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Financial attitude and literacy on financial inclusion: Mediating self-efficacy and moderating subjective norms and social networks in Nepal

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Abstract: Financial inclusion is vital for economic empowerment; however, existing studies often emphasize financial literacy and attitudes without exploring the psychological mechanisms and social dynamics that bridge them to inclusion. This study examines the mediating role of self-efficacy in financial attitude, financial literacy, and financial inclusion, alongside the moderating effects of subjective norms and social networks. Using a quantitative research method, data were collected from 399 respondents through a structured questionnaire. SmartPLS was used to test the mediating and moderating effects. Self-efficacy partially mediated the relationship between financial attitude and inclusion and fully mediated the link between financial literacy and inclusion. Financial attitude had a significant direct effect on inclusion, whereas the direct effect of financial literacy was non-significant. Social networks negatively moderated the link between self-efficacy and inclusion, whereas subjective norms showed no moderation. Self-efficacy emerged as the central mechanism driving financial inclusion, with financial literacy influencing inclusion exclusively through self-efficacy. Overreliance on informal social networks may hinder formal financial participation, highlighting the need for confidence-based interventions. This study uniquely integrates psychological and social variables into the financial inclusion framework, demonstrating the exclusive mediating role of self-efficacy for financial literacy and revealing the paradoxical negative influence of social networks on formal inclusion.

Keywords: *Attitude, Behavior, Inclusion, Literacy, Networks, Norms, Self-efficacy.*

1. Introduction

Financial inclusion, defined as access to and effective use of affordable financial services by all individuals, has become a pivotal objective for global economic development, especially in developing countries like Nepal. Expanding financial inclusion significantly contributes to poverty reduction, economic growth, and social welfare [1]. Despite policy initiatives and the growth of formal financial institutions, Nepal still faces challenges due to limited participation of large population segments in its formal financial system [2]. Thus, understanding the behavioral and psychological determinants that drive financial inclusion is critical for designing effective interventions.

Two of the most influential determinants identified in the literature are financial literacy and attitudes. Financial literacy refers to an individual's knowledge, skills, and understanding of financial concepts and products, which enable them to make informed and effective decisions about managing money [3]. Numerous empirical studies have shown that higher financial literacy positively correlates with increased financial inclusion, as literate individuals are more capable of evaluating financial services, managing credit, and utilizing savings products [4, 5]. In Nepal, financial literacy remains

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relatively low, especially in rural areas, contributing to the limited uptake of formal financial services [6].

Alongside literacy, financial attitudes, emotional and cognitive predispositions towards money, and financial management also play crucial roles in influencing financial behavior and inclusion. Positive financial attitudes are linked to responsible financial practices such as budgeting, saving, and prudent borrowing [7]. Financial attitudes affect not only the willingness to engage with formal financial institutions but also the confidence to manage financial products effectively [8]. In the Nepalese context, socio-cultural norms and traditional financial practices often shape financial attitudes, sometimes hindering formal financial inclusion [9].

While the direct effects of financial literacy and attitudes on inclusion are well documented, recent studies emphasize the importance of psychological mechanisms that explain how these factors translate into behavior. One such mechanism is financial self-efficacy, defined as confidence in one's ability to manage financial tasks effectively [10]. Self-efficacy acts as a mediator between financial literacy and inclusion; individuals with higher literacy are more likely to develop strong financial self-efficacy, which in turn leads to greater use of financial services [5, 11]. Similarly, financial attitudes influence inclusion indirectly through self-efficacy, suggesting that knowledge and positive predispositions alone are insufficient without confidence to act [12]. This mediating role of self-efficacy highlights the necessity of building not only awareness but also psychological readiness among potential users to improve inclusion outcomes.

Beyond individual psychological factors, social influences significantly shape financial behavior. Subjective norms, the perceived social pressure from family, friends, and community to engage or not in financial activities, are important moderators of the self-efficacy–inclusion relationship. Altaf et al. [13] demonstrate that subjective norms enhance the effect of financial self-efficacy on inclusion; individuals embedded in supportive social environments are more likely to act confidently on their financial capabilities. In Nepal, where communal and familial ties are strong, subjective norms can either facilitate or hinder financial inclusion, depending on prevailing attitudes toward formal finance [2].

Complementing subjective norms, social networks also moderate the link between self-efficacy and financial inclusion. Social networks provide access to informational resources, emotional support, and financial assistance, which can amplify individuals' confidence in managing their finances [5]. The strength and quality of social ties influence how financial knowledge and attitudes are operationalized in terms of behavior. For example, in rural Nepal, informal social groups such as cooperatives and savings groups often serve as entry points for formal financial services [6, 14]. Therefore, social networks enhance the efficacy–inclusion relationship by offering tangible and intangible resources that encourage financial participation.

Despite the growing global research on these interrelated factors, there remains a paucity of empirical evidence examining their integrated effects in Nepal. Most studies have investigated financial literacy, attitudes, or self-efficacy in isolation, without considering the moderating effects of social constructs such as subjective norms and social networks. Addressing this gap is essential for designing contextually appropriate financial education and inclusion programs that leverage both individual and social dimensions of financial literacy.

Therefore, this study focuses on the integrated model of financial attitude and financial literacy on financial inclusion, emphasizing the mediating role of financial self-efficacy and the moderating roles of subjective norms and social networks within the Nepalese socio-economic context. By adopting this multi-layered perspective, the study aims to offer a clear understanding of the behavioral processes underpinning financial inclusion in Nepal, providing practical guidance for financial institutions and community organizations.

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2. Literature Review

2.1. Financial Attitude and Self-Efficacy

Financial attitudes, which reflect an individual's values, beliefs, and perceptions toward money, significantly influence financial behavior and overall financial well-being. Individuals with positive financial attitudes are generally more likely to engage in responsible spending, budgeting, and saving [7]. Financial self-efficacy, defined as confidence in one's ability to manage finances, plays a crucial role in translating knowledge into actionable behavior. Prior studies have shown that self-efficacy mediates the relationship between financial literacy and financial behavior [15]. However, evidence regarding the direct link between financial attitudes and self-efficacy remains mixed. Some studies have reported no statistically significant relationship between the two constructs, suggesting that attitude alone may not directly enhance confidence in financial management without sufficient knowledge or experience [16]. Backing this, the following hypothesis is proposed: there is no significant relationship between financial attitude and financial self-efficacy.

2.2. Financial Literacy and Self efficacy

Financial literacy, the ability to understand and effectively use financial concepts, is widely recognized as a key driver of responsible financial behavior and inclusion. Individuals with higher financial literacy are better equipped to plan, save, and manage risks [3]. Financial self-efficacy (FSE), defined as confidence in managing personal finances, is a psychological mechanism that translates financial knowledge into action. Studies have shown that FSE mediates the relationship between financial literacy and financial behavior, indicating that knowledge alone may be insufficient without confidence in applying it Singh et al. [17]. Noor et al. [5] further demonstrated that financial literacy enhances financial inclusion through self-efficacy, confirming its mediating effect. However, some studies suggest that the strength of this relationship varies across contexts and populations. Based on prior evidence, this study hypothesizes a positive and significant relationship between financial literacy and financial self-efficacy.

2.3. Financial Attitude and Financial Inclusion

Financial attitudes, which reflect an individual's values and perceptions of money, play a pivotal role in determining participation in formal financial systems. Positive financial attitudes are associated with proactive behaviors such as saving, budgeting, and investing, which directly contribute to financial inclusion [7]. Studies indicate that individuals with favorable attitudes towards money are more likely to open and actively use financial products and services, thereby enhancing inclusion [16]. In emerging economies, financial attitudes are a significant predictor of access to and use of banking services, even with moderate literacy levels Ali et al. [8]. Noor et al. [5] noted that financial attitudes indirectly influence inclusion through their effect on self-efficacy and behavior. This study hypothesizes a positive, significant relationship between financial attitudes and financial inclusion.

2.4. Financial Literacy and Financial Inclusion

Financial literacy, defined as the ability to understand and use financial information, is a critical determinant of financial inclusion, particularly in developing economies. Individuals with higher financial literacy are more likely to open bank accounts, use credit responsibly, and access savings and insurance products [3]. Studies show that financial literacy not only enhances awareness of financial services but also builds trust and reduces barriers to participation in formal financial systems Grohmann et al. [4]. Noor et al. [5] demonstrated that financial literacy significantly predicts financial inclusion, both directly and indirectly, through financial self-efficacy. Similarly, Ali et al. [8] found that improving financial literacy among rural populations leads to higher adoption of banking and microfinance services. Based on this evidence, this study hypothesizes a positive and significant relationship between financial literacy and financial inclusion.

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2.5. Self-Efficacy Mediating between financial attitude and Financial Inclusion

The beliefs and perceptions of individuals about money play a significant yet complex role in shaping financial inclusion. A recent study by Altaf et al. [13] in Pakistan shows that financial attitudes positively influence inclusion, but this effect operates through financial self-efficacy as a mediator rather than directly (considering perceived information transparency). In this model, self-efficacy strengthens the pathway from attitude to inclusion, highlighting that confidence in handling financial matters is critical for the actual use of financial services. Earlier studies similarly emphasized self-efficacy as a key psychological mechanism connecting attitude and financial participation. For example, Kartawinata et al. [12] found that self-efficacy mediates the relationship between literacy, attitude, and inclusion behaviors in G20 countries. These findings support the argument that financial attitude alone may be insufficient to boost inclusion self-efficacy as the necessary conduit. Based on this evidence, the proposed hypothesis is that financial self-efficacy mediates the relationship between financial attitude and financial inclusion, indicating that any observed relationship between attitude and inclusion is indirect and dependent on self-efficacy.

2.6. Self-Efficacy Mediating between Financial Literacy and Financial Inclusion

Financial literacy equips individuals with the knowledge and skills required to make informed financial decisions, which is critical for achieving financial inclusion. However, the direct effect of financial literacy on financial inclusion is often mediated by psychological factors, such as financial self-efficacy. Recent research by Altaf et al. [13] highlights that financial self-efficacy significantly mediates the relationship between financial literacy and financial inclusion, indicating that confidence in managing finances enables individuals to better utilize financial services. This mediating role has been supported by other studies, including Noor et al. [5] who demonstrated that self-efficacy enhances the translation of literacy into actual financial behavior and inclusion. These findings suggest that financial education programs should not only focus on knowledge dissemination but also on boosting individuals' confidence and perceived capability in financial management. Based on this evidence, this study hypothesizes that financial self-efficacy mediates the relationship between financial literacy and financial inclusion.

2.7. Subjective Norms Moderate between Self-Efficacy and Financial Inclusion

Subjective norms, which reflect perceived social pressure from others, play a critical role in influencing individuals' financial behaviors and decisions. Recent studies suggest that subjective norms can moderate the relationship between financial self-efficacy and financial inclusion by either strengthening or weakening the effect of self-efficacy on financial behavior. For instance, Altaf et al. [13] found that when individuals perceive strong social support and encouragement, the positive impact of financial self-efficacy on financial inclusion is amplified. Similarly, Noor et al. [5] highlighted that subjective norms influence how confident individuals are in translating their financial self-efficacy into actual use of financial services. This moderating effect underscores the importance of the social context in financial decision-making. Based on these insights, this study hypothesizes that subjective norms moderate the relationship between financial self-efficacy and financial inclusion, such that higher subjective norms strengthen this relationship.

2.8. Social Networks Moderate between Self-Efficacy and Financial Inclusion

Social networks, the web of social relationships and connections, play a vital role in shaping financial behavior and inclusion, especially in developing economies. Research indicates that social networks can moderate the effect of financial self-efficacy on financial inclusion by providing informational, emotional, and instrumental support that empowers individuals to act confidently based on their financial knowledge. Altaf et al. [13] found that individuals embedded in strong social networks are more likely to translate their financial self-efficacy into the actual use of financial services. Similarly, Noor et al. [5] emphasized that social capital enhances the relationship between self-efficacy

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and financial inclusion by facilitating access to resources and reducing perceived risks. These findings suggest that social networks strengthen the positive influence of self-efficacy on financial inclusion. Based on this, the study hypothesizes that social networks moderate the relationship between financial self-efficacy and financial inclusion, with stronger networks amplifying the effect.

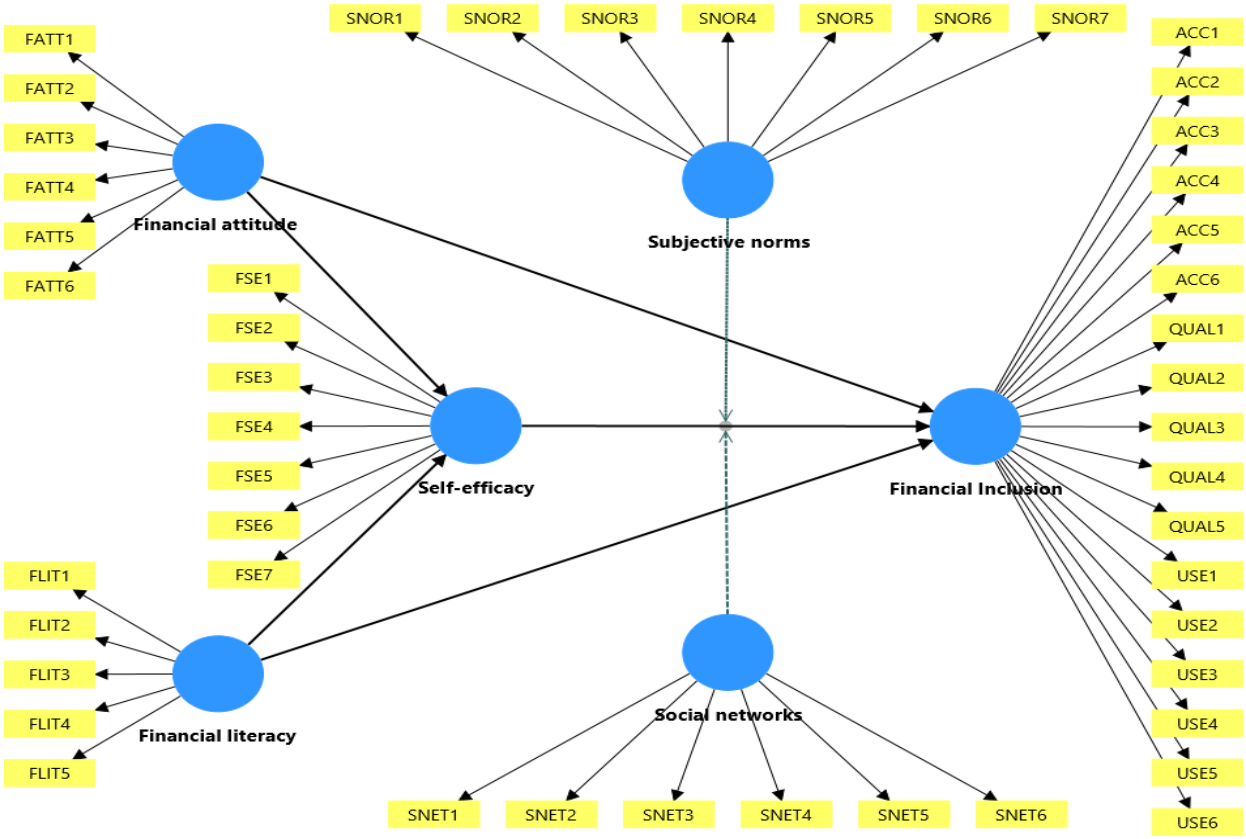

Figure 1.
Research Framework.

3. Research Methodology

This study adopts a positivist research approach that aims to record, measure, and predict reality through well-defined variables and constructs. A cross-sectional survey design was employed, collecting data at a single point in time to capture respondents' facts and perceptions [18]. The overall design followed a causal research framework, enabling the examination of cause-and-effect relationships among variables. A deductive scientific approach was used to test predefined hypotheses based on existing theories. A non-probability sampling technique was adopted, specifically the convenience sampling method, to access respondents.

The sample size was calculated using the Z-score formula with a 95% confidence level and a 5% margin of error, resulting in a minimum requirement of 384 respondents. To account for potential non-response errors, the final sample was increased to 399 adults. For this study, adults were defined as individuals aged 15 years and above, aligning with the minimum age requirement for obtaining Nepali citizenship. The unit of analysis was an adult citizen of Nepal who holds an account in at least one formal financial institution, including commercial banks, development banks, finance companies, insurance companies, savings and credit cooperatives, or microfinance institutions.

Data were collected using a structured questionnaire, with responses measured on a 7-point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree). IBM SPSS version 25.0 was used to perform

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descriptive statistics and exploratory data analyses to identify missing or invalid entries. For hypothesis testing and structural modeling, Partial Least Squares Structural Equation Modeling (PLS-SEM) was conducted using SmartPLS version 4.1.1.4, covering both measurement and structural model assessments.

4. Results

This section covers the demographic profile of respondents, along with the reliability and convergent validity results. The R-squared and adjusted R-squared values are reported to show the model's explanatory power. Discriminant validity, cross-loading, and variance inflation factor (VIF) were examined to ensure construct distinctiveness and check multicollinearity. Similarly, hypothesis testing results and special indirect effects are presented to evaluate direct and mediating relationships.

Table 1.
Demographic Information.

Gender					
	Frequency			**Percent**	
Female	140			35.1	
Male	259			64.9	
Marital					
	Frequency			Percent	
Married	161			40.4	
Singal	238			59.6	
Area					
	Frequency			Percent	
Urban	267			66.9	
Rural	132			33.1	
Education					
	Frequency			Percent	
No formal education	1			0.3	
primary level	1			0.3	
SLC/SEE	6			1.5	
Intermediate/+2	15			3.8	
Bachelor level	187			46.9	
Master's and above	189			47.4	
Income					
	Frequency			Percent	
Up to Rs.20,000	3			.8	
Rs.20,001 to Rs.40,000	32			8.0	
Rs.40,001 to Rs.60,000	37			9.3	
Rs.60,001 to Rs.80,000	92			23.1	
Above Rs.80,000	235			58.9	
Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Age	399	18.00	64.00	29.5614	9.18490

The provided data summarized the demographic characteristics of a sample of 399 individuals. Regarding gender, the majority (64.9%, 259 individuals) were male, while females comprised 35.1% (140 individuals). Regarding marital status, most respondents (59.6%, 238 individuals) were single, compared to 40.4% (161 individuals) who were married. A significant majority resided in urban areas (66.9%, 267 individuals), with the remaining 33.1% (132 individuals) in rural areas.

The education levels are notably high: 46.9% (187 individuals) hold a bachelor's degree, and 47.4% (189 individuals) have a master's degree or higher. Only a small fraction have lower qualifications: 3.8% (15) completed intermediate/+2 education, 1.5% (6) have an SLC/SEE, and minimal representation (0.3% each) in primary or no formal education.

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Income distribution indicates that 58.9% (235 individuals) earn above Rs.80,000 monthly, 23.1% (92) earn Rs.60,001–80,000, 9.3% (37) earn Rs.40,001–60,000, 8.0% (32) earn Rs.20,001–40,000, and 0.8% (3) earn Rs.20,000 or less.

The mean age was 29.56 years (standard deviation: 9.18 years), with a range of 18–64 years. This indicates a relatively young overall sample.

In summary, the sample skewed toward young, urban, educated males with higher incomes, with marital status evenly split but leaning toward single. Age variability suggests diverse life stages within the cohort.

Table 2.
Reliability and convergent validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Financial Inclusion	0.868	0.873	0.889	0.523
Financial attitude	0.845	0.863	0.886	0.567
Financial literacy	0.830	0.843	0.880	0.597
Self-efficacy	0.870	0.873	0.900	0.563
Social networks	0.862	0.881	0.896	0.591
Subjective norms	0.899	0.905	0.921	0.625

The data demonstrate strong evidence of reliability for all six constructs. Cronbach's alpha values, which assess internal consistency based on inter-item correlations, ranged from 0.830 (Financial Literacy) to 0.899 (Subjective Norms). All values comfortably exceeded the widely accepted minimum threshold of 0.70 for established scales in social science research [19, 20], indicating good item coherence within each scale. Composite Reliability (rho_c), considered a more accurate estimate of reliability under the structural equation modeling (SEM) framework, ranges from 0.880 (Financial Literacy) to 0.921 (Subjective Norms). These values significantly surpass the stricter threshold of 0.80 recommended for confirmatory research, providing robust evidence that the scales reliably measured their respective constructs [21, 22].

Regarding convergent validity, assessed by the Average Variance Extracted (AVE), the results were satisfactory for all constructs. The AVE measures the amount of variance captured by a construct relative to the variance resulting from measurement errors. The values ranged from 0.523 (Financial Inclusion) to 0.625 (Subjective Norms). All AVE values met or exceeded the critical threshold of 0.50 established by Fornell and Larcker [23]. This empirically supports the convergent validity of all scales, indicating that, on average, over 50% of the variance in the items is accounted for by the underlying latent construct they are intended to measure. While the AVE for Financial Inclusion (0.523) is above the minimum threshold, it is the lowest among the constructs, suggesting that its items share slightly less variance with the core construct than the others (e.g., Subjective Norms at 0.625). Nevertheless, all scales demonstrated adequate convergent validity based on the Fornell-Larcker criterion.

Furthermore, all constructs exhibited adequate convergent validity, as all AVE values met or surpassed the critical 0.50 threshold, confirming that the items effectively captured their intended underlying constructs. The scales are psychometrically sound for use in the analysis.

Table 3.
R Square and R square adjusted result.

	R-square	R-square adjusted
Financial Inclusion	0.623	0.616
Self-efficacy	0.507	0.502

The R-squared (R^2) and Adjusted R-squared (Adj. R^2) values demonstrate substantial explanatory power within the structural model for both key constructs. For Financial Inclusion, the R^2 of 0.623 and Adj. R^2 of 0.616 indicates that approximately 62% of the variance in this construct is explained by its

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predictors. This exceeds the benchmark for a substantial effect size ($R^2 \geq 0.50$) in behavioral research [22, 24]. Similarly, for Self-efficacy, an R^2 of 0.507 and Adj. R^2 of 0.502 shows that roughly 50% of its variance is accounted for by its predictors, meeting the threshold for a moderate to substantial effect size [22, 24]. The minimal difference between the R^2 and Adj. R^2 values for both constructs (0.007 for Financial Inclusion and 0.005 for Self-efficacy) indicate that the models are not overfitted, as the adjustment for the number of predictors relative to the sample size resulted in only a negligible decrease in explained variance. This suggests that the predictors provide a robust and parsimonious explanation of their respective variances, aligning with established guidelines for interpreting predictive relationships in structural models [22].

Table 4.
Discriminant Validity.

HTMT						
	Financial Inclusion	**Financial attitude**	**Financial literacy**	**Self-efficacy**	**Social networks**	**Subjective norms**
Financial Inclusion						
Financial attitude	0.811					
Financial literacy	0.697	0.824				
Self-efficacy	0.780	0.747	0.732			
Social networks	0.497	0.533	0.573	0.482		
Subjective norms	0.686	0.757	0.716	0.655	0.577	
Fornell-Larcker criterion						
	Financial Inclusion	**Financial attitude**	**Financial literacy**	**Self-efficacy**	**Social networks**	**Subjective norms**
Financial Inclusion	0.568					
Financial attitude	0.713	0.753				
Financial literacy	0.611	0.701	0.773			
Self-efficacy	0.690	0.652	0.633	0.750		
Social networks	0.454	0.469	0.497	0.433	0.768	
Subjective norms	0.617	0.668	0.619	0.586	0.520	0.791

The assessment of discriminant validity through both the Fornell-Larcker criterion and the Heterotrait-Monotrait Ratio (HTMT) reveals a generally adequate but nuanced differentiation between constructs. According to the Fornell-Larcker criterion [23], discriminant validity is established when the square root of the Average Variance Extracted (AVE) for each construct (diagonal values) exceeds its correlations with other constructs (off-diagonal values). This condition holds for five constructs: Financial Attitude ($\sqrt{AVE}=0.753 >$ max r=0.713), Financial Literacy ($\sqrt{AVE}=0.773 >$ max r=0.701), Self-Efficacy ($\sqrt{AVE}=0.750 >$ max r=0.690), Social Networks ($\sqrt{AVE}=0.768 >$ max r=0.573), and Subjective Norms ($\sqrt{AVE}=0.791 >$ max r=0.668). However, Financial Inclusion ($\sqrt{AVE}=0.568$) shows problematic differentiation as its correlations exceed its $\sqrt{AVE}$ with Financial Attitude (r=0.713), Self-Efficacy (r=0.690), and Subjective Norms (r=0.617). The HTMT ratios [25] provide complementary evidence, with all values below the conservative threshold of 0.85 [26, 27]. The highest HTMT is between Financial Attitude and Financial Literacy (0.824), followed by Financial Inclusion and Self-Efficacy (0.780), and Financial Inclusion and Financial Attitude (0.811). All are below 0.85 but warrant attention due to their magnitude. While both methods generally support discriminant validity, the Financial Inclusion construct requires further scrutiny because of its borderline AVE and elevated correlations with related constructs.

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Table 5.
Cross-loading and VIF.

Variables	Tolerance	VIF	Variables	Tolerance	VIF
ACC1	0.555	1.395	FLIT2	0.694	1.468
ACC2	0.457	1.342	FLIT3	0.712	1.538
ACC3	0.545	1.617	FLIT4	0.770	1.752
ACC4	0.522	1.954	FLIT5	0.856	2.420
ACC5	0.533	1.933	FSE1	0.774	2.064
ACC6	0.586	1.608	FSE2	0.703	1.891
QUAL1	0.689	1.895	FSE3	0.761	2.019
QUAL2	0.624	2.266	FSE4	0.831	2.421
QUAL3	0.532	1.984	FSE5	0.717	1.680
QUAL4	0.614	1.771	FSE6	0.751	1.810
QUAL5	0.638	1.697	FSE7	0.707	1.644
USE1	0.592	1.451	SNET1	0.758	1.776
USE2	0.471	1.329	SNET2	0.792	1.967
USE3	0.533	1.494	SNET3	0.838	2.057
USE4	0.625	1.678	SNET4	0.756	1.958
USE5	0.558	2.523	SNET5	0.776	1.834
USE6	0.531	2.552	SNET6	0.682	1.652
FATT1	0.831	2.244	SNOR1	0.706	1.877
FATT2	0.754	1.759	SNOR2	0.833	2.695
FATT3	0.779	1.783	SNOR3	0.852	2.606
FATT4	0.644	1.450	SNOR4	0.791	2.128
FATT5	0.843	2.331	SNOR5	0.801	2.229
FATT6	0.638	1.381	SNOR6	0.824	2.402
FLIT1	0.819	2.012	SNOR7	0.716	1.731

The cross-loading analysis and Variance Inflation Factor (VIF) diagnostics indicate generally acceptable measurement properties, with some areas requiring attention. All primary factor loadings exceeded the recommended threshold of 0.50 [22], with most exceeding the preferred 0.70 benchmark (ACC2=0.457 and USE2=0.471). The VIF values range from 1.329 to 2.695 across all indicators, well below the critical threshold of 5 [28], indicating no substantial multicollinearity concerns at the indicator level. However, Financial Inclusion shows several weaker loadings (ACC2=0.457, ACC4=0.522, ACC5=0.533, USE2=0.471, USE3=0.533, USE6=0.531), which align with previous discriminant validity concerns. Similarly, Financial Attitude has two items below 0.70 (FATT4=0.644, FATT6=0.638). These weaker loadings may contribute to discriminant validity challenges and suggest potential refinement opportunities for these measurement scales.

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Table 6.
Hypothesis testing results.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Financial attitude → Financial Inclusion	0.358	0.358	0.051	7.053	0.000
Financial attitude → Self-efficacy	0.411	0.412	0.056	7.342	0.000
Financial Literacy → Financial Inclusion	0.018	0.018	0.057	0.310	0.757
Financial literacy → Self-efficacy	0.345	0.345	0.061	5.690	0.000
Self-efficacy → Financial Inclusion	0.323	0.325	0.047	6.936	0.000
Social networks → Financial Inclusion	0.051	0.051	0.043	1.181	0.238
Social Networks x Self-efficacy → Financial Inclusion	-0.093	-0.090	0.031	2.956	0.003
Subjective norms → Financial Inclusion	0.122	0.124	0.052	2.350	0.019
Subjective norms x Self-efficacy → Financial Inclusion	0.034	0.034	0.025	1.346	0.178

The structural model analysis revealed significant relationships for most direct effects but mixed support for the moderation hypotheses. Financial attitude exerts strong positive effects on both Financial Inclusion (β=0.358, $p<0.001$) and self-efficacy (β=0.411, $p<0.001$), supporting H1 and H2. Although Financial literacy shows no direct effect on Financial Inclusion (β=0.018, p=0.757), it significantly enhances self-efficacy (β=0.345, $p<0.001$), partially supporting H3. Self-efficacy had a robust direct effect on Financial Inclusion (β=0.323, $p<0.001$), confirming H5. For social factors, social networks lack a direct effect (β=0.051, p=0.238) but unexpectedly show a significant negative interaction with self-efficacy (β=-0.093, p=0.003), indicating that higher self-efficacy weakens the relationship between social networks and inclusion. Subjective norms had a modest positive direct effect (β=0.122, p=0.019) but showed no significant interaction with self-efficacy (β=0.034, p=0.178). The effect sizes ranged from medium to large [24], with financial attitudes showing the strongest influence on both endogenous constructs. Notably, the negative moderating effect of social networks and self-efficacy warrants further investigation, as it contradicts the typical enhancement patterns observed in social-cognitive frameworks [29].

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Vol. 10, No. 1: 1189-1202, 2026
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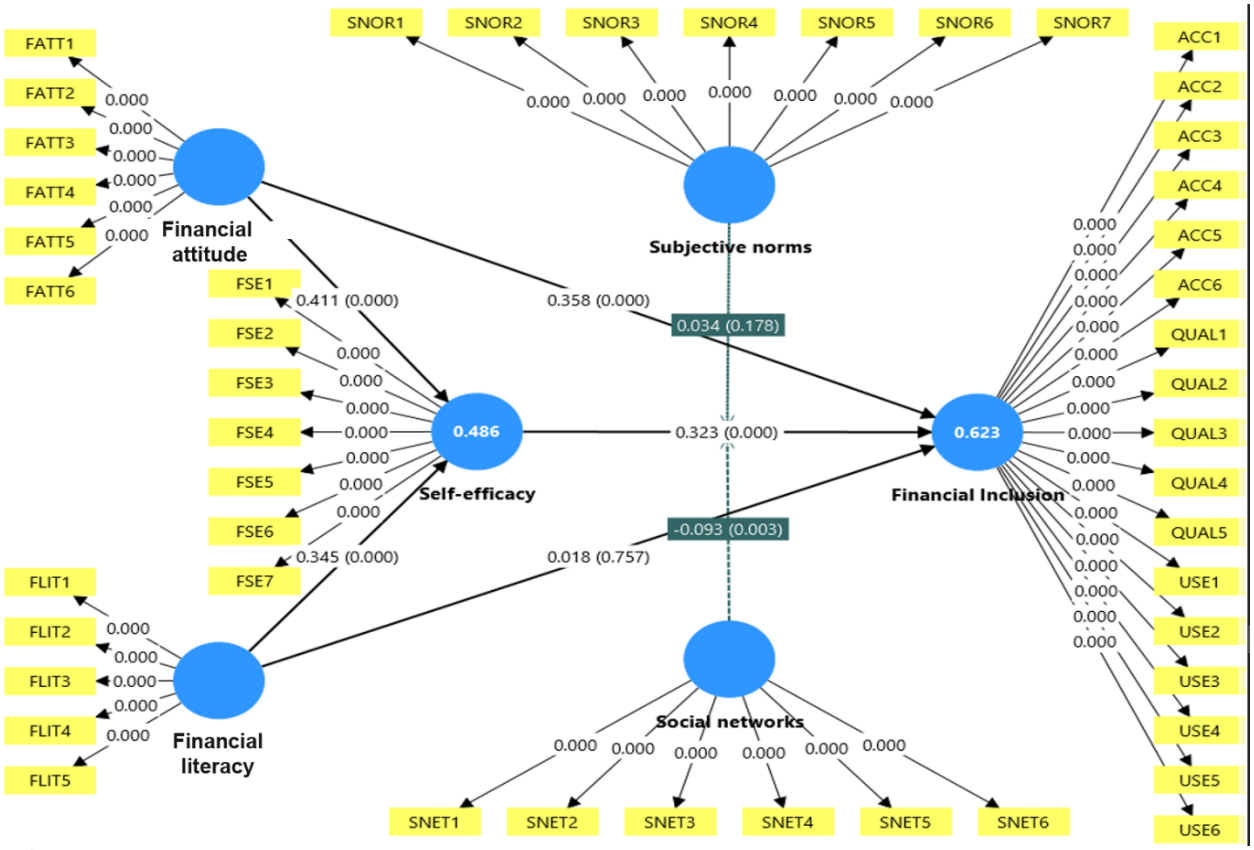

Figure 2.
Result.

The diagram explicitly confirms self-efficacy as a critical mediator in the relationship between financial attitudes, financial literacy, and financial inclusion. For Financial Attitude, the indirect effect through self-efficacy was 0.133 ($T = 5.252$, $p < 0.001$), indicating significant partial mediation. Financial Attitude also has a strong direct effect on Financial Inclusion ($\beta = 0.358$, $p < 0.001$), visible through the direct path in the model. This suggests that while positive financial attitudes directly enhance financial inclusion, approximately 27% of their total impact operates indirectly through increased self-efficacy. In contrast, the influence of Financial Literacy on Financial Inclusion is fully mediated by self-efficacy, with an indirect effect of 0.111 ($T = 4.156$, $p < 0.001$) and a non-significant direct effect ($\beta = 0.018$, $p = 0.757$), implying that knowledge alone is insufficient without the confidence built through self-efficacy.

Table 7.
Special Indirect effect.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Financial attitude → Self-efficacy → Financial Inclusion	0.133	0.134	0.025	5.252	0.000
Financial literacy → Self-efficacy → Financial Inclusion	0.111	0.112	0.027	4.156	0.000

The mediation analysis results indicate that both Financial Attitude and Financial Literacy have significant indirect effects on Financial Inclusion through the mediating role of self-efficacy. Specifically, the indirect effect of Financial Attitude on Financial Inclusion via self-efficacy was 0.133, while the

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Vol. 10, No. 1: 1189-1202, 2026
DOI: 10.55214/2576-8484.v10i1.11905

indirect effect of Financial Literacy through self-efficacy was 0.111. These effects are positive, suggesting that higher levels of Financial Attitude and Financial Literacy contribute to greater self-efficacy, which in turn enhances Financial Inclusion. The statistical significance of these indirect effects is supported by high t-values (5.252 for Financial Attitude and 4.156 for Financial Literacy) and p-values of 0.000, confirming that self-efficacy significantly mediates the relationship between the independent variables and Financial Inclusion. This highlights the important role of self-efficacy in strengthening the pathway from financial knowledge and attitudes to actual inclusion in financial systems.

5. Discussion

This study examined the mediating role of self-efficacy in the relationship between financial attitudes and financial literacy, as well as the outcome of financial inclusion. It also tested the moderating effects of subjective norms and social networks, alongside the direct effects.

Consistent with the findings of Mindra and Moya [30] in Uganda, we observed that self-efficacy mediates the effects of both financial attitudes and literacy on financial inclusion. However, while Mindra and Moya [30] reported full mediation for both relationships, our results show partial mediation of financial attitudes (βdirect = 0.358, p = .000; indirect = 0.133, p = .000) and full mediation of financial literacy (βdirect = 0.018, p = .757; indirect = 0.111, p = .000).

This divergence aligns with Kartawinata et al. [12]'s study of Indonesian university students, which found that financial literacy's effect on inclusion is mediated by self-efficacy, but financial attitude may exert a direct influence beyond its mediated pathway. Similarly, Kampumure et al. [31] found that financial literacy positively affects inclusion, both directly and via self-efficacy, among working women in Uganda. Our model refines this by showing that the impact of literacy is only indirect, while attitude retains a strong direct contribution.

Regarding moderation, our analysis revealed that social networks significantly moderate the self-efficacy → financial inclusion link (β = –0.093, p = .003), suggesting that stronger social networks may dampen the positive impact of self-efficacy in an unexpected direction, warranting further exploration. In contrast, subjective norms did not moderate this path (β = 0.034, p = .178), indicating no significant conditional effect. Few prior studies have incorporated these moderators; thus, this novel finding extends the literature by suggesting that social factors may both support and crowd out personal efficacy in driving inclusion decisions.

In terms of direct effects, we confirmed that financial attitude has a robust direct association with financial inclusion (β = 0.358, p = .000), echoing prior evidence that attitudes independently predict financial behaviors beyond knowledge [11, 12]. In contrast, financial literacy exerted no direct influence, consistent with some studies emphasizing its effect primarily through psychological mechanisms, such as self-efficacy [30].

Overall, this study corroborates and refines the existing body of research: self-efficacy is a key psychological mediator linking financial competencies and inclusion. Financial attitude contributes both directly and via self-efficacy, while financial literacy influences inclusion solely through efficacy enhancement. The moderating role of social networks highlights the complex interplay between personal capabilities and the social environment, offering new avenues for future research.

6. Conclusion

This study highlights that financial inclusion depends not only on knowledge but also on building confidence systems. The model shows that self-efficacy is the key factor, turning financial attitudes into action and serving as the only pathway through which literacy leads to inclusion. Interestingly, strong social networks can sometimes reduce formal financial engagement, suggesting the need to rethink policy approaches.

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The findings indicate that financial inclusion programs should go beyond basic literacy training and focus on boosting self-efficacy through practical, experience-based learning. They should also aim to shift communities from depending on informal networks to using them to build confidence and trust in formal systems. Rather than merely expanding financial services, the emphasis should be on creating psychological support structures that strengthen self-belief, helping individuals move from financial awareness to active participation in formal financial systems.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Copyright:

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