

## **Influence of Financial Literacy on Financial Inclusion in Barangay Paitan, Naujan, Philippines**

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**ABSTRACT:** This study delves into the influence of financial literacy, encompassing financial knowledge, financial skills, financial attitudes, and numeracy, on the financial inclusion among indigenous households in Barangay Paitan, Naujan, Oriental Mindoro, Philippines. Employing a simple random sampling technique, data from 206 respondents were collected through survey questionnaires. The analysis utilized two statistical treatments—mean and correlation analysis. The key findings emphasize the necessity for enhancement across all four dimensions of financial literacy. Correlation analysis underscores a significant positive relationship between various aspects of financial literacy and access to financial services, underscoring the pivotal role of financial literacy in promoting financial inclusion within the indigenous community. The proposed output of this study is a program proposal which includes comprehensive and culturally sensitive financial literacy programs and a community-based savings association that are tailored for indigenous households in barangay Paitan.

**Keywords:** financial knowledge, financial skills, financial attitudes, numeracy, and indigenous households

### **I. INTRODUCTION**

Millions of Filipinos, primarily from lower-income groups, grapple with the repercussions of financial exclusion, exacerbating economic challenges and perpetuating poverty nationwide. The impact is particularly pronounced among indigenous peoples, as affirmed by the Bangko Sentral ng Pilipinas (BSP) and the International Labour Organization (ILO), underscoring the paradox of their impoverishment despite abundant natural resources. The high illiteracy rates in indigenous communities further compound the issue, limiting access to financial information and services, deepening their financial exclusion.

The study focuses on Barangay Paitan in Naujan, Oriental Mindoro, chosen for its distinction as the largest barangay, supported by the Gender and Development (GAD) Database. Government initiatives have endowed the barangay with crucial infrastructure, making it an accessible and strategically relevant location for our research. The decision is further justified by the homogeneous Mangyan population in the community, providing a representative sample for a comprehensive understanding of indigenous challenges.

Researchers like Hasan, Le, & Hoque have delved into the impact of financial literacy on financial inclusion, emphasizing its significance. However, they highlight the need for future research in diverse nations, especially in underdeveloped and developing countries where financial inclusion remains an emerging issue. This motivates our investigation into the influence of financial literacy on financial inclusion in the Philippines, specifically in Barangay Paitan, Naujan, Oriental Mindoro. The focus on indigenous participants is deliberate, considering their heightened vulnerability to financial challenges.

This study holds paramount importance for the indigenous households in Barangay Paitan, offering initiatives to foster financial inclusion and improve their overall well-being. Moreover, the findings serve as valuable insights for financial institutions, guiding them in offering affordable and accessible financial services to indigenous communities. The study establishes the critical role of financial literacy in financial inclusion, underscoring the collaborative efforts required among the government, financial regulators, institutions, and policymakers. Financial literacy programs emerge as essential tools in crafting accurate and tailored initiatives that address the unique needs of indigenous populations, marking a crucial step towards fostering inclusive financial practices.

## **Review of Related Studies**

### **Influence of Financial Literacy on Financial Inclusion**

According to a study by Irman et al., (2021) an awareness of financial literacy is crucial to minimize financial risk since the more financial literacy a person possesses, the more likely they are to use, utilize, and understand financial products and services.

Lyons & Kass-Hanna, (2019) discovered that economically vulnerable people are far less likely to be included in financial systems. Additionally, people with higher levels of financial literacy are more likely to engage in positive savings behaviors and are less likely to borrow from various informal sources. Financial literacy enables people to evaluate various financial products and services by educating and empowering them. Hasan & Hoque, (2021) discovered from their research that understanding various financial services has a significant impact on access to financial opportunities, particularly the expansion of the use of other financial services. Moreover, rural people are only aware of a limited number of banking services and activities, which is why they remain limited to these services. In most cases, they believe that banks' only activities are deposits and withdrawals from banks. This is why they avoid using other financial services. Furthermore, no obvious training programs to encourage access to financial opportunities have been established by financial institutions.

### **Financial Literacy**

According to Ningsi & Marunung, (2021), financial literacy is defined as knowledge, skills, and attitudes that influence behavior in order to improve the quality of decision making and financial management in order to achieve prosperity.

According to Lusardi, (2019), there are three concepts used to measure financial literacy known as "The Big Three," which are universal and apply to every context and economic environment. Numeracy is one of these concepts, along with understanding of inflation and risk diversification.

### **Financial Knowledge**

Selvia et al. (2021), claimed that someone with high financial knowledge would be financially literate and better able to manage money. When armed with sound knowledge, a person will behave sensibly to promote consumption.

Selvia et al. (2021), also examined the effect of financial knowledge on financial well-being. This study's findings support the idea that financial literacy significantly improves financial inclusion. Furthermore, they contend that having a solid knowledge of finances enables one to make better use of financial services and products that are tailored to the needs of each individual in order to enhance financial stability.

According to Metrobank (2020), having a solid foundation in financial literacy is crucial because it equips you with the knowledge you need to handle your money sensibly. Without financial literacy, you can be selecting the incorrect savings or investment options. Understanding how money works will help you avoid debt while using credit cards, get your first auto loan, and increase your savings through investing.

Financial education, according to Hasan & Hoque, (2021) , helps people grasp various financial concepts and products by providing instructions, information, and guidance to help them become more adept at identifying financial dangers and possibilities. Planning, investing, and saving are all aspects of high-level financial knowledge. Financial knowledge is the community's mastery of numerous concepts in the financial world and risks associated with them, according to Sorongan, (2022). By having a solid knowledge of a variety of personal finance topics, one can gauge their level of understanding of personal finance-related issues.

### **Financial Skills**

According to the Consumer Financial Protection Bureau (2018), Financial skill is widely understood to be a key element of financial literacy. Beyond possessing financial knowledge, financial capability encompasses an active component—the ability to apply financial knowledge effectively. This action-oriented dimension involves acquiring the skills necessary to implement financial knowledge in various contexts, including novel and unfamiliar financial decisions. Importantly, these skills are versatile, empowering individuals of all ages to navigate diverse financial scenarios.

According to Shen et al., (2018), creating a society where everyone has access to financial products necessitates enhancing financial literacy in terms of offering financial skills as well as their application while making financial decisions. Financial literacy boosts confidence, which makes it easier for people to use and access

formal financial services. They also added that financial literacy gives people the skills necessary to choose whether financial products are appropriate for them to employ in order to enhance their financial situation.

Goenadi et al., (2022), claim that financial literacy is related to consumers' responsibility, which is financial skills, for understanding contracts they have signed and for informing themselves about the products they have purchased.

Selvia et al., (2021), financial skill assists someone in making financial plans, which they may then utilize by applying their financial knowledge to both short and long-term planning.

The Organisation for Economic Cooperation and Development (OECD), (2019) aptly defines financial literacy as not only the knowledge and understanding of financial concepts and risks but also the skills, motivation, and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life.

### **Financial Attitudes**

Luburić & Fabris, (2018) describe that the attitude towards money is also one of the key factors of financial literacy. Basically, it's the attitude of people to what they earn and other income, and is shown by their spending habits and by their saving for their future. The attitude towards money is best seen by whether users give priority to short-term needs and preferences, or make medium-term and long-term financial plans for a safer future.

Stella et al., (2022), in their study, define financial attitude as a person's state of mind and perception regarding finances.

Cossa et al., (2022), they claim that attitudes are also regarded as important components of financial literacy. It is argued that if people have a negative attitude toward saving for the future, they will be less likely to engage in such behavior. Similarly, if they prefer to prioritize short-term wants over long-term security, they are unlikely to save for emergencies or make long-term financial plans.

According to Ameliawati & Setiyani, (2015), financial attitudes have major implications for financial literacy. Someone who has a good financial attitude will also have strong financial literacy. Those with a poor financial attitude will have a negative influence on their financial literacy. People with good financial literacy can make decisions about financial products that are beneficial to their future.

Yadav & Rai, (2019) states that personal inclination toward financial concerns is known as financial attitude. It is the capacity to prepare ahead of time and keep a savings account that is important.

### **Numeracy**

Lusardi, (2019) defined numeracy as the ability to calculate interest rates and understand interest compounding; thus, it is one of the tools used to assess financial literacy. Skagerlund et al., (2018) introduce the role of numeracy in financial literacy in their study. They argue that a key motivation for achieving financial literacy is the capacity to comprehend numerical information and maintaining a positive emotional disposition towards numbers that doesn't hinder an individual's routine involvement in activities related to mathematics and financial choices.

Balakrishna & Virmani, (2019) examined the financial and numeracy skills of the Indian forest-dependent communities (FDC). According to the results, just one-third of the sampled FDC members were able to provide correct answers to the easy interest questions and the probability questions. Recognizing mathematical symbols and performing simple addition, subtraction, multiplication, and division calculations, however, proved to be difficult for the participants.

In the program developed by Organization for Economic Cooperation and Development (OECD) named "Programme for International Student Assessment", (2018) defines numeracy as "the ability to access, use, interpret, and communicate mathematical information and ideas" or "the capacity to identify, understand, and engage in mathematics, as needed for the individual's current and future private life, occupational life, social life with peers and relatives, and life as a constructive, concerned, and reflective citizen."

### **Financial Inclusion**

Ozili, (2020) defined financial inclusion as the availability and ease of access to basic formal financial services for all members of the population, in his study on financial inclusion theories. Individuals and businesses who are financially included have access to useful and affordable formal financial services that meet their needs responsibly and sustainably.

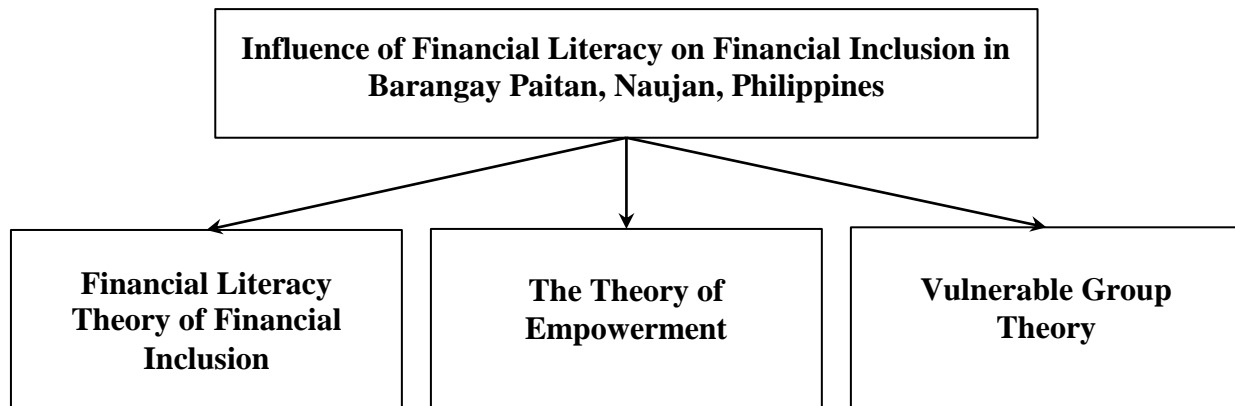
Effective access, according to the Bangko Sentral ng Pilipinas (BSP), (n.d.), implies not only the availability of financial products and services, but also that these products and services are appropriately designed,

of high quality, and responsive to the diverse needs of individuals and businesses, whether for savings, payments, financing, investing, or insurance. Being financially included entails having access to a diverse range of financial services that are tailored to one's capabilities and needs. It does not mean that one will never have to worry about money again, but it does mean that one will have more and better options for saving, borrowing, transferring funds, investing, and obtaining protection for one's life and assets.

According to PearlPay, (2021), another reason for Filipinos' financial exclusion is a lack of accessibility. In 2019, there are 510 cities and municipalities in the country that have no banking presence. Furthermore, most Filipinos are unaware of the existence of rural banks. In fact, the country has more rural banks than commercial banks. Ultimately, understanding the benefits of the banking system can help Filipinos, particularly those in poverty, gain easier access to capital and other financial resources that will not only meet their immediate needs but will also allow them to grow and become financially independent in the long run.

Financial inclusion, according to the World Bank (2022), refers to the condition wherein individuals and businesses can avail themselves of accessible and cost-effective financial products and services that meet their requirements for transactions, payments, savings, credit, and insurance. This provision should be sustainable and conducted responsibly.

**Theoretical Framework**



**Figure 1. Theoretical Framework**

The theories of Chen and Volpe on financial literacy theory of financial inclusion (1998), Zimmerman's theory of empowerment (2001), and Fineman & Martha's vulnerable group theory served as the foundation of this study.

The Financial Literacy Theory of Financial Inclusion, as proposed by Chen and Volpe (1998), asserts that enhanced financial knowledge increases individuals' willingness to engage with formal financial services. This theory emphasizes the pivotal role of education in fostering financial literacy, positing that individuals who are well-informed are more likely to actively seek out and utilize formal financial services. In the study on the influence of financial literacy on financial inclusion in Barangay Paitan, Naujan, Philippines, this theory underscores the importance of targeted financial education initiatives to promote greater adoption of formal financial services within the community.

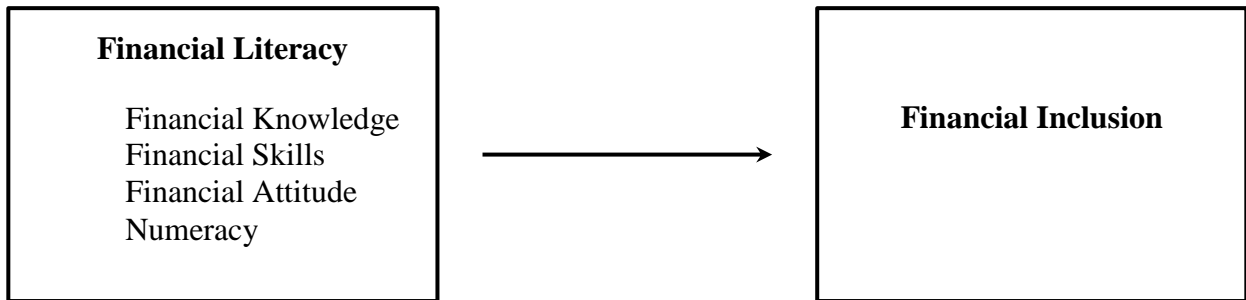
Zimmerman's Empowerment Theory (2001) contributes by emphasizing that financial literacy empowers individuals to evaluate risks and returns associated with financial decisions. This theory underscores that being informed enables individuals to make effective use of financial services aligned with their needs. In the context of the study, it suggests that financial literacy goes beyond mere awareness, empowering individuals in Barangay Paitan to make informed decisions about available financial options, thereby enhancing their economic well-being.

The Vulnerable Group Theory of Financial Inclusion, put forth by Fineman and Martha (n.d.), argues that financial inclusion efforts should prioritize vulnerable members of society who are most affected by economic hardships and crises. This theory suggests that by bringing the most vulnerable individuals into the formal financial sector, the negative impact of financial crises can be mitigated. In the specific context of Barangay Paitan, this theory highlights the need to tailor financial inclusion programs to the unique challenges faced by vulnerable community members, contributing to a more inclusive and resilient financial system.

Collectively, these theories provide a comprehensive framework for understanding how financial literacy promotes financial inclusion in Barangay Paitan, Naujan, Philippines.

**Conceptual Framework**

The conceptual framework of this study employs an IV-DV (Independent Variable-Dependent Variable) model to elucidate the intricate relationship between financial literacy and financial inclusion. In this model, financial literacy serves as the independent variable, encompassing key indicators such as financial knowledge, financial skills, financial attitudes, and numeracy. The study aims to investigate how variations in financial literacy impact the dependent variable, namely financial inclusion.



**Figure 2. Conceptual Framework**

**Statement of the Problem**

This research aims to determine the Influence of Financial literacy on financial inclusion among Indigenous Households in Barangay Paitan, Philippines. Specifically, the study sought answers to the following questions:

1. What is the extent of financial literacy of Indigenous Households in Barangay Paitan in terms of:
  - 1.1 Financial Knowledge;
  - 1.2 Financial Skills;
  - 1.3 Financial Attitude; and
  - 1.4 Numeracy?
2. Which of the financial literacy indicators mostly influence financial inclusion among indigenous households in barangay Paitan?
3. Is financial literacy having a significant influence on financial inclusion?

**Hypothesis of the study**

**H<sub>0</sub>:** Financial literacy has no significant influence on financial inclusion among indigenous households in barangay Paitan, Naujan, Philippines

**Scope & Delimitation**

As a prerequisite, the study's objectives will be briefly outlined before formal primary data collection. The researcher secured permission and confirmed participants' availability. No deception or exaggeration about the study's aims will be employed. Full transparency is ensured, emphasizing participants' informed and voluntary participation. Honest and transparent responses are crucial for success. Participants can withdraw their data if their interests are jeopardized. Upon complete consent, data collection will begin, ensuring confidentiality and privacy protection for stakeholders, assessing only relevant components.

**II. METHODOLOGY**

This study uses a quantitative method. As per Williams (2021), quantitative research is an investigative approach centered on quantifying variables through a numerical framework, scrutinizing these measurements through diverse statistical models, and presenting findings on the connections and associations among the examined variables. The objective in collecting quantitative data is to comprehend, depict, and anticipate the characteristics of a phenomenon.

The researchers used the descriptive-correlational design, which attempts to describe the variable of the study and investigate their relationship. Descriptive correlational design is utilized in research studies to present a static picture of situations as well as to establish the relationship among different variables (McBurney & White, 2009). Two variables, financial literacy, and financial inclusion of indigenous households are explored in this study to determine their relationship. The design is suitable for the aforementioned topic since the researcher gathered data based on financial knowledge, financial skills, financial attitude, and numeracy throughout the study.

Indigenous households in Barangay Paitan served as the respondents of this study; they belong to the Mangyan- Alangan tribe. The community is situated at the base of Mt. Halcon in the Municipality of Naujan. It is believed to be 220 hectares in size, making it one of the largest barangays in the municipality. There are 422 total households with the majority of them earning an average monthly income of Php5,000.00 to a maximum of Php15,000.00. They mostly rely on traditional ways of agriculture for living, growing rice, corn, bananas, coconut, rambutan, coffee beans, and other root crops, and raising native chickens and pigs.

The researchers utilized simple random sampling to accommodate a particular sample size due to the large population. Using Slovin's Formula, the researchers came up with a sample size of 206.

The formula to get the sample size is:

$$R = \frac{N}{(1 + Ne^2)}$$

**Where;**

R = Respondents

N = Total Population size, and

e = the acceptable margin of error (5%)

**Therefore:**

$$R = \frac{N}{(1 + Ne^2)}$$

$$R = \frac{422}{(1 + (422)(5\%)^2)}$$

$$R = \frac{422}{(1 + (422)(0.0025))}$$

$$R = \frac{422}{(1 + 1.055)}$$

$$R = \frac{422}{2.055}$$

$$R = 205.35 \text{ or } 206$$

A survey questionnaire is the major tool used by the researchers to gather data. For the indigenous people to comprehend each question clearly and simply, the questionnaire is written in Filipino. A four-point rating scale, with 1 means strongly disagree, 2 denotes disagree, 3 equates agree, and 4 means strongly agree, is used in the survey. The researchers conducted a test-retest of the questionnaire to ensure its reliability, and the outcome verified the accuracy and consistency of the questionnaire among the respondents. Reliability result is presented in the table below.

**Table 1 Reliability Result**

<b>Variables</b>	<b>No. of Items</b>	<b>Result</b>	<b>Interpretation</b>
Financial Knowledge	5	0.650405294	Reliable
Financial Skills	5	0.6958486955	Reliable
Financial Attitude	5	0.7001947649	Reliable
Numeracy	5	0.62052939	Reliable
Financial Inclusion	5	0.7634085258	Reliable



After testing the reliability of the research instrument, researchers proceed in data collection. The data collected in this study underwent two major statistical treatments. The **mean** was employed to summarize the influence of financial literacy concerning financial knowledge, financial skills, financial attitudes, and numeracy on the financial inclusion of indigenous households in Paitan. Weighted Mean was computed by dividing the sum of the products of each observed value, the number of times it occurred, and another factor by the total number of observations.

To describe the relationship between financial literacy and financial inclusion, **Pearson’s r** correlation was applied. The Pearson Correlation Coefficient formula is as follows:

$$r = \frac{\Sigma(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\Sigma(x_i - \bar{x})^2 \Sigma(y_i - \bar{y})^2}}$$

The influence of financial literacy in connection with financial knowledge, financial skills, financial attitudes, and numeracy on the financial inclusion of indigenous households in Paitan is presented using a 4-point scale, as indicated below:

Four-Point Rating Scale		
Option	Score Range	Interpretation
4	3.50 - 4.00	Strongly Agree (SA)
3	2.50 - 3.49	Agree (A)
2	1.50 - 2.49	Disagree (D)
1	1.00 - 1.49	Strongly Disagree (SD)

### III. RESULTS AND DISCUSSION

#### I. Financial Literacy

Table 2 Mean Perception Profile of the Respondents in Terms of Financial Knowledge

Item	Mean	Rank	Description	Interpretation
1. I make better use of financial services and products that are tailored to my needs.	1.73	5	Disagree	Affected
2. I am able to manage my money and handle it sensibly.	2.82	1	Agree	Affected
3. I do financial planning, investing, and saving.	2.49	3	Disagree	Affected
4. I have attended financial education-related seminars.	1.85	4	Disagree	Affected
5. I am able to understand financial concepts and the risks associated with them.	2.67	2	Agree	Affected
Overall mean	2.31		Disagree	Affected

Table 2 displays the respondents' mean perception profile on financial knowledge, revealing areas for improvement. Respondents generally disagree with statements about using tailored financial services, attending financial seminars, and engaging in financial planning, investing, and saving. However, they agree with managing money sensibly and understanding financial concepts, suggesting strength in these areas.

Moreover, concerning financial knowledge, there is a noticeable lack of comprehension among the respondents regarding tailored financial services, the advantages of participating in financial education seminars, and engaging in financial planning, investments, and savings. Nevertheless, they exhibit proficiency in managing their finances sensibly and understanding financial concepts and associated risks. Furthermore, during the discussions with the respondents, a prevailing sentiment emerged that financial institutions primarily serve the purpose of offering loans. The respondents expressed a strong aversion to loans, citing fear as a significant factor deterring them from seeking financial assistance. This apprehension stems from a lack of understanding about the diverse range of services offered by financial institutions beyond loans. This is parallel to the study conducted by

Bowles (2015) that found that Indigenous people do not seek loans from mainstream financial institutions with apprehension about being turned down because many have poor credit histories.

The overall mean (2.31) represents a need for improvement in financial knowledge among indigenous households in barangay Paitan, Naujan, Oriental Mindoro.

**Table 3 Mean Perception Profile of the Respondents in Terms of Financial Skills**

<b>Item</b>	<b>Mean</b>	<b>Rank</b>	<b>Description</b>	<b>Interpretation</b>
1. I use formal financial services confidently.	1.75	5	Disagree	Affected
2. I choose financial products that are appropriate for me to employ in order to enhance my financial situation.	1.84	4	Disagree	Affected
3. I fully understand the contracts that I've signed and inform myself about the financial products I've purchased.	2.07	3	Disagree	Affected
4. I am able to make financial plans and utilize my financial knowledge for both short-term and long-term planning.	2.58	2	Agree	Affected
5. I make adequate financial decisions and actions.	2.67	1	Agree	Affected
Overall mean	2.18		Disagree	Affected

Table 3 reveals a need for improvement in respondents' financial skills. They generally disagree with statements about confidently using formal financial services, choosing appropriate financial products, and fully understanding signed contracts, indicating a lack of skills in these areas. However, there is agreement in their ability to make financial plans, apply financial knowledge for planning, and make informed financial decisions, showcasing strength in these aspects.

This also displays room for improvement in terms of financial skills, particularly in the areas of confidently using formal financial services, selecting appropriate financial products, and fully grasping financial contracts. However, the respondents demonstrate competence in creating financial plans, applying financial knowledge for both short-term and long-term planning, and making sound financial decisions and taking appropriate actions. Moreover, the discussions with the respondents shed light on their financial practices, revealing a tendency to forgo budgeting. According to their accounts, upon receiving money, there is a common inclination to spend it immediately without allocating funds to different expenses or engaging in structured budgeting practices. This can lead them to being at risk of spending more than they can afford, according to Domingo (2022). Overall, there is a significant need to enhance financial skills, as its mean (2.18) represents a lack of this aspect.

**Table 4 Mean Perception Profile of the Respondents in Terms of Financial Attitudes**

<b>Item</b>	<b>Mean</b>	<b>Rank</b>	<b>Description</b>	<b>Interpretation</b>
1. I have a positive perception regarding finances.	3.12	1	Agree	Affected
2. I have a positive attitude toward saving, and I engage in such behavior.	2.53	3	Agree	Affected
3. I prioritize long-term security over short-term wants.	2.54	2	Agree	Affected
4. I can make choices about financial products that are good for my future.	2.16	4	Disagree	Affected
5. I prepare ahead of time and keep a savings account.	1.35	5	Strongly Disagree	Affected
Overall mean	2.34		Disagree	Affected

Table 4 illustrates positive financial attitudes among respondents, with an average mean of 2.34. They express agreement in positive perceptions of finances, prioritizing long-term security, and maintaining a positive attitude toward saving. However, there is room for improvement, as they disagree with making choices about future-oriented financial products, and some strongly disagree with preparing ahead and maintaining a savings account.



The community's financial attitudes seem to be relatively positive. Respondents exhibit a favorable perception of finances, a readiness to prioritize long-term security over short-term desires, and a positive attitude toward saving. Nevertheless, there is a need to improve their ability to make choices about financial products beneficial for the future, as well as planning ahead and maintaining savings accounts. However, a noteworthy aspect surfaced during the discussion between the researchers and respondents: a negative belief about saving, with some expressing the notion that saving may attract illnesses. This aligns with the study conducted by Cossa et al., (2022) that if people have a negative attitude toward saving for the future, they will be less likely to engage in such behavior.

Overall, while financial attitudes are positive, its mean (2.34) represents that there is an opportunity to enhance some areas of financial attitude such as future-oriented decision-making and savings habits.

**Table 5 Mean Perception Profile of the Respondents in Terms of Numeracy**

<b>Item</b>	<b>Mean</b>	<b>Rank</b>	<b>Description</b>	<b>Interpretation</b>
1. I am familiar with calculating interest rates and understanding the concept of compound interest.	2.03	5	Disagree	Affected
2. I am able to understand numbers, and my emotional attitude toward numbers does not interfere with my daily engagement in activities involving mathematics and financial decisions.	2.96	1	Agree	Affected
3. I know how to answer interest questions and probability questions.	2.06	4	Disagree	Affected
4. I can recognize mathematical symbols and perform simple addition, subtraction, multiplication, and division calculations.	2.84	2	Agree	Affected
5. I am able to access, use, interpret, and communicate information and ideas related to mathematics.	2.61	3	Agree	Affected
Overall mean	2.50		Agree	Affected

Table 5 summarizes respondents' mean perception profile regarding numeracy, with an overall mean of 2.50, indicating a reasonably positive perception. Respondents generally agree with understanding numbers, recognizing mathematical symbols, and performing basic operations without emotional interference. However, they disagree with familiarity in calculating interest rates, understanding compound interest, and answering interest and probability questions. The findings suggest positive numeracy skills overall, with potential for enhancement in financial mathematical concepts and problem-solving.

Numeracy skills are generally positive, with respondents demonstrating an ability to understand numbers, recognize mathematical symbols, and perform basic mathematical operations without emotional interference. However, there is a need for improvement in areas related to calculating interest rates, comprehending compound interest, and answering interest and probability questions. However, the discussion between respondents and researchers brought to light a specific area requiring improvement: the practice of costing. Respondents indicated a lack of engagement in calculating prices for their products, expressing a tendency to sell items without a formal costing process. This insight underscores a potential gap in applying numeracy skills to real-world financial scenarios, particularly in the business context. While respondents demonstrate proficiency in fundamental mathematical operations, there appears to be a need for practical application in areas such as costing, which is crucial for effective financial management in business endeavours. As stated by Kotamaki (2023) costing has an impact on pricing of products which generally affects profit. Unable to practice costing affects the profit of indigenous households from the products they produced and sold.

**II. Financial Inclusion**

**Table 6 Mean Perception Profile of the Respondents in Terms of Financial Inclusion**

Item	Mean	Rank	Description	Interpretation
1. I have access to useful and affordable formal financial services that meet my needs responsibly and sustainably.	1.48	3	Strongly Disagree	Affected
2. There are financial products and services that are appropriately designed, of high quality, and responsive to my needs, whether for savings, payments, financing, investing, or insurance.	1.42	4	Strongly Disagree	Affected
3. I have more and better options for saving, borrowing, transferring funds, investing, and obtaining protection for my life and assets.	1.41	5	Strongly Disagree	Affected
4. I am aware that there are rural banks near our area, and I know the benefits of the banking system.	2.16	1	Disagree	Affected
5. Financial products and services satisfy my needs for transactions, payments, savings, credit, and insurance, and they are provided in a sustainable and responsible manner.	1.51	2	Disagree	Affected
Overall mean	1.60		Disagree	Affected

Table 6 outlines respondents' mean perception profile regarding financial inclusion, with an overall mean of 1.60, indicating general dissatisfaction. Respondents strongly disagree with crucial aspects, including access to useful and affordable formal financial services, appropriateness and quality of financial products, and options for financial activities. While they express disagreement, rather than strong disagreement, about awareness of rural banks and the sustainability of financial products, there is still room for improvement.

There is an overall dissatisfaction with financial inclusion in indigenous households, as indicated by a mean score of 1.60. Respondents expressed that they are not using formal financial services and participating in financial activities due to their lack of familiarity with such services. Furthermore, they noted that banks are distant and inaccessible to their community. This is parallel to the report of PearlPay (2021), which states that the main reason that most Filipinos are unbanked is a lack of financial products' knowledge. Most Filipinos are unaware of the benefits of banking because they lack information on how to open an account and other banking products. Another reason for Filipinos' financial exclusion is a lack of accessibility to banks.

**Descriptive Statistics**

**Table 7**

Indicators	Mean	Std. Dev.	Scale
Financial Knowledge	11.55825	2.211722	Agreed
Financial Skills	10.88835	3.199415	Agreed
Financial Attitude	11.70874	2.593166	Agreed
Numeracy	12.50000	2.966068	Agreed

After evaluating responses from the Indigenous People of Barangay Paitan in Naujan, Oriental Mindoro, researchers discovered that, among the financial literacy factors influencing financial inclusion, numeracy had the highest average score (mean = 12.50000), being it as a highly influential indicator of financial literacy. This finding affirms that numeracy is a crucial tool used to assess financial literacy (Lusardi, 2019) and a significant driving force behind becoming financially literate (Skagerlund et al., 2018).

Financial Attitude (mean = 11.70874) ranks second-highest in mean score, highlighting its importance as an indicator of financial literacy. This aligns with the perspective of Luburić & Fabris (2018), emphasizing that

one's attitude towards money is a key factor in financial literacy. Additionally, financial attitudes have major implications for financial literacy, as individuals with a positive financial attitude are likely to possess strong financial literacy (Ameliawati & Setiyani, 2015).

Furthermore, Financial Knowledge (mean = 11.55825) ranks third-highest and second-lowest in mean score. The mean value indicates its significance as it serves as moderately influential to financial literacy, consistent with the viewpoint of Selvia et al. (2021), which posits that individuals with high financial knowledge are likely to be financially literate.

Among the indicators of financial literacy, financial skills received the lowest mean (mean = 10.88835), as this is slightly influential to the variable. Despite this, the mean value underscores its importance as an indicator of financial literacy, given that it is widely recognized as a key element of financial literacy (Consumer Financial Protection Bureau, 2018).

**IV. Relationship between Financial Literacy and Financial Inclusion**

Table 8  
Summary of r and r<sup>2</sup>  
DV: Financial Inclusion

IV	r	r <sup>2</sup>	Interpretation	Decision
Financial Knowledge	0.477777	0.228271	Significant	Reject H <sub>0</sub>
Financial Skills	0.574879	0.330486	Significant	Reject H <sub>0</sub>
Financial Attitudes	0.614609	0.377745	Significant	Reject H <sub>0</sub>
Numeracy	0.478591	0.229049	Significant	Reject H <sub>0</sub>
<b>Financial Literacy</b>	<b>0.53644</b>	<b>0.29138775</b>	Significant	Reject H <sub>0</sub>

Table 8 presents a summary of correlation coefficients (r) and their corresponding squared values (r<sup>2</sup>) that assess the relationships between financial literacy variables (financial knowledge, financial skills, financial attitudes, and numeracy) and the dependent variable, financial inclusion. The results indicate positive and statistically significant correlations for all examined independent variables with financial inclusion.

The research findings highlight that the highest correlation with financial inclusion is financial attitude (r = 0.614609). This aligns with a study conducted by Stella et al. (2022), emphasizing the importance of a favorable financial attitude in the context of financial inclusion and its positive relationship with financial literacy. Additionally, this study reveals a substantial relationship between financial skills and financial inclusion, with financial skills demonstrating the second-highest correlation (r = 0.574879). These findings strongly support the idea that individuals with strong financial skills are more likely to use and access formal financial services with confidence (Shen et al., 2018).

A significant correlation is also observed between numeracy and financial inclusion, with numeracy ranking as the third-highest contributor (r = 0.478591). This underscores the pivotal role of the capacity to identify, understand, and engage in mathematics, as needed for an individual's occupational life (PISA, 2018) in achieving financial inclusion.

Moreover, financial knowledge is observed to have the lowest correlation with financial inclusion (r = 0.477777). However, the r value indicates a linear relationship between the two. This parallels a study on the effect of financial knowledge on financial inclusion, contending that having a solid knowledge of finances enables one to make better use of financial services and products tailored to individual needs (Selvia et al., 2021).

On the one hand, the decision to reject the null hypothesis (H<sub>0</sub>) is based on the significance of these correlations, suggesting that financial literacy, encompassing knowledge, skills, attitudes, and numeracy, indeed has a notable and positive influence on financial inclusion among indigenous households in Barangay Paitan. The results, with an r-squared value of less than 0.05 (meaning that the variation in financial inclusion can be largely explained by financial literacy), affirm that as financial literacy, in its various dimensions, increases among indigenous households, there is a corresponding increase in financial inclusion. This aligns with a study by Irman et al. (2021), indicating that the more financial literacy a person possesses, the more likely they are to use, utilize, and understand financial products and services (financial inclusion).

### III. CONCLUSIONS

The financial literacy assessment of Indigenous Households in Barangay Paitan revealed reasonable levels of financial attitude, knowledge, and numeracy skills. Despite respondents displaying a moderate understanding of managing money sensibly, positive perceptions of finances, and reasonable numeracy skills, the mean scores for these dimensions fell within the lower range, indicating a need for improvement. Notably, there is room for enhancement in financial skills, particularly in using formal financial services confidently, choosing appropriate financial products, and fully understanding contracts. This underscores the importance of targeted interventions to uplift financial skills within the community for more financial inclusion.

When it comes to the key indicator, the most significant influencer of financial literacy affecting financial inclusion among indigenous households in Barangay Paitan is financial attitudes. This is determined by the highest correlation coefficient ( $r = 0.614609$ ) with the financial inclusion, indicating a strong and positive relationship. The positive financial attitudes of the respondents, including a favorable perception of finances, prioritizing long-term security, and engaging in saving behavior, emerge as crucial factors influencing their financial inclusion.

Concluding the findings, financial literacy was found to have a significant positive influence on financial inclusion. The study established correlations between financial literacy variables (knowledge, skills, attitude, and numeracy) and financial inclusion, highlighting the importance of enhancing financial literacy to achieve financial inclusion in the Indigenous households in Barangay Paitan.

#### **Recommendations**

Based on the conclusions provided, the researchers propose the following recommendations:

- Implement a focused financial literacy program, incorporating various workshops for each aspect, including financial knowledge, financial skills, financial attitude, and numeracy. Design these workshops specifically for indigenous households in Barangay Paitan, Naujan, Oriental Mindoro.
- Allow the Paitan community to engage in actual financial activities to apply the knowledge gained from the aforementioned workshops.
- Collaborate with local organizations, authorities, and indigenous leaders to ensure cultural sensitivity and program relevance. The involvement of the community in the program design process is crucial to effectively cater to their specific needs.

**Influence of Financial Literacy on Financial Inclusion in Barangay Paitan, Naujan, Philippines**

**PROGRAM PROPOSAL**

Empower FIN: Achieving Financial Inclusion in Indigenous Communities

**For Year 2024**

**Financial Literacy**

Variable / Particular	Specific Program	Objective	Organization In-Charge	Time Frame	Budgetary Requirement	Potential Obstacle	Contingency Action	Output
<b>Financial Knowledge</b>	Financial Knowledge Workshop	To provide tailored financial knowledge seminars to indigenous households in barangay Paitan, Naujan, Oriental Mindoro.	Local Government Unit - Naujan	Saturdays of June 2024	<ul style="list-style-type: none"> <li>• Facilitators fee</li> <li>• Materials</li> <li>• Transportation</li> <li>• Lunch and snack</li> <li>• Incentives for participants (Estimated 50,000)</li> </ul>	Language Barrier	<ul style="list-style-type: none"> <li>• Provide translated materials and interpreters to overcome language barriers.</li> <li>• Conduct workshops at locations accessible to participants.</li> <li>• Create a community-driven group to continue financial literacy development after the program ends.</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct financial literacy workshops for 200-300 indigenous individuals in Barangay Paitan, Naujan, Oriental Mindoro.</li> <li>• Achieve a minimum 20% improvement in participants' financial knowledge, financial skills, financial attitudes, and numeracy.</li> <li>• Increase effective engagement in financial activities among participants.</li> </ul>
<b>Financial Skills</b>	Financial Skill Workshop	To bridge the gap in practical financial skills among indigenous households in Barangay Paitan, Naujan, Oriental Mindoro.	Bank	Saturdays of July 2024	<ul style="list-style-type: none"> <li>• Facilitators fee</li> <li>• Materials</li> <li>• Transportation</li> <li>• Lunch and snack</li> <li>• Incentives for participants (Estimated 50,000)</li> </ul>	Limited Access to Participants		
<b>Financial Attitudes</b>	Financial Attitudes Workshop	To nurture positive financial attitudes among indigenous households in Barangay Paitan, Naujan, Oriental Mindoro.	National Commission for Indigenous People (NCIP)	Saturdays of August 2024	<ul style="list-style-type: none"> <li>• Facilitators fee</li> <li>• Materials</li> <li>• Transportation</li> <li>• Lunch and snack</li> <li>• Incentives for participants (Estimated 50,000)</li> </ul>	Sustainability		
<b>Numeracy</b>	Numeracy Enhancement Workshop	To enhance the numeracy skills of indigenous	Provincial Government of Oriental Mindoro	Saturdays of September 2024	<ul style="list-style-type: none"> <li>• Facilitators fee</li> <li>• Materials</li> </ul>			

***Influence of Financial Literacy on Financial Inclusion in Barangay Paitan, Naujan, Philippines***

		households in barangay Paitan, Naujan, Mindoro			<ul style="list-style-type: none"> <li>• Transportati on</li> <li>• Lunch and snack</li> <li>• Incentives for participants (Estimated 50,000)</li> </ul>			
<b>Financial Inclusion</b>								
<b>Financial Inclusion</b>	AlanganSavings: Empowering Financial Inclusion Community-Based Savings Association	The Alangan-Savings project aims to facilitate effective access to formal financial services for indigenous households in Barangay Paitan, Naujan, Mindoro.	Bangko Sentral ng Pilipinas (BSP)	Start : November, 2024	<ul style="list-style-type: none"> <li>• Setup of the savings association</li> <li>• Account Management Training</li> <li>• Translation services</li> <li>• Passbook (Estimated 500,000)</li> </ul>	Financial Literacy and Cultural Sensitivity	<ul style="list-style-type: none"> <li>• Engage community leaders and translators to ensure cultural relevance and language understanding in program design.</li> <li>• Offer targeted financial literacy workshops that respect cultural norms and values.</li> <li>• Offer incentives for the first members of the savings association.</li> <li>• Conduct community outreach and awareness campaigns on the benefits of saving</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment of a community-based savings association in Barangay Paitan, Naujan.</li> <li>• Enroll at least 200 indigenous households in the savings association.</li> <li>• Translation of essential bank materials and infographics into the Alangan dialect.</li> <li>• Foster financial well-being and economic empowerment.</li> </ul>



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