

IMPROVING FISHERMEN'S WELFARE THROUGH ACCESS TO MICROFINANCE: AN ANALYSIS FROM A FINANCIAL LITERACY PERSPECTIVE

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Received: 01/01/2026 | Revised: 20/01/2026 | Accepted: 10/02/2026 | Published: 28/02/2026

Abstract

Research Aims: This study aims to evaluate and scrutinize the overall efficacy of financial inclusion initiatives, specifically microfinance programs and financing decisions, in improving the welfare of fishermen. The focus of this study is on the role of behavior, knowledge, and financial stability in increasing the assessing the transformative outcomes of financial integration and financing decisions on fishermen's welfare. **Design/methodology/approach:** This study used a population of fishermen in the Riau Islands who utilize microfinance programs. Adopting a quantitative approach, this research utilized survey-based methods to gather data from 150 participants. These individuals were selected through a purposive sampling strategy, and the resulting data were processed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via the SmartPLS application. **Research Findings:** This research proves that financial literacy significantly improves financial inclusion and the quality of funding decisions. In addition, financial behavior and stability have been shown to encourage financial inclusion, although financial stability actually reduces fishermen's dependence on external debt. Overall, financial inclusion and appropriate funding decisions are key determinants in improving the welfare of fishermen **Theoretical Contribution/Originality:** This research differentiates itself through the development of a holistic model that uniquely integrates financial literacy, behavior, and stability into one unified framework to comprehensively explain the welfare of fishers. The specific focus on maritime communities in the Riau Islands gives it an advantage over other general research because it is able to formulate contextual solutions to the erratic fishermen's income cycle.

Keywords: *Financial Inclusion, Financial Decisions, Fishermen's Welfare, and Financial Literacy.*

INTRODUCTION

Indonesia still faces significant challenges with low levels of financial literacy, particularly in the Riau Islands Province (Kepri). The Riau Islands Province's financial literacy index in 2024 was 65%, with a financial inclusion rate of 75% (kepriprov.go.id). The empirical evidence indicates a significant discrepancy between the levels of financial inclusion and financial literacy within the Riau Islands region. The 10% difference indicates that many people still use financial products but lack a proper understanding of them. This undoubtedly impacts various aspects, including fishermen. Statistics provided by the Central Statistics Agency (BPS) indicate that over 60% of the Indonesian fishing community remains impoverished, as their livelihoods depend entirely on the unpredictable nature of daily yields. Therefore, low financial literacy among fishermen is a major obstacle to optimal utilization of financial services (Ariefin et al., 2023).

In financial literacy, there are important factors influencing financial inclusion, including financial behavior, financial knowledge, and financial stability. According to (Jamal et al., 2023), financial behavior refers to the concrete actions and decisions taken by individuals to manage their finances. Discussing financial behavior can be divided into two groups: good and bad financial behavior. Good financial behavior occurs when each individual is able to make wise financial decisions to support their long-term well-being. Conversely, if each individual makes poor financial decisions, it will impact financial stability, such as excessive debt and limited savings. Poor financial stability is not only influenced by financial behavior, but also by other factors, namely the community's financial knowledge. According to (Mitchell et al., 2011), low financial knowledge can reduce the level of financial planning. Therefore, these three factors are interrelated in influencing financial inclusion.

In addition to influencing financial inclusion, behavior, knowledge, and financial stability influence financing decisions, as they reflect how individuals allocate income, manage savings, and choose financing sources. (Margaretha & Pambudhi, 2015) emphasize that when individuals have a strong understanding of financial concepts, they can make informed financial decisions that will ultimately lead to a level of well-being. Achieving the well-being of fishermen requires not only financial literacy but also financial inclusion and sound financing decisions. The primary objective of this research is to investigate the efficacy of financial inclusion, with a particular focus on how microfinance initiatives and strategic financing decisions contribute to enhancing the well-being of the fishing community. The focus of this study is on the role of behavior, knowledge, and financial stability in enhancing the impact of financial inclusion and financing decisions on fishermen's welfare. Furthermore, this research seeks to evaluate how business coaching and financial literacy education can enhance financial management capabilities and maximize the advantages of inclusive financial services. Therefore, this research is expected to be able to provide a more comprehensive understanding of how Good financial behavior, knowledge, and stability can increase the positive impact of financial inclusion programs and financing decisions and provide recommendations for designing more effective and sustainable financial inclusion programs. Moreover, this inquiry aligns with the Sustainable Development Goals (SDGs), particularly concerning Poverty Alleviation (Goal 1) and Decent Work and Economic Growth (Goal 8). By offering insights into literacy enhancement and fiscal management, this study presents a viable pathway to mitigate poverty and foster sustainable employment within the fishing sector.

LITERATURE REVIEW

The Influence of Financial Behavior on Financial Inclusion

The extent to which coastal populations engage with formal financial institutions is significantly influenced by their individual financial behaviors. Fishermen with good financial habits, such as financial planning and the use of formal financial products, tend to be more inclusive in utilizing financial services (Karomah & Melati, 2025; Permata Rahmawati & Rasyid, 2025). Furthermore, the depth of financial knowledge, coupled with confidence in banking entities, serves as a cornerstone for fostering more integrated financial practices within fishing communities (Pattipeilohy et al., 2024).

The Influence of Financial Behavior on Financing Decisions

Fishermen's financial behavior significantly influences financing decisions because it determines how they manage their income, savings, and choice of funding sources. Attitudes toward risk and financial management skills have been shown to influence financing decisions, particularly in the context of small businesses (Purwidiyanti et al., 2024); Qur'ani & Istiono, 2025). Good financial behavior also increases fishers' economic resilience and encourages access to formal financing services (Karomah & Melati, 2025).

The Influence of Financial Knowledge on Financial Inclusion

Financial proficiency is instrumental in bolstering an individual's ability to comprehend, oversee, and effectively leverage various financial instruments. Fishermen with high financial literacy tend to be more adept at making rational financial decisions and actively engage in the use of formal financial services (Wachidah Fauziyanti, 2021; Mitchell et al., 2011). A heightened level of financial proficiency directly correlates with an individual's increased capacity to engage with formal financial systems (Ariefin et al., 2023).

The Influence of Financial Knowledge on Financing Decisions

Good financial literacy helps fishers understand various funding options and choose the most appropriate financing source for their business needs. Financial literacy, which includes an understanding of credit and risk management, has been shown to influence financing decisions in the small-scale sector, including fishers (Yuneline & Suryana, 2020; Pattipeilohy et al., 2024). Furthermore, financial experience and knowledge also help fishers make more informed and profitable financing decisions (Aslam et al., 2020).

The Influence of Financial Stability on Financial Inclusion

Financial stability is an important factor that enables fishermen take advantage of various official financial services, including savings, loans, and insurance protection. Stable economic conditions strengthen fishers' participation in financial inclusion programs and encourage more productive financial decisions (Pomeroy et al., 2020; Syarif & Haq, 2022; Chakraborty & Dhawan, 2025). Elevated financial stability significantly enhances the

likelihood of fishers engaging more proactively with formal financial institution (Pattipeilohy et al., 2024; Agusalim et al., 2025).

The Influence of Financial Stability on Financing Decisions

Financial stability plays a crucial role in determining fishers' ability to access and select funding sources appropriate to their business needs. Stable financial conditions enhance financial viability and enable fishers to utilize formal funding more optimally (Zakaria & Fatine, 2022; Pomeroy et al., 2020). Consistent income and asset ownership have also been shown to strengthen fishers' opportunities to obtain financing for their fisheries businesses (Pranata, 2019).

The Influence of Financial Inclusion on Financing Decisions

Financial inclusion significantly influences fishermen's financing decisions, particularly in determining access to and choice of funding sources. Access to formal financial services increases the economic resilience of fishing households and expands business financing opportunities (Pranata, 2019; Pomeroy et al., 2020; Agusalim et al., 2025). However, many fishermen still prefer informal financing sources due to administrative convenience and payment flexibility (Lovita et al., 2020; Harahap et al., 2024).

The Impact of Financial Inclusion on Fishermen's Welfare

Financial inclusion contributes significantly to improving the welfare of fishers through expanded access to formal financial services, risk management, and adaptive financial behavior. Good financial access and literacy have been shown to strengthen the economic resilience of fishing households, although obstacles such as limited collateral and low literacy remain challenges (Pomeroy et al., 2020; Permata Rahmawati & Rasyid, 2025). Furthermore, support for insurance programs and the implementation of Sharia-compliant financial inclusion also play a role in improving the social and economic welfare of fishers (Sari et al., 2022; Nurwansyah et al., 2025).

The Influence of Financing Decisions on Fishermen's Welfare

Strategic capital allocation is a vital determinant of fishermen's well-being, as it directly impacts both the longevity of their operations and the consistency of their earnings. Fishermen who make wise financing decisions, supported by financial literacy and strong social networks, tend to have higher welfare (Lovita et al., 2020; Harahap et al., 2024; Agusalim et al., 2025). However, access to funding without effective management skills does not always guarantee improved welfare for fishers (Permata Rahmawati & Rasyid, 2025).

METHOD

To answer our research questions, we adopted a quantitative approach through a survey method. This design was chosen to investigate the relationships between the variables studied. Structural Equation Modeling (SEM) served as the cornerstone of our analytical approach. The selection of SEM was predicated on its robust capacity to concurrently evaluate both the measurement (outer) and structural (inner) models, a dual-testing capability widely endorsed in contemporary academic literature (Hair et al., 2021).

Population and Sample Determination

This research focuses on the community that defines the population, for example, fishermen in the Riau Islands who utilize microfinance programs. To guarantee that the gathered data remained pertinent and consistent with the research goals, a purposive sampling strategy was implemented. Specifically, participants were handpicked based on predetermined benchmarks, including their active engagement in the fishing sector and firsthand exposure to formal financial services. Referring to guidelines from Hair et al. (2021) regarding the complexity of SEM models, we targeted a minimum sample size of 150 respondents to ensure the robustness of the statistical analysis.

Data Analysis Strategy

Data analysis was executed through the Partial Least Squares (PLS) path modeling approach. Following established PLS-SEM protocols, the analytical procedure was bifurcated into two primary phases: the assessment of the measurement model and the evaluation of the structural model.

1. Evaluation of Measurement Model (Outer Model)

The initial phase was dedicated to assessing the outer model, with a primary emphasis on verifying the reliability and validity of the measurement instruments. We ensured that each indicator accurately represented the construct it measured through several tests:

- a. **Convergent Validity:** Convergent validity was assessed by evaluating standardized factor loadings, requiring values to exceed the 0.70 threshold. Additionally, we verified that the Average Variance Extracted (AVE) surpassed 0.50 and the Composite Reliability (CR) remained above 0.70, ensuring that the indicators adequately represented their respective latent constructs
- b. **Discriminant Validity:** To confirm the distinctiveness of each construct, discriminant validity was rigorously tested. This involved applying the Fornell–Larcker criterion and examining the Heterotrait–Monotrait (HTMT) ratio. In accordance with methodological standards, an HTMT value below 0.85 was utilized as the primary threshold to establish that each variable is empirically unique.
- c. **Internal Reliability:** The internal consistency of the measurement scales was determined using Cronbach's Alpha. We adhered to a minimum benchmark of 0.70 to guarantee that the set of indicators for each construct demonstrated a high level of inter-item reliability

2. Structural Model Evaluation (Inner Model)

After ensuring the measurement model is valid and reliable, we proceed to hypothesis testing by evaluating the structural model. The steps include:

- a. **Multicollinearity Check:** To prevent biased estimates, we conducted a multicollinearity check by examining the Variance Inflation Factor (VIF) for each construct. Adhering to established guidelines, a VIF value below 5.0 was utilized as the benchmark to confirm the absence of redundant overlapping between independent variables.
- b. **Hypothesis Testing:** The structural relationships and hypothesized paths were evaluated using a bootstrapping procedure with 5,000 subsamples. This resampling technique allowed for the generation of robust path coefficients, t-statistics, and p-values to determine the statistical significance of the proposed model.

Model Strength and Predictive Power: The explanatory power of the structural model was determined by examining the Coefficient of Determination (R^2). The explanatory power of the structural model was determined by examining the Coefficient of Determination (f^2) was calculated. Lastly, the model's predictive capability was validated through a blindfolding procedure to derive the Q^2 value; a positive Q^2 serves as evidence of the model's predictive relevance for specific dependent indicators.

RESULTS AND DISCUSSION

Data Analysis Results

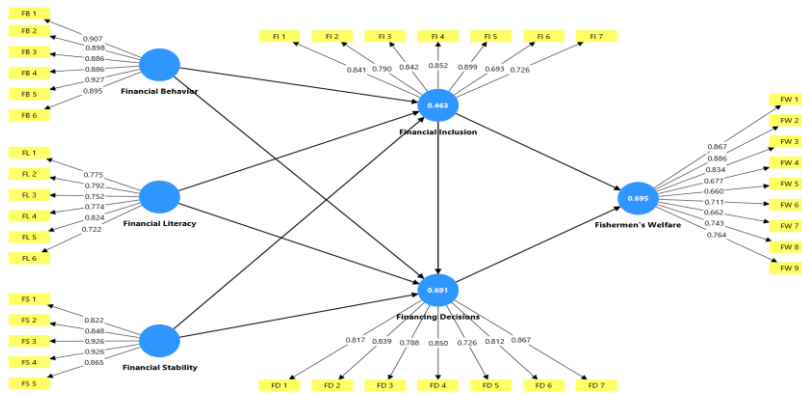
Empirical data in this study were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM), facilitated by SmartPLS 4 software. The analytical framework followed a systematic two-stage evaluation: first, the measurement (outer) model was scrutinized to verify instrument validity and reliability; second, the structural (inner) model was assessed to substantiate the proposed research hypotheses.

Evaluation of Measurement Model (Outer Model)

The primary objective of the measurement (outer) model assessment is to scrutinize the linkages between latent variables and their manifest indicators. This procedure entails a comprehensive verification of convergent validity, discriminant validity, and internal consistency reliability.

Indicator Reliability Test (Consistency Reliability)

Indicator reliability is assessed to determine the internal consistency of individual measures, ensuring that each item precisely represents the underlying latent construct it is designed to capture. This evaluation is based on the outer loadings. An indicator is considered reliable if it has a high loading value, with a generally accepted threshold of above 0.70. Loading values that meet this criterion indicate that the indicator has a strong correlation with its construct and consistently measures the same dimensions.



Picture 1. SmartPLS Output Results (v.4)

Reliability Test and Convergent Validity of Constructs

This test is an evaluation at the construct level to ensure the quality of the measurement model.

Table 1 : Reliability and Convergent Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Financial Behavior	0.955	0.998	0.962	0.810
Financial Literacy	0.866	0.867	0.899	0.599
Financial Stability	0.926	0.937	0.944	0.772
Financing Decisions	0.915	0.920	0.933	0.665
Fishermen's Welfare	0.909	0.931	0.924	0.578
inclusive finance	0.910	0.912	0.929	0.655

Source: SmartPLS Output Results (v.4)

a. Construct Reliability

This evaluation is designed to determine the internal consistency among indicators within their respective constructs. Measurement reliability was verified through Cronbach's Alpha and Composite Reliability (rho_c) measures. A construct is deemed reliable when both metrics surpass the 0.70 threshold. The empirical results demonstrate that all constructs exceeded these benchmarks, signifying a robust level of reliability across the model.

b. Convergent Validity

The objective of this assessment is to verify that indicators theoretically assigned to a single construct demonstrate a high degree of inter-correlation. Convergent validity was appraised via the Average Variance Extracted (AVE), with a standard requirement that the value exceeds 0.50. This benchmark ensures that the latent construct accounts for more than 50% of the variance among its items. Our findings reveal that all constructs surpassed this threshold, thereby satisfying the criteria for convergent validity within the model.

Discriminant Validity Test

Discriminant validity is assessed to verify that each latent construct is conceptually unique and empirically distinct from other variables in the model. To establish this, we employed both the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio, adhering to the most stringent methodological standards in PLS-SEM analysis.

Table 2 : Table Fornell-Larcker

	Financial Behavior	Financial Literacy	Financial Stability	Financing Decisions	Fishermen's Welfare	inclusive finance
Financial Behavior	0.900					
Financial Literacy	0.313	0.774				
Financial Stability	0.214	0.605	0.878			
Financing Decisions	0.293	0.612	0.416	0.815		
Fishermen's Welfare	0.293	0.747	0.603	0.802	0.761	
inclusive finance	0.314	0.644	0.538	0.820	0.789	0.809

Source: SmartPLS Output Results (v.4)

In accordance with the Fornell–Larcker criterion, discriminant validity is established as the square root of the AVE for each construct (represented diagonally) exceeds its highest correlation with any other construct. For instance, the square root of the AVE for Financial Behavior (0.900) is markedly higher than its correlations with Financial Literacy (0.313) and Financial Stability (0.214), confirming the empirical distinctiveness of the variables.

Table 3 : HTMT

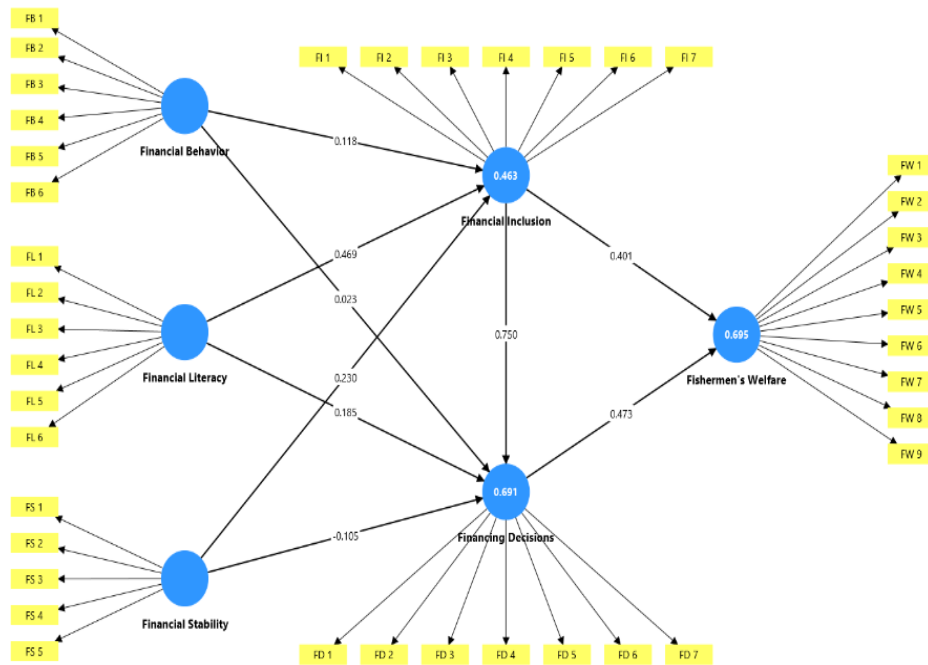
	Financial Behavior	Financial Literacy	Financial Stability	Financing Decisions	Fishermen's Welfare	inclusive finance
Financial Behavior	0.311					
Financial Literacy	0.207	0.671				
Financial Stability	0.293	0.679	0.439			
Financing Decisions	0.288	0.843	0.671	0.837		
Fishermen's Welfare	0.309	0.721	0.578	0.894	0.843	
inclusive finance						

Source: SmartPLS Output Results (v.4)

Furthermore, testing with HTMT showed that all ratio values were below the conservative threshold of 0.90. The most substantial HTMT value was observed between Financing Decisions and Financial Inclusion, recorded at 0.894. Having satisfied both the Fornell–Larcker and HTMT criteria, the discriminant validity of the proposed model is empirically substantiated.

STRUCTURAL MODEL EVALUATION Inner Model

Once the measurement model was established as both valid and reliable, the analysis proceeded to the evaluation of the structural model. This subsequent stage is designed to scrutinize the hypothesized causal relationships between the latent variables.



Picture 2 : Output Results

Path Coefficients Significance Test

Table 4 : Path Coefficients

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Financial Behavior -> Financing Decisions	0.023	0.021	0.042	0.534	0.593
Financial Behavior -> inclusive finance	0.118	0.121	0.056	2,090	0.037
Financial Literacy -> Financing Decisions	0.185	0.186	0.053	3,522	0.000
Financial Literacy -> inclusive finance	0.469	0.468	0.073	6,448	0.000
Financial Stability -> Financing Decisions	-0.105	-0.103	0.046	2,291	0.022
Financial Stability -> inclusive finance	0.230	0.230	0.079	2,918	0.004
Financing Decisions -> Fishermen's Welfare	0.473	0.476	0.078	6,043	0.000
inclusive finance -> Financing Decisions	0.750	0.747	0.051	14,612	0.000
inclusive finance -> Fishermen's Welfare	0.401	0.400	0.079	5.106	0.000

Source: SmartPLS Output Results (v.4)

Hypothesis testing was executed utilizing a bootstrapping procedure (5,000 subsamples) to derive path coefficients (β), T-statistics, and p-values. The empirical results are detailed as follows:

- There is a positive and significant influence of Financial Behavior on Financial Inclusion ($\beta=0.118$, $T=2.090$, $p=0.037$).
- There is a positive and significant influence of Financial Literacy on Financial Inclusion ($\beta=0.469$, $T=6.448$, $p=0.000$) and Financing Decisions ($\beta=0.185$, $T=3.522$, $p=0.000$).
- There is a positive and significant influence of Financial Stability on Financial Inclusion ($\beta=0.230$, $T=2.918$, $p=0.004$).

- d. There is a negative and significant influence of Financial Stability on Financing Decisions ($\beta=-0.105$, $T=2.291$, $p=0.022$).
- e. There is a positive and significant influence of Financial Inclusion on Financing Decisions ($\beta=0.750$, $T=14.612$, $p=0.000$) and Fishermen's Welfare ($\beta=0.401$, $T=5.106$, $p=0.000$).
- f. There is a positive and significant influence of Financing Decisions on Fishermen's Welfare ($\beta=0.473$, $T=6.043$, $p=0.000$).
- g. The influence of Financial Behavior on Financing Decisions was found to be insignificant ($\beta=0.023$, $T=0.534$, $p=0.593$).

Evaluation of Model Predictive Power

Table 5 : Coefficient of Determination (R2)

	R2	R2 adjusted
Financing Decisions	0.691	0.684
Fishermen's Welfare	0.695	0.692
Inclusive Finance	0.463	0.454

Source: SmartPLS Output Results (v.4)

This model has substantial predictive power. Exogenous variables explain 69.5% of the variance in Fishermen's Welfare ($R2_{adj}=0.692$), 69.1% in Financing Decisions ($R2_{adj}=0.684$), and 46.3% in Financial Inclusion ($R2_{adj}=0.454$). These values indicate a moderate to strong level of model explanation.

Table 6 : f2 (Effect Size)

	Financial Behavior	Financial Literacy	Financial Stability	Financing Decisions	Fishermen's Welfare	inclusive finance
Financial Behavior				0.001		0.023
Financial Literacy				0.053		0.245
Financial Stability				0.021		0.062
Financing Decisions					0.241	
Fishermen's Welfare						
inclusive finance				0.977	0.173	

Source: SmartPLS Output Results (v.4)

The f^2 effect size analysis reveals that Financial Inclusion exerts a substantial impact on Financing Decisions, with a value of 0.977, which is classified as a very large effect. Furthermore, moderate substantive impacts were identified in the paths from Financial Literacy to Financial Inclusion (0.245), Financing Decisions to Fishermen's Welfare (0.241), and Financial Inclusion to Fishermen's Welfare (0.173). The remaining structural relationships demonstrated small effect sizes, indicating a more limited relative contribution to the model's explanatory power.

Table 7 : Q²predict

	Q ² predict	RMSE	MAE
Financing Decisions	0.364	0.808	0.634
Fishermen's Welfare	0.536	0.692	0.545
inclusive finance	0.441	0.759	0.572

Source: SmartPLS Output Results (v.4)

Predictive Relevance (Q² predict) All Q²predict values for the endogenous constructs are positive: Fishermen's Welfare (0.536), Financing Decisions (0.364), and Financial Inclusion (0.441). A positive Q² value confirms that the model has adequate predictive power. Since all results exceed zero, the framework demonstrates reliable predictive relevance for the empirical data.

Table 8 : Goodness of Fit

	Saturated model	Estimated model
SRMR	0.084	0.095
d_ ULS	5,823	7,369
d_ G	2,538	2,604
Chi-square	2541.200	2596.277
NFI	0.685	0.678

Source: SmartPLS Output Results (v.4)

The model recorded an SRMR value of 0.095. Although this marginally exceeds the conventional 0.08 threshold, it remains within a tolerable range for PLS-SEM, which is primarily a predictive-oriented approach rather than a confirmatory one. Since the model has already demonstrated robust predictive power and high Q² values, this slight deviation in SRMR does not undermine the overall validity of the structural findings.

DISCUSSION

This study tests a conceptual model linking various financial factors to fishers' well-being. The analysis reveals several significant direct relationships and provides important insights into the antecedents of well-being among fishing communities. Key findings indicate that financial literacy is a fundamental factor that positively influences various financial aspects. Specifically, financial literacy has been shown to increase financial inclusion ($\beta=0.469$) and encourage better financing decision-making ($\beta=0.185$). This indicates that a better understanding of financial concepts and products is directly correlated with fishermen's participation in the formal financial system and their ability to make strategic financial decisions. Furthermore, financial behavior and financial stability were also identified as important predictors of financial inclusion. Good financial behavior ($\beta=0.118$) and established financial stability ($\beta=0.230$) were directly related to the level of fishermen's involvement in formal financial services. These findings confirm that healthy financial habits and stable economic conditions are key drivers for fishermen to access and utilize banking products.

One interesting finding is the negative and significant effect of financial stability on financing decisions ($\beta=-0.105$). This relationship suggests that fishermen with more stable financial conditions demonstrate less reliance on external funding sources, such as loans or credit. Financial stability allows them to rely more on internal capital, thereby reducing the frequency of debt-based financing decisions. Ultimately, the empirical evidence confirms that fishermen's welfare is significantly and positively driven by both financial inclusion ($\beta=0.401$) and financing decisions ($\beta=0.473$). The robust influence of these constructs underscores that streamlining access to formal financial services and empowering fishers with effective decision-making capabilities constitute the two most critical conduits for elevating the socio-economic prosperity and overall quality of life within coastal communities.

CONCLUSION

This study aims to empirically analyze a structural model explaining the antecedents of fishers' well-being through a series of financial variables. Based on comprehensive data analysis, a series of conclusions are drawn with significant theoretical and practical implications. First, this study conclusively identifies financial literacy as the primary foundation supporting fishers' financial capability. Study results show that financial literacy significantly impacts financial inclusion and improves financing decision quality. This confirms that understanding financial products and risks is a prerequisite for effective participation in the formal financial system and rational resource allocation. Additionally, financial inclusion and financing decisions are proven to be the most direct and powerful determinants of fishers' well-being, acting as a bridge that turns financial capabilities into real economic outcomes. On the other hand, effective financing decisions directly contribute to increased productive assets and working capital, ultimately improving welfare. The predictive power of the model, which explains 69.5% of the variance in fishers' well-being, underscores the centrality of these two variables. Third, this study reveals the complex dual role of financial stability. On the one hand, financial stability has a positive effect on financial inclusion, indicating that stable economic conditions encourage fishers to integrate with formal financial institutions. However, on the other hand, financial stability exhibits a significant negative effect on financing decisions. These findings provide new insights that financial independence can reduce fishers' dependence on external debt-based funding sources, indicating a preference for using internal capital as economic stability increases. In terms of theoretical implications, this study enriches the development economics and microfinance literature by providing an empirically tested model in the context of maritime communities, which are often economically marginalized. This model integrates cognitive (literacy), behavioral (financial behavior), conditions (stability), access (inclusion), and actions (decisions) within a

holistic framework to explain well-being. In terms of practical and policy implications, these findings urge stakeholders, including the government, monetary authorities, and financial institutions, to adopt a multifaceted approach. Interventions should not simply focus on credit distribution but should begin with structured and contextual financial literacy education programs. Furthermore, policies should be directed at designing inclusive and accessible financial products for fishers, taking into account their uncertain income cycles. While this study offers valuable insights, certain limitations must be acknowledged. The reliance on a cross-sectional design constrains the ability to definitively establish causal directions among variables. Therefore, future research is encouraged to employ longitudinal methodologies to more rigorously validate these causal linkages over time. Furthermore, the current model could be enriched by incorporating non-economic dimensions, such as social capital, digital technology adoption, and psychological factors. Such an expansion would provide a more holistic and nuanced perspective on the multifaceted determinants of fishermen's welfare.

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