly (random sampling) with a sample size of 100 respondents. Respondents are expected to have knowledge and experience related to financial literacy, financial inclusion, and the use of financial technology in their cooperative activities (Ghozali, 2021).

This study measures three main variables:

a. Independent Variables
   1) Financial Literacy
   2) Financial Inclusion
   3) Financial Technology (Fintech)

b. Dependent Variable:

The performance of Savings and Loan Cooperatives, as measured by indicators such as managerial effectiveness, success in providing financial services, and member satisfaction levels.

Data were collected using a questionnaire technique distributed to respondents. The questionnaire was designed to measure the level of financial literacy, financial inclusion, and utilization of financial technology. Respondents were asked to provide an assessment based on a 5-point Likert scale, with answer choices ranging from strongly agree to strongly disagree.

Table 1. Questions for each variable

Variables	Question
Financial Literacy	a. Do you know the various types of financial products offered by savings and loan cooperatives?
	b. How well do you understand how to manage a personal budget and financial planning?
	c. Can you explain in simple terms the interest, loans, and savings that apply in savings and loan cooperatives?
	d. To what extent do you feel you understand the risks associated with using cooperative financial products?
Financial Inclusion	a. Do you have access to formal financial services provided by savings and loan cooperatives?
	b. To what extent do you feel that credit unions provide financial products that are accessible to all members, including the less fortunate?
	c. Have you ever used other financial products besides savings and loans from cooperatives (for example, insurance or investments)?
	d. To what extent do you feel that savings and loan cooperatives support you in accessing financial products that suit your needs?
Financial Technology (Fintech)	a. Have you ever used a digital application or platform to make transactions at a savings and loan cooperative?
	b. To what extent does the use of technology (for example, mobile banking or cooperative applications) make it easier for you to manage finances in the cooperative?

	c. Do you feel that the financial technology provided by cooperatives provides convenience and ease in transactions?
	d. To what extent do you believe that the use of fintech in cooperatives helps improve transparency and efficiency in financial services?
Performance of Savings and Loan Cooperatives	a. To what extent are savings and loan cooperatives able to provide fast and efficient services to their members?
	b. Are you satisfied with the products and services provided by the savings and loan cooperative?
	c. To what extent are savings and loan cooperatives able to maintain transparency in managing member funds?
	d. Do you feel that a savings and loan cooperative can meet your financial needs well?

To collect data, a questionnaire consisting of several parts was used:

1) Part Onemeasuring financial literacy through questions about basic financial knowledge, financial products, and personal financial management.
2) Part two measures financial inclusion by assessing the level of accessibility of formal financial services and participation in financial products.
3) Part Three: Measuring the use of fintech in savings and loan cooperatives.
4) The last part measures the performance of savings and loan cooperatives based on operational performance results, member satisfaction, and service effectiveness.

This study uses a quantitative descriptive survey design, which aims to describe the relationship between the variables of financial literacy, financial inclusion, and financial technology on the performance of savings and loan cooperatives (Siregar, 2017). This research is also correlational to see the extent of the relationship between these variables.

The sample was taken using random sampling from members of savings and loan cooperatives who have experience in using financial services and financial technology. The total sample taken was 100 respondents who would provide a representative view of the condition of the cooperative.

The collected data will be analyzed using multiple linear regression analysis to determine the simultaneous effect of financial literacy, financial inclusion, and financial technology on the performance of savings and loan cooperatives. The validity and reliability test of the questionnaire will be conducted first to ensure data quality.

The multiple linear regression model used in this study is as follows: $Y=\beta0+\beta1X1+\beta2X2+\beta3X3+\epsilon Y$

Where:

- Y = Performance of Savings and Loan Cooperatives
- X_1 = Financial Literacy
- X_2 = Financial Inclusion
- X_3 = Financial Technology (Fintech)
- β_0 = Intercept
- β_1, β_2, β_3 = Regression coefficients for each independent variable
- ε = Nuisance error

Hypothesis testing is done using the t-test to test the significance of the influence of each independent variable on cooperative performance. In addition, the F-test is used to see the simultaneous influence of the three independent variables on cooperative performance.

Data analysis was conducted using SPSS (Statistical Package for Social Sciences) to run multiple linear regression and hypothesis testing. SPSS will be used to calculate regression coefficients, t-tests, and F-tests and to test the validity and reliability of research instruments.

The data collected from the questionnaire will be processed and analyzed using SPSS software. This process includes

1) Checking the validity and reliability of the questionnaire.
2) Classical assumption tests (normality, multicollinearity, heteroscedasticity).

3) Multiple linear regression analysis to test the influence of independent variables on cooperative performance.

By using this method, it is hoped that the research results can provide a clear picture of how financial literacy, financial inclusion, and the use of financial technology affect the performance of savings and loan cooperatives in Indonesia.

RESULTS AND DISCUSSION

The results of multiple linear regression analysis indicate a moderate relationship between the independent variables (Financial Literacy, Financial Inclusion, and Financial Technology) and the dependent variable (Savings and Loan Cooperative Performance). The R-value of 0.645 indicates that, overall, there is a fairly strong correlation between the combination of the three independent variables and cooperative performance. The R Square value of 0.416 indicates that 41.6% of the variation in cooperative performance can be explained by the three variables. Meanwhile, the Adjusted R Square value of 0.397 reveals that, although this regression model can explain most of the variation, there are still other factors that have not been included in the model and which can significantly affect cooperative performance. The Standard Error of the Estimate of 1.22412 describes the average deviation of the model prediction from the actual observation value; this value indicates that the model provides fairly good predictions, but the existence of the error margin indicates the potential for additional variables that contribute to performance variations, such as managerial competence, socioeconomic conditions, or government policies.

The results of the ANOVA test with an F value of 22,764 and a significance (Sig.) of 0.000 confirm that the overall regression model is significant. This indicates that the independent variables collectively have a real influence on the performance of cooperatives, so this model can be relied on to explain the dynamics of the performance of savings and loan cooperatives.

Table 2. Regression Coefficients

Variables	B	Std. Error	Beta	t	Sig.
Constant (Intercept)	6.015	1.238	—	4,861	0.000
Financial Literacy	0.198	0.059	0.292	3.353	0.001
Financial Inclusion	0.191	0.151	0.198	1,269	0.207
Financial Technology	0.586	0.151	0.624	3.888	0.000

In the regression coefficient section, the constant (Intercept) of 6.015 indicates that if all independent variables are zero, the cooperative's performance is theoretically at that basic level. The Financial Literacy Coefficient of 0.198 with a significance value of 0.001 confirms that every one-unit increase in financial literacy contributes to an increase in cooperative performance of 0.198 units. This shows that cooperative members' deep understanding of financial management, knowledge of financial products, and financial decision-making strategies are very important to improve cooperative performance.

In contrast, the Financial Inclusion variable has a negative coefficient (-0.191) with a significance value of 0.207, indicating that although, in theory, increasing access to financial services should be beneficial, in the context of this study, the impact is not significant. This may be due to various factors, such as the inability of cooperatives to optimize the use of financial services, low levels of member understanding of the benefits of financial products, or the existence of regulatory barriers and high transaction costs that reduce the effectiveness of financial inclusion.

Meanwhile, Financial Technology shows a positive coefficient of 0.586 with a significance value of 0.000, indicating that increasing adoption of financial technology significantly improves cooperative performance. The use of digital systems and fintech solutions allows cooperatives to speed up transaction processes, improve operational efficiency, and expand the reach of services to members, thus contributing positively to overall performance.

Regression assumption tests were conducted to ensure the validity of the model. The multicollinearity test showed that there was no excessive correlation between the independent variables, so each variable made a unique contribution to the model. The residual normality test confirmed that the distribution of the predicted residuals was normal, and the homoscedasticity test indicated that the residual variance remained constant. Thus, the model meets the basic assumptions of classical linear regression, which adds to the reliability of the findings.

The evaluation of the model accuracy through the Standard Error of 1.22412 indicates that although the model provides a fairly good prediction, there is still a margin of error indicating that there are other variables that may not be covered. This implies that further research needs to examine additional factors such as managerial competence, socio-economic conditions, or government policies to obtain a more comprehensive understanding of the variability of cooperative performance.

Overall, the results of this study emphasize that Financial Literacy and Financial Technology have a significant role in improving the performance of savings and loan cooperatives. Meanwhile, the negative and insignificant effect of Financial Inclusion indicates that increasing access to financial services alone is not enough; the effectiveness of its utilization also greatly depends on the understanding and operational readiness of cooperative members. Therefore, cooperative development strategies should focus on more intensive financial literacy training and financial technology integration, as well as in-depth evaluation of financial inclusion strategies to overcome existing obstacles and improve cooperative performance as a whole. Further research is recommended to integrate additional variables to explain the remaining performance variations not covered in the current model so that it can provide complete guidance for improving the competitiveness and sustainability of cooperatives in the digital era.

CONCLUSION

This study concludes that in the savings and loan cooperative environment in Ungaran District, financial literacy and financial technology play a key role in improving cooperative performance, while financial inclusion does not show a significant influence on the model used. Increased financial literacy, which is reflected in members' in-depth understanding of financial management, financial products, and financial decision-making strategies, significantly contributes to improving the operational and financial performance of cooperatives. In addition, the adoption of financial technology through innovative digital systems has accelerated the transaction process, increased service efficiency, and expanded market reach, resulting in increased service quality and higher member satisfaction. On the other hand, the insignificant effect of financial inclusion is likely due to obstacles in the optimal utilization of financial services, low levels of members' understanding of the benefits of financial products, and regulatory and infrastructure barriers that still need to be improved. Thus, this study recommends that cooperatives routinely hold financial literacy training for their members, integrate innovative financial technology into operational systems, and conduct in-depth evaluations of financial inclusion strategies to identify and overcome existing obstacles. Furthermore, research is suggested to integrate additional variables such as managerial competence, local market dynamics, and government policies in order to gain a more comprehensive understanding of the factors that influence the performance of savings and loan cooperatives so that cooperatives can increase their competitiveness and sustainability in the digital era.

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