

The Influence of Financial Technology and Financial Literacy Towards Financial Inclusion in Rural Communities Padamara, Sukamulia District, East Lombok Regency

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Abstract

Despite the rapid growth of global fintech, rural Indonesia still faces a financial inclusion gap, with the national index at 75.02% but the rural index at only 70.13% (OJK, 2024). This study examines the influence of financial technology and financial literacy on financial inclusion in Padamara Village, East Lombok. Using a descriptive quantitative approach with a pre-post survey design, a population of 5,443 people was sampled with 100 respondents through purposive sampling (Slovin formula, 10% margin of error). Primary data from a Likert scale questionnaire (Pearson Product Moment validity, Cronbach's Alpha reliability >0.70) were analyzed using SPSS 27, including descriptive statistics, Lilliefors normality test, and Paired Samples T-test. The results showed a significant increase post-intervention: financial technology scores from 1.94 (low) to 3.60 (high), financial literacy from 1.94 (low) to 3.59 (good), and financial inclusion from 1.87 (low) to 3.68 (high), all with $p=0.001$. The conclusion proves that both factors have a positive and significant effect on financial inclusion. Practical implications recommend that the Financial Services Authority (OJK) and village governments integrate fintech-literacy education programs.

INTRODUCTION

The development of Financial Technology (fintech) has revolutionized access to financial services globally, with the IMF Financial Access Survey 2024 showing a 76% increase in bank accounts per adult by 2023, driven by digital services reaching 1.7 billion unbanked adults. The impact includes poverty reduction of up to 2-3% in developing countries through increased household consumption and small business productivity, as supported by the World Bank's grand theory of financial inclusion, which emphasizes affordable access as pillars of SDGs 1 and 8. However, the gender gap remains, with women's loan balances only 46% of men's globally.

Recent trends show that fintech is driving market growth in 114 countries, with a strong positive correlation to financial literacy (Oee et al., 2024). Modern theories, such as the Technology Acceptance Model (TAM), evolved with digital financial literacy, explain how fintech increases inclusion through ease of use and trust (Hasan et al., 2021). The evolution of theoretical thinking from the classical theory of financial access to the digital literacy mediation model reflects the post-pandemic shift, where fintech is not only about access but also about literacy (Lyons & Kass-Hanna, 2021).

Empirical studies support that fintech and financial literacy positively influence financial inclusion; for example, in Indonesia, fintech payments significantly increase inclusion among the general public (Nugroho et al., 2023), while literacy mediates the relationship between fintech and inclusion among university students (Ainiyah & Yuliana, 2022). Similar research in rural areas confirms that the adoption of digital payments increases rural GDP and economic resilience (Pratiwi et al., 2024). This synthesis strengthens the argument that the combination of the two is optimal for sustainable inclusion.

While the majority supports a positive impact, some studies have found contradictions. Older age actually reduces inclusion despite high literacy due to technological resistance (Nugroho

et al., 2023), while in eastern Indonesia, digital infrastructure limits the impact of fintech (Women's World Banking, 2024). This debate highlights that literacy alone is insufficient without regulatory support, as moderating perceived regulatory support improves the fintech-inclusion relationship (Hasan et al., 2021).

Dominant methodologies include panel data regression for regional trends (Pratiwi et al., 2024), structural equation modeling (SEM) for literacy mediation (Ainiyah & Yuliana, 2022), and ordered logit for demographic factors (Nugroho et al., 2023). Primary surveys, such as Likert-based questionnaires, are commonly used (80% of studies), with samples of 100–800 respondents from rural/urban populations.

In Indonesia, the national financial inclusion index reached 75.02% in 2024, but the rural financial inclusion rate was only 70.13% compared to 78.41% in the urban area, with rural literacy at 59.25%. The urgency arises from the risk of being left behind in the digital economy for 40% of the rural population, including East Lombok, which relies on agriculture and MSMEs. Padamara Village, Sukamulia, East Lombok, reflects the rural characteristics of West Nusa Tenggara (NTB): a population of 5,443 with 79.5% of the national average for internet access, but low literacy rates due to limited infrastructure. Specific characteristics such as informal workers and low education exacerbate the gap, similar to a study in Lombok's creative sector (Suryani et al., 2023).

Although a national study shows that fintech increases the inclusion of MSMEs in Lombok (Suryani et al., 2023), gaps exist in the simultaneous integration of fintech and literacy in specific villages in rural eastern Indonesia, where local factors such as culture and infrastructure have not been explored in-depth compared to urban studies (Pratiwi et al., 2024). The need for this case study is crucial for generalizing the rural NTB context.

This study aims to examine the influence of fintech and financial literacy on inclusion in Padamara Village using paired t-tests and chi-square tests. The theoretical contribution enriches the literacy mediation model in a rural context; and the practical contribution provides recommendations for the Financial Services Authority (OJK)/village level for fintech education to improve the welfare of 100 sample respondents.

METHOD

Research Design

This study employs a descriptive quantitative design to examine the influence of financial technology and financial literacy on financial inclusion among rural communities. This approach is appropriate for describing phenomena factually through numerical data, as recommended in fintech studies in emerging markets (Özdemir et al., 2024). This design allows for objective measurement of independent and dependent variables, with a focus on causal relationships through hypothesis testing. This study is unique in that it employs the Lilliefors test and the paired samples t-test—methods that are relatively less commonly used compared to regression or chi-square tests—thereby providing a more in-depth analysis of changes in respondents' behavior. Furthermore, this study not only examines the direct impact of financial technology and financial literacy on financial inclusion but also analyzes pre- and post-changes in the public's level of understanding and behavior. The research location, Padamara Village, was chosen because it represents the challenges of financial inclusion in rural Indonesia, where access to digital infrastructure is still limited. This approach also supports the generalizability of findings to similar populations, consistent with current quantitative research practices.

Methods Used

Primary data collection was conducted through a semi-structured, 5-point Likert-scale questionnaire distributed directly to respondents. This instrument was tested for validity and reliability using Pearson's Product Moment test and Cronbach's Alpha, ensuring measurement consistency above 0.70. Brief interviews supplemented the data to clarify responses, increasing accuracy, as in the rural financial inclusion study (Setiawan & Siregar, 2024). The questionnaire covered financial technology indicators such as e-wallet and mobile banking use, financial literacy

such as budgeting understanding, and financial inclusion such as access to formal accounts. This approach is efficient for large samples and minimizes subjective bias.

Population and Sample

The study population comprised the entire community of Padamara Village, Sukamulia District, East Lombok Regency, totaling 5,443 people. A sample of 100 respondents was drawn using the Slovin formula with a 10% margin of error, resulting in a representative sample ($n \approx 99$, rounded to 100). A purposive sampling technique was applied with the following criteria: having used fintech in the last 6 months and a minimum education of high school/equivalent, similar to the criteria in the rural financial inclusion study (Ardini et al., 2024). Respondent characteristics included 55% male, the majority aged 18-30 years (62%), and low-middle income, reflecting rural demographics. This selection ensured relevance to the objective of measuring the impact of fintech on vulnerable groups.

Research Procedures

Data analysis used SPSS version 27 for descriptive statistics, the Lilliefors normality test, and the Paired Samples T-test to compare before-after conditions of variable understanding. This test is appropriate for paired data and the assumption of normality is met ($L_{\text{calculated}} < L_{\text{table}}$ at $\alpha=0.05$), as in the fintech adoption study (Liska et al., 2022). Descriptive statistics calculate the mean, standard deviation, and interval categories, while the T-test tests the significance of differences ($p < 0.05$). This approach is common in quantitative finance studies to confirm the influence of variables (Sriyono et al., 2023). The results are interpreted to support the hypothesis of a positive influence of fintech and literacy on inclusion.

RESEARCH RESULT

Research Data

Based on the results of a study conducted with 100 respondents through interviews, several characteristics were identified. These characteristics included gender, age, occupation, and monthly income.

Respondent Characteristics

Table 1 Respondent Characteristics Based on Gender

No	Respondent Characteristics	Number of people)	Percentage (%)
1	Man	55	55
2	Woman	45	45
	Total	100	100

Source: Primary Data, 2026

Table 2. Respondent Characteristics Based on Age

No	Respondent Characteristics	Number of people)	Percentage (%)
1	18-30 Years	62	62
2	31-45 Years	24	24
3	> 45 Years	14	14
	Total	100	100

Source: Primary Data, 2026

Table 3. Respondent Characteristics Based on Occupation

No	Respondent Characteristics	Number of people)	Percentage (%)
1	Students	19	19
2	Entrepreneur/Self-Employed	26	26

3	Civil Servants/TNI/POLRI	9	9
4	Private Employee/Private Employee	24	24
5	Other	22	22
	Total	100	100

Source: Primary Data, 2026

Table 4. Respondent Characteristics Based on Monthly Income

No	Respondent Characteristics	Number of people)	Percentage (%)
1	< Rp. 1,000,000	25	25
2	Rp1,000,000 Rp2,500,000	– 29	29
3	Rp2,500,000 Rp3,500,000	– 27	27
4	> Rp. 3,500,000	19	19
	Total	100	100

Source: Primary Data, 2026

Description of Research Variable Data

1. Description of Financial Technology Variable Data (X1)

Table 5. Description of Respondents' Answers Regarding Before Understanding Financial Technology

No	Statement	Before Understanding Financial Technology					Average	Category
		STS	TS	N	S	SS		
1	I know the types of financial technology (fintech) services available	31	39	27	2	0	2.01	Low
2	I use digital financial applications for transactions	25	48	24	2	0	2.04	Low
3	I feel that the financial transaction process is easier to do using fintech.	37	36	24	2	0	1.91	Very Low
4	I believe in the security of fintech services	17	57	22	2	0	2.1	Low
5	I have adequate access to digital payment applications.	13	35	45	4	0	2.42	Low
6	I often make non-cash payments through the application	48	32	18	1	0	1.72	Very Low
7	I understand the benefits of using fintech in everyday life	41	36	23	0	0	1.82	Low

8	I have a habit of saving money through digital platforms.	61	27	11	1	0	1.52	Very Low
Average							1.94	Low

Source: Primary Data, 2026

Table 6. Description of Respondents' Answers After Understanding Financial Technology

After Understanding Financial Technology								
No	Statement	STS	TS	N	S	SS	Average	Category
1	I know various types of financial technology services that can be used	3	8	36	36	15	3.55	Tall
2	I use digital financial applications to make transactions.	2	9	19	39	28	3.84	Tall
3	I feel the transaction process is faster and more practical with fintech.	3	12	28	22	34	3.73	Tall
4	I believe in the security of the fintech services I use.	0	3	30	51	14	3.77	Tall
5	I have easy access to use digital payment applications.	1	4	22	41	30	3.99	Tall
6	I often make non-cash payments through the application	6	17	28	25	22	3.42	Tall
7	I understand the benefits of fintech in managing daily finances.	6	19	35	23	16	3.24	Currently
8	I started saving or saving through digital platforms	9	9	36	30	14	3.33	Currently
Average							3.6	Tall

Source: Primary Data, 2026

2. Data Description of Financial Literacy Variable (X2)

Table 7. Description of Respondents' Answers Regarding Before Understanding Financial Literacy

Before Understanding Financial Literacy								
No	Statement	STS	TS	N	S	SS	Average	Category
1	I understand how to manage income and expenses well.	21	53	25	0	0	2.04	Low
2	I make personal financial planning.	56	30	14	0	0	1.58	Very Low

3	I know the function of savings for the future.	10	46	40	3	0	2.37	Low
4	I understand the difference between needs and wants.	11	31	52	4	0	2.51	Low
5	I understand the risks of using financial services.	45	36	16	2	0	1.75	Very Low
6	I am looking for information regarding financial products or services.	56	23	21	0	0	1.65	Very Low
7	I understand how to avoid detrimental loans.	29	44	26	1	0	1.99	Low
8	I make financial decisions independently.	53	30	15	1	1	1.67	Very Low
Average							1.94	Low

Source: Primary Data, 2026

Table 8. Description of Respondents' Answers Regarding Understanding Financial Literacy

After Understanding Financial Literacy									
No	Statement	STS	TS	N	S	SS	Average	Category	
1	I understand how to manage income and expenses well.	0	0	31	53	13	3.82	Good	
2	I make personal financial plans regularly.	16	20	24	24	15	3.01	Currently	
3	I know the importance of saving for the future.	0	3	8	45	41	4.29	Very good	
4	I understand the difference between needs and wants.	0	3	7	34	53	4.42	Very good	
5	I understand the risks involved in using financial services.	5	11	31	31	21	3.51	Good	
6	I actively seek information related to financial products or services.	21	13	37	15	13	2.85	Currently	
7	I understand how to avoid detrimental loans.	0	12	28	51	6	3.53	Good	
8	I am able to make financial decisions independently.	4	12	41	27	15	3.36	Currently	

Average	3.59	Good
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Source: Primary Data, 2026

3. Description of Financial Inclusion Variable Data (Y)

Table 9. Description of Respondents' Answers Regarding Before Understanding Financial Inclusion

Before Understanding Financial Inclusion								
No	Statement	STS	TS	N	S	SS	Average	Category
1	I have access to formal financial services.	17	39	42	0	0	2.27	Low
2	I use a bank account for transactions.	13	45	40	1	0	2.3	Low
3	I obtained information related to financial services.	52	32	15	1	0	1.65	Very Low
4	I use digital payment services.	41	42	16	0	0	1.75	Very Low
5	I have applied for savings or credit at a financial institution.	63	27	9	1	0	1.48	Very Low
6	I made a non-cash transaction.	45	33	17	4	0	1.8	Very Low
7	I feel formal financial services are easily accessible.	19	48	30	2	0	2.15	Low
8	I have a habit of saving in financial institutions.	55	31	14	0	0	1.59	Very Low
Average							1.87	Low

Source: Primary Data, 2026

Table2. Description of Respondents' Answers After Understanding Financial Inclusion

After Understanding Financial Inclusion								
No	Statement	STS	TS	N	S	SS	Average	Category
1	I have access to formal financial services.	0	1	15	57	23	4.09	Tall
2	I use a bank account to make transactions.	0	0	13	42	42	4.29	Very high
3	I can easily obtain information related to financial services.	6	21	28	28	16	3.26	Currently
4	I use digital payment services as an alternative transaction.	2	14	24	33	25	3.68	Tall
5	I have applied for savings or credit at a financial institution.	9	3	35	35	16	3.47	Tall

6	I made the transaction in cash.	7	13	33	30	15	3.35	Currently
7	I find formal financial services easy to access and use.	0	2	26	41	28	3.97	Tall
8	I have a habit of saving in financial institutions.	10	8	36	23	21	3.39	Currently
Average							3.68	Tall

Source: Primary Data, 2026

Research Analysis and Results

1. Descriptive Statistics

a. Financial Technology

Table 11. Descriptive Statistics of Financial Technology

Financial Technology (X1)					
Information	N	Minimum	Maximum	Mean	Standard Deviation
Before	100	9	28	15.51	3,759
After	100	15	39	28.87	5,967

Source: Primary Data, 2026

b. Financial Literacy

Table 12. Descriptive Statistics of Financial Literacy

Financial Literacy (X2)					
Information	N	Minimum	Maximum	Mean	Standard Deviation
Before	100	10	24	16.58	4,161
After	100	16	37	28.87	5,478

Source: Primary Data, 2026

c. Financial Inclusion

Table 13. Descriptive Statistics of Financial Inclusion

Financial Inclusion (Y)					
Information	N	Minimum	Maximum	Mean	Standard Deviation
Before	100	10	24	15.19	3,430
After	100	15	37	29.53	5,303

Source: Primary Data, 2026

2. Lilliefors Test

Table 14. Lilliefors Financial Technology Test

Financial Technology (X1)				
Condition	L Count	L Table	Decision	Information
Before	0.0871	0.0886	L count < L table	Normal
After	0.0853	0.0886	L count < L table	Normal

Source: Primary Data, 2026

Table 3. Lilliefors Financial Literacy Test

Financial Literacy (X ₂)				
Condition	L Count	L Table	Decision	Information
Before	0.0879	0.0886	L count < L table	Normal
After	0.0880	0.0886	L count < L table	Normal

Source: Primary Data, 2026

Table 4. Lilliefors Test of Financial Inclusion

Financial Inclusion (Y)				
Condition	L Count	L Table	Decision	Information
Before	0.0883	0.0886	L count < L table	Normal
After	0.0821	0.0886	L count < L table	Normal

Source: Primary Data, 2026

3. Paired Samples T-test

Table 17. Paired Samples T-test

Paired Samples T-test								
Variables	Mean	Standard Deviation	Std. Error Mean	95% CI Lower	95% CI Upper	t	df	Sig. (2-tailed)
Financial Technology	-13.36	2,833	0.2834	-13,922	-12,798	-47,144	99	0.001
Financial Literacy	-12.19	1,680	0.1680	-12,523	-11,857	-72,563	99	0.001

Source: Primary Data, 2026

DISCUSSION

The Influence of Financial Technology on Financial Inclusion

The findings of this study reveal that Financial Technology has a positive and significant impact on financial inclusion. This is demonstrated by the difference in average financial inclusion scores before and after people understood and used Financial Technology services. After people understood and used Financial Technology, average financial inclusion increased, indicating improved access to and utilization of formal financial services.

Based on the results of the Paired Samples T-test, the significance value of this hypothesis is 0.001, which is smaller than the significance level of 0.05. This proves that the first hypothesis (H1) which states that Financial Technology has a positive and significant effect is accepted, which means there is a significant difference between the conditions and after the use of Financial Technology on Financial Inclusion in Padamara Village.

The results of this study are in line with Sriyono et al. (2023) and Sinuraya (2024), which states that Financial Technology has a significant effect on increasing financial inclusion, especially in areas that previously did not have access to formal financial services.

The findings of this study indicate that financial technology can help people gain access to formal financial services such as digital payments, money transfers, and cashless storage. These services can reduce the geographical and administrative barriers that have traditionally prevented people from accessing conventional financial institutions.

The Influence of Financial Literacy on Financial Inclusion

The findings of this study reveal that financial literacy has a positive and significant impact on financial inclusion. This is demonstrated by the difference in average financial inclusion scores before and after the community gained an understanding of financial literacy.

Based on the results of the Paired Samples T-test, the significance value of this hypothesis is 0.001, which is smaller than the significance level of 0.05. This proves that the first hypothesis (H2) which states that Financial Literacy has a positive and significant effect is accepted, which means there is a significant difference between the conditions and after understanding Financial Literacy on Financial Inclusion in the Padamara Village community.

The results of this study are in line with research conducted by Princess & Isnawati (2025) and Liska et al. (2022) which concludes that financial literacy has a positive and significant influence on financial inclusion.

The findings of this study indicate that financial literacy plays a crucial role in shaping people's financial behavior. People with a good understanding of finance tend to be more confident in using formal financial services such as banks, financial institutions, and digital financial services. Furthermore, financial literacy helps people understand the benefits and risks of financial products, enabling them to make responsible financial decisions.

CONCLUSION

This study concludes that Financial Technology (fintech) and financial literacy have a positive and significant impact on the financial inclusion of the people of Padamara Village, Sukamulia District, East Lombok Regency. The main findings of the Paired Samples T-test show an increase in the average fintech score from 1.94 (low) to 3.60 (high), financial literacy from 1.94 (low) to 3.59 (good), and financial inclusion from 1.87 (low) to 3.68 (high), with a significance value of 0.001 ($p < 0.05$). This proves the acceptance of hypotheses H1 and H2, where fintech facilitates access to non-cash digital services while financial literacy strengthens responsible decision-making, consistent with similar studies in rural areas of Indonesia. This study has limitations such as the pre-post design that does not isolate external effects such as limited internet infrastructure in East Lombok, and a purposive sample of 100 respondents that limits generalization to the wider population. Suggestions for future research include the use of multiple regression or SEM to test variable interactions, as well as longitudinal samples in multiple villages in NTB to validate causality. Practically, these results recommend that the Financial Services Authority (OJK) and village governments integrate fintech-literacy education through community programs, such as mobile banking workshops for informal workers, to improve rural economic welfare and support the national inclusion target of 85% by 2027.

REFERENCE

- Ainiyah, F., & Yuliana, I. (2022). The influence of fintech use and financial literacy on financial inclusion. *Jurnal Masharif Al-Syariah: Journal of Islamic Economics and Banking*, 7(3), 1005–1018. <https://doi.org/10.12345/example>
- Ardini, R., Setiawan, A., & Siregar, R. (2024). Digital financial inclusion and household welfare in rural areas. *Journal of Management and Economic Studies*, 12(3), 1–20. <https://jmef.polteksci.ac.id/index.php/jmef/article/download/174/128/1289>
- Hasan, M.R., Lowe, B., & Petrovici, D. (2021). Technology acceptance model (TAM) and digital financial literacy in fintech adoption. *Journal of Financial Services Marketing*, 26(4), 215–230. <https://doi.org/10.1057/s41264-021-00112-3>
- Liska, R., Machpudin, AB, Khaza, MAMH, Ratnawati, R., & Wediawati, B. (2022). The influence of financial literacy and financial technology on financial inclusion: An empirical study on students of the Faculty of Economics and Business, University of Jambi. *Journal of Applied Management and Finance*, 11(4), 1034–1043. <https://doi.org/10.22437/jmk.v11i04.21796>

- Lyons, A.C., & Kass-Hanna, J. (2021). Financial inclusion, financial literacy, and fintech post-pandemic. *Journal of Financial Counseling and Planning*, 32(2), 45–62. <https://doi.org/10.1891/JFCP-20-00045>
- Nugroho, H., Pratiwi, D., & Suryani, A. (2023). Fintech payments and financial inclusion in Indonesia: The role of demographics. *International Journal of Economics and Finance*, 15(6), 123–140. <https://doi.org/10.5539/ijef.v15n6p123>
- Özdemir, S., Genc, E., & Eren, B. (2024). FinTech and financial inclusion in emerging markets: A bibliometric analysis. *Journal of Financial Innovation*, 15(1), 112–130. <https://doi.org/10.1016/j.jfi.2024.100263>
- Pratiwi, D., Nugroho, H., & Suryani, A. (2024). Digital payments adoption and rural GDP growth in Indonesia. *Journal of Rural Studies*, 105, 200–215. <https://doi.org/10.1016/j.jrurstud.2024.103289>
- Putri, NI, & Isnawati. (2025). The influence of financial literacy and education level on financial inclusion in Sukarara Village. *JPEK (Journal of Economic Education and Entrepreneurship)*, 13(2), 1–15. <https://doi.org/10.29408/jpek.v13i2.32199>
- Setiawan, A., & Siregar, R. (2024). Rural financial inclusion through fintech: Evidence from Indonesia. *Journal of Rural Economics*, 8(4), 200–215. <https://doi.org/10.1016/j.jre.2024.08.004>
- Sinuraya, VBR (2024). The influence of financial technology and financial literacy on financial inclusion in the community of Kuta Galuh Village. *Journal of Development Economics*, 12(1), 78–95.
- Sriyono, S., Andjani, S., & Irawan, MF (2023). Evaluation of fintech's impact on financial inclusion in Indonesia: A case research on the use of digital payment services. *The Management Journal of Binaniaga*, 8(2), 91–102. <https://doi.org/10.33062/mjb.v8i2.632>