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Financial Literacy as a Tool for Sustainable Economic Empowerment: An Empirical Analysis

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Abstract

This study examines the role of financial literacy in achieving sustainable economic empowerment across Asian economies. Using primary survey data from 847 respondents across five Asian countries and secondary data from the World Bank Global Fundex Database (2021), we employ structural equation modelling (SEM) and multiple regression analysis to investigate the relationship between financial literacy dimensions and economic empowerment indicators. Results reveal that financial literacy significantly influences income generation capacity ($\beta = 0.523$, $p < 0.001$), savings behaviour ($\beta = 0.467$, $p < 0.001$), and entrepreneurial activity ($\beta = 0.389$, $p < 0.01$). The study contributes to understanding how financial knowledge, skills, and attitudes collectively drive sustainable economic outcomes, with implications for policymakers and financial inclusion practitioners.

Keywords: Financial Literacy, Economic Empowerment, Sustainable Development, Financial Inclusion, Asia.

Introduction

Financial literacy has emerged as a critical determinant of economic well-being in the 21st century, particularly in developing and emerging economies where large segments of the population remain financially excluded (**Lusardi and Mitchell, 2014**). The Organization for Economic Co-operation and Development (OECD) defines financial literacy as "a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing" (**OECD, 2020, p. 5**). As Asian economies continue to experience rapid economic transformation, the role of financial literacy in enabling sustainable economic empowerment has garnered increasing attention from researchers, policymakers, and development practitioners (**Morgan and Trinh, 2019**).

Economic empowerment represents a multidimensional construct encompassing income generation, asset accumulation, financial security, and

entrepreneurial capability (**Kabeer, 2005**). The nexus between financial literacy and economic empowerment operates through multiple channels: improved financial decision-making, enhanced access to formal financial services, better risk management, and increased investment in income-generating activities (**Grohmann et al., 2018**).

Despite growing recognition of this relationship, empirical evidence from Asian contexts remains fragmented. Previous studies have predominantly focused on single-country analyses (**Agarwal et al., 2015; Yoshino et al., 2016**) or specific demographic segments (**Bongomin et al., 2017**), leaving gaps in our understanding of the universal mechanisms through which financial literacy drives economic empowerment across diverse Asian economies.

This study addresses these gaps by examining the multidimensional relationship between financial literacy and sustainable economic empowerment using a comprehensive analytical framework that integrates primary and secondary data sources. Specifically, we investigate: (1) How do different dimensions of financial literacy (knowledge, skills, attitudes) independently and collectively influence economic empowerment outcomes? (2) What mediating factors strengthen or weaken this relationship? (3) How does this relationship vary across demographic characteristics within Asia? (**Kaiser and Menkhoff, 2020**).

Literature Review

Human capital theory (**Becker, 1964**) posits that financial literacy represents a form of human capital investment that enhances individuals' productive capacity and economic returns. Similar to education and technical skills, financial knowledge enables individuals to make more efficient decisions regarding resource allocation, thereby improving economic outcomes (**Lusardi and Mitchell, 2014**).

The capability approach, developed by Sen (1999), provides a normative framework for understanding economic empowerment. Financial literacy expands individuals' capabilities—their real freedoms to achieve valued functioning's—by enabling informed choices about financial resources, reducing vulnerability to financial shocks, and facilitating participation in economic opportunities (**Ibrahim and Alkire, 2007**).

Behavioural economics offers complementary insights into how financial literacy influences decision-making. Research demonstrates that cognitive biases and heuristics significantly affect financial choices (**Kahneman, 2011**). Financial literacy can serve as a debiasing mechanism, helping individuals overcome common behavioral traps such as present bias and loss aversion that hinder wealth accumulation (**Thaler and Sunstein, 2008**).

Asian economies present unique contexts for examining financial literacy due to considerable variation in financial inclusion levels and cultural attitudes toward

money (Morgan and Trinh, 2019). The World Bank Global Findex Database (2021) reveals significant heterogeneity in financial literacy across Asia, with account ownership ranging from 98% in Singapore to 23% in Afghanistan (Demirgüç-Kunt et al., 2022).

Morgan and Trinh (2019) conducted a comprehensive analysis of financial literacy across 176 economies, finding that financial literacy correlates strongly with GDP per capita and educational attainment. Recent research has highlighted the role of digital financial literacy in Asian contexts, with studies showing that digital financial literacy significantly predicts mobile money usage and entrepreneurial activity (Chen et al., 2020; Ozili, 2021).

Research Gaps

Despite substantial progress, several gaps remain. First, most studies examine single dimensions of financial literacy, neglecting its multidimensional nature (Kaiser and Menkhoff, 2020). Second, mediating and moderating mechanisms remain underexplored, particularly in Asian contexts where cultural factors may significantly influence the literacy-empowerment relationship (Grohmann et al., 2018). This study addresses these gaps through a comprehensive analytical framework examining multiple dimensions of both constructs.

Research Methodology

Research Design and Conceptual Framework

This study employs a mixed-methods approach combining quantitative survey research with secondary data analysis. Our conceptual framework posits that financial literacy—comprising knowledge, skills, and attitudes—directly influences economic empowerment outcomes (income generation, savings behaviour, asset accumulation, entrepreneurial activity) while also operating through mediating variables (financial inclusion, financial behaviour).

Data Sources

- **Primary Data Collection**

Primary data were collected through structured questionnaires administered to 847 respondents across five Asian countries: India (n=195), Indonesia (n=174), Philippines (n=168), Vietnam (n=156), and Bangladesh (n=154). The sample comprised 52.3% female respondents, with age distribution: 18-30 years (31.2%), 31-45 years (41.7%), 46-65 years (27.1%). Data collection occurred between June and December 2023 through face-to-face interviews.

- **Secondary Data Sources**

Secondary data were obtained from the World Bank Global Findex Database 2021 (Demirgüç-Kunt et al., 2022), providing nationally representative data on financial inclusion and literacy indicators for Asian economies. Additional

macroeconomic data were sourced from the Asian Development Bank Statistical Database and World Development Indicators (**World Bank, 2023**).

Measurement Instruments

Financial literacy was measured using an adapted OECD/INFE Financial Literacy Measurement Toolkit (OECD, 2018):

Financial Knowledge (7 items, $\alpha = 0.82$): Multiple-choice questions assessing understanding of interest rates, inflation, risk diversification, and compound interest.

Financial Skills (6 items, $\alpha = 0.79$): Scenario-based questions measuring ability to apply financial concepts to real-world situations.

Financial Attitudes (5 items, $\alpha = 0.76$): Likert-scale items assessing orientations toward saving, planning, and financial security.

Economic empowerment was operationalized through:

Savings Behaviour (5 items, $\alpha = 0.87$): Frequency and regularity of savings, amount saved relative to income.

Income Generation Capacity (4 items, $\alpha = 0.84$): Self-reported measures of earning capacity and income growth.

Asset Accumulation (6 items, $\alpha = 0.81$): Ownership of productive assets, financial assets, and durable goods.

Entrepreneurial Activity (4 items, $\alpha = 0.78$): Business ownership, self-employment income, and business growth indicators.

All scales demonstrated acceptable internal consistency reliability (Cronbach's $\alpha > 0.70$) and construct validity through confirmatory factor analysis.

Analytical Methods

- **Structural Equation Modeling (SEM):** Used to test the conceptual framework and examine direct and indirect relationships. AMOS 26.0 software was utilized. Model fit was evaluated using: Chi-square/df ratio (<3), CFI (>0.90), TLI (>0.90), RMSEA (<0.08), and SRMR (<0.08) (**Hu and Bentler, 1999**).
- **Multiple Regression Analysis:** Hierarchical regression models examined the relative contribution of financial literacy dimensions to economic empowerment outcomes while controlling for demographic variables.
- **Mediation Analysis:** Bootstrap procedure with 5,000 resamples generated bias-corrected confidence intervals for indirect effects (Hayes, 2018).
- **Subgroup Analysis:** Multi-group SEM examined differential effects across demographic categories.

Results

• Descriptive Statistics

The mean financial literacy score was 58.3% (SD = 18.7), with financial knowledge averaging 59.1% (SD = 21.3), financial skills 56.8% (SD = 19.4), and financial attitudes 58.9% (SD = 16.2). Significant variation existed across countries, with Vietnam demonstrating the highest mean (64.7%) and Bangladesh the lowest (51.2%).

Table 1: Descriptive Statistics of Key Variables (N=847)

Variable	Mean	SD	Min	Max
Financial Knowledge (%)	59.1	21.3	0	100
Financial Skills (%)	56.8	19.4	0	100
Financial Attitudes (score)	3.45	0.81	1	5
Financial Inclusion Index	0.62	0.28	0	1
Income Generation Capacity	3.21	0.94	1	5
Savings Behaviour Index	0.54	0.31	0	1
Asset Accumulation Score	4.73	2.18	0	10
Entrepreneurial Activity	0.38	0.49	0	1

Source: - Primary data through field survey.

Gender differences were statistically significant, with males scoring higher on financial knowledge (M = 62.4, SD = 20.1) compared to females (M = 56.2, SD = 21.8), $t(845) = 3.87$, $p < 0.001$.

• Correlation Analysis

Financial literacy dimensions demonstrated moderate to strong positive correlations with economic empowerment outcomes. Financial knowledge showed the strongest correlation with income generation capacity ($r = 0.512$, $p < 0.001$) and entrepreneurial activity ($r = 0.447$, $p < 0.001$). Financial skills correlated most strongly with savings behaviour ($r = 0.489$, $p < 0.001$).

Table 2: Correlation Matrix of Study Variables

Variable	1	2	3	4	5	6	7	8
1. Financial Knowledge	1							
2. Financial Skills	.687	1						
3. Financial Attitudes	.523	.541	1					
4. Financial Inclusion	.594	.618	.487	1				
5. Income Generation	.512	.476	.389	.523	1			
6. Savings Behaviour	.467	.489	.412	.598	.534	1		
7. Asset Accumulation	.423	.438	.367	.492	.612	.587	1	
8. Entrepreneurial Activity	.447	.421	.312	.439	.558	.491	.523	1

Source: - Primary data through field survey.

- **Structural Equation Modelling Results**

The hypothesized structural model demonstrated good fit: $\chi^2/df = 2.67$, CFI = 0.932, TLI = 0.921, RMSEA = 0.044 (90% CI: 0.039-0.049), SRMR = 0.052. All fit indices exceeded recommended thresholds (Hu and Bentley, 1999).

Table 3: Structural Equation Model Path Coefficients

Path	Standardized β	SE	p-value
Direct Effects			
FK → Income Generation	.523	.048	<.001
FK → Savings Behaviour	.467	.051	<.001
FK → Asset Accumulation	.389	.054	<.001
FK → Entrepreneurial Activity	.412	.056	<.001
FS → Income Generation	.298	.053	<.001
FS → Savings Behaviour	.367	.049	<.001
FS → Asset Accumulation	.334	.052	<.001
FA → Income Generation	.187	.061	.002
FA → Savings Behaviour	.223	.058	<.001
Mediation Paths			
FK → FI → Income Generation	.156	.028	<.001
FK → FI → Savings Behaviour	.189	.031	<.001
FS → FB → Income Generation	.134	.027	<.001
FS → FB → Savings Behaviour	.178	.029	<.001

Note: FK = Financial Knowledge; FS = Financial Skills; FA = Financial Attitudes; FI = Financial Inclusion; FB = Financial Behaviour

Financial knowledge emerged as the strongest predictor of economic empowerment outcomes, with direct effects ranging from $\beta = 0.389$ (asset accumulation) to $\beta = 0.523$ (income generation). The model explained substantial variance: 47.3% for income generation capacity ($R^2 = 0.473$), 52.8% for savings behaviour ($R^2 = 0.528$), 41.6% for asset accumulation ($R^2 = 0.416$), and 36.2% for entrepreneurial activity ($R^2 = 0.362$).

- **Mediation Analysis Results**

Bootstrap mediation analysis confirmed significant indirect effects through financial inclusion and financial behaviour. Financial inclusion partially mediated the relationship between financial knowledge and economic outcomes, with indirect effects accounting for 23.0% of the total effect on income generation and 28.8% on savings behaviour.

Table 4: Mediation Analysis Results (Bootstrap 5,000 samples)

Relationship	Direct Effect	Indirect Effect	Total Effect	% Mediated	95% CI
FK → FI → IGC	.523	.156	.679	23.0%	[.103, .216]
FK → FI → SB	.467	.189	.656	28.8%	[.134, .251]
FK → FI → AA	.389	.142	.531	26.7%	[.092, .198]
FS → FB → IGC	.298	.134	.432	31.0%	[.085, .189]
FS → FB → SB	.367	.178	.545	32.7%	[.126, .236]

Note: IGC = Income Generation Capacity; SB = Savings Behaviour; AA = Asset Accumulation; $p < .001$

The confidence intervals for all indirect effects excluded zero, confirming statistical significance. These findings suggest that financial literacy operates both directly and indirectly through behavioural and institutional channels.

- **Multiple Regression Analysis**

Hierarchical regression models examined the incremental contribution of financial literacy dimensions beyond demographic controls. In Model 1, demographic variables alone explained 18.3% of variance in income generation capacity. The addition of financial literacy dimensions in Model 2 increased explained variance to 51.7% ($\Delta R^2 = 0.334$, F-change = 87.43, $p < 0.001$). Model 3, which included mediating variables, explained 59.6% of variance ($\Delta R^2 = 0.079$, F-change = 52.17, $p < 0.001$). Financial knowledge remained the strongest predictor ($\beta = 0.312$, $p < 0.001$), followed by financial skills ($\beta = 0.189$, $p < 0.001$) and financial inclusion ($\beta = 0.218$, $p < 0.001$).

- **Subgroup Analysis**

Multi-group SEM analysis revealed significant moderating effects of gender and education. The relationship between financial knowledge and income generation was significantly stronger for males ($\beta = 0.587$, $p < 0.001$) compared to females ($\beta = 0.473$, $p < 0.001$), $\Delta\chi^2 = 12.84$, $p < 0.001$. However, the relationship between financial skills and savings behaviour was stronger for females ($\beta = 0.523$, $p < 0.001$) than males ($\beta = 0.412$, $p < 0.001$).

Educational attainment significantly moderated several relationships. Among respondents with secondary education or less, financial attitudes demonstrated stronger effects on savings behaviour ($\beta = 0.347$, $p < 0.001$) compared to those with tertiary education ($\beta = 0.189$, $p < 0.01$). Age-based analysis revealed that financial literacy effects were most pronounced among the 31-45 age group.

- **Secondary Data Analysis**

Analysis of World Bank Global Fundex data (2021) for 28 Asian economies corroborated primary data findings. Country-level financial literacy scores demonstrated strong positive correlations with financial inclusion indicators: account ownership ($r = 0.782$, $p < 0.001$), digital payments usage ($r = 0.721$, $p < 0.001$), and formal savings rates ($r = 0.689$, $p < 0.001$).

Table 5: Country-Level Correlations (Global Fundex Data, N=28 Asian Countries)

Financial Literacy Score Correlation with:	Pearson r	Sig.
Account ownership (% age 15+)	.782	<.001
Saved at financial institution (% age 15+)	.689	<.001
Borrowed from financial institution (% age 15+)	.623	<.001
Digital payments (% age 15+)	.721	<.001
GDP per capita (PPP)	.712	<.001

Source: World Bank Global Fundex Database 2021

Panel regression analysis revealed that a 10-percentage-point increase in national financial literacy rates associated with a 6.8-percentage-point increase in account ownership ($\beta = 0.68$, $SE = 0.14$, $p < 0.001$) and a 4.3-percentage-point increase in formal savings rates ($\beta = 0.43$, $SE = 0.11$, $p < 0.001$).

Discussion

• Interpretation of Findings

This study provides robust empirical evidence that financial literacy serves as a significant driver of sustainable economic empowerment across Asian contexts. The magnitude of effects observed with financial literacy explaining 36-53% of variance in economic empowerment indicators exceeds that reported in many previous studies (**Fernandes et al., 2014**). The findings confirm and extend previous research demonstrating positive relationships between financial literacy and economic outcomes (**Lusardi and Mitchell, 2014; Grohmann et al., 2018**).

The differential effects of financial literacy dimensions illuminate the mechanisms through which literacy translates into empowerment. Financial knowledge demonstrated the strongest direct effects, particularly for income generation and entrepreneurial activity, consistent with human capital theory's prediction that knowledge enhances productive capacity (**Becker, 1964**). However, financial skills showed stronger effects on savings behaviour and asset accumulation, suggesting that procedural competencies matter more for wealth-building behaviours requiring ongoing execution.

• Mediation Mechanisms

The confirmation of mediation through financial inclusion and financial behaviour provides important insights into pathways connecting literacy to empowerment. This finding supports the capability approach interpretation (**Sen, 1999**): financial literacy expands capabilities partly by enabling access to formal financial infrastructure, which then facilitates economic participation. Financial inclusion emerged as a key mediating mechanism, accounting for 23-29% of total effects.

However, substantial remaining direct effects (70-77% of total effects) indicate that financial literacy influences economic empowerment through multiple channels beyond financial inclusion. These may include improved negotiation skills, enhanced confidence in economic decision-making, better information-seeking behaviour, and more effective planning aspects worthy of future investigation.

• Demographic Variations and Equity Implications

The moderation analyses reveal important equity considerations. The stronger effects of financial knowledge on income generation for males, coupled with stronger effects of financial skills on savings for females, suggest gender-

differentiated pathways to economic empowerment. These patterns may reflect labour market structures in Asian economies, where males often have greater access to formal employment and entrepreneurial opportunities, while females may achieve empowerment more through effective household financial management (**Field et al., 2013**).

The finding that financial attitudes matter more for less-educated populations offers optimistic implications for financial inclusion initiatives. Even when formal financial knowledge is limited, fostering positive attitudes toward saving and planning can generate meaningful economic benefits, suggesting that simplified, attitude-focused programs may be particularly effective for populations with limited formal education.

- **Cross-Country Patterns and Policy Implications**

The strong country-level correlations between financial literacy and financial inclusion indicators ($r = 0.62$ to 0.78) suggest that national financial literacy initiatives can yield population-wide benefits. The panel analysis indicating that 10-percentage-point increases in national financial literacy associate with 4-7 percentage point increases in financial inclusion metrics provides useful benchmarks for policymakers assessing potential intervention impacts.

However, substantial within-country variation observed indicates that national averages mask important disparities. Financial literacy interventions should be designed with attention to sub-national geographic, demographic, and socioeconomic targeting to ensure equitable impact.

- **Limitations**

Several limitations should be acknowledged. First, the cross-sectional design limits causal inference. While our framework posits that financial literacy drives economic empowerment, reverse causality cannot be definitively ruled out. Longitudinal research is needed to establish temporal precedence with greater confidence.

Second, self-reported measures of economic empowerment may contain social desirability bias. Future research should incorporate objective indicators such as actual bank account balances or business revenue data where feasible.

Third, while our sample spanned five countries, generalizability to all Asian economies requires caution given the region's vast diversity. The sample over-represented middle-income countries; findings may differ in wealthier or poorer contexts.

Conclusion and Policy Recommendations

Summary of Key Findings

This study provides comprehensive evidence that financial literacy constitutes a powerful tool for sustainable economic empowerment in Asian contexts. Key findings include:

- Financial literacy demonstrates significant positive effects on multiple dimensions of economic empowerment, explaining 36-53% of variance in income generation, savings behaviour, asset accumulation, and entrepreneurial activity.
- Demographic characteristics significantly moderate financial literacy effects, with gender, education level, age, and urban/rural location shaping the strength and nature of literacy-empowerment relationships.
- Different financial literacy dimensions play distinct roles, with knowledge most strongly influencing income generation and entrepreneurship, skills most affecting savings and asset accumulation, and attitudes providing foundational effects.
- Financial literacy operates through both direct pathways and indirect mechanisms mediated by financial inclusion and financial behaviour, with direct effects accounting for 70-77% of total effects.

Policy Recommendations

- **Implement Comprehensive National Financial Literacy Strategies**

Governments should develop national financial literacy strategies that integrate financial education into formal education systems, workplace training programs, and community-based initiatives. These strategies should target all three literacy dimensions—knowledge, skills, and attitudes—rather than focusing solely on information provision.

- **Prioritize Financially Excluded Populations**

Given strong mediation effects through financial inclusion, financial literacy initiatives should prioritize populations currently excluded from formal financial systems, including rural residents, women, and low-income households. Combining financial literacy training with facilitated access to appropriate financial products may generate synergistic effects.

- **Design Gender-Responsive Interventions**

Recognition of gender-differentiated pathways suggests the need for tailored interventions. Programs targeting women might emphasize financial skills and savings strategies, while those targeting men might focus on financial knowledge application to income-generating activities.

- **Leverage Digital Financial Platforms**

Digital financial services offer opportunities to deliver financial literacy content efficiently and at scale. Mobile-based financial education platforms combining learning modules with digital financial products can simultaneously build literacy and inclusion (**Chen et al., 2020; Ozili, 2021**).

- **Focus on Critical Life Stages**

The stronger effects observed among the 31-45 age group suggest strategic value in targeting financial literacy interventions to this demographic window when individuals face critical financial decisions regarding career advancement, family investments, and retirement planning.

- **Emphasize Behavioural Application**

Mediation findings underscore that knowledge alone is insufficient; literacy must translate into behaviour change. Financial education programs should incorporate experiential learning, simulations, and practice opportunities to facilitate the knowledge-to-action transition (**Thales and Sun stein, 2008**).

- **Establish Monitoring and Evaluation Systems**

Policymakers should establish robust systems to monitor financial literacy levels and evaluate intervention impacts. Regular nationally representative surveys using standardized instruments can track progress and identify emerging gaps.

- **Foster Multi-Stakeholder Partnerships**

Effective financial literacy initiatives require collaboration among government agencies, financial sector institutions, educational institutions, and civil society organizations. Governments should facilitate such partnerships through coordinating mechanisms and regulatory frameworks.

Directions for Future Research

Several research directions would advance understanding:

- **Longitudinal Studies:** Panel studies following individuals over time would strengthen causal inference and illuminate temporal dynamics.
- **Experimental Interventions:** Randomized controlled trials of different financial literacy intervention designs would provide gold-standard evidence on which program components most effectively enhance economic empowerment.
- **Mechanisms and Pathways:** Research exploring additional mediating mechanisms such as social capital, information networks, and psychological empowerment would enrich understanding of how literacy translates into empowerment.

- **Cultural Contexts:** Qualitative research examining how cultural values, family structures, and informal financial systems shape financial literacy's effects would enhance intervention relevance.

Final Remarks

In an era of rapid financial innovation and persistent inequality across Asia, financial literacy emerges as a fundamental capability essential for inclusive and sustainable development. This study demonstrates that financial literacy significantly enhances individuals' capacity to generate income, accumulate assets, manage risks, and participate meaningfully in economic life the very essence of economic empowerment.

However, financial literacy alone is not a panacea. It operates within broader structural contexts including labour market conditions, financial sector development, and social norms. Effective promotion of economic empowerment requires integrated approaches combining financial literacy initiatives with complementary interventions addressing structural barriers to economic participation.

As Asian economies continue their development trajectories, investing in financial literacy represents investing in human capital, expanding economic capabilities, and fostering inclusive growth. The evidence presented here suggests such investments yield significant returns—not just for individuals who gain knowledge and skills, but for societies that benefit from more financially resilient, economically productive, and empowered populations.

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