



DOES FINANCIAL LITERACY UNLOCK FORMAL CREDIT?

Evidence from Micro Enterprises in Odisha, India

¹Priyaranjan, ²Dr. Manmath Nath Samantaray

¹Research Scholar, ²Professor

^{1,2}ASBM University, Bhubaneswar, Odisha, India

Abstract : This study examines the association between financial literacy and access to formal finance among micro-enterprises in Odisha, India. It disaggregates financial literacy into three dimensions — financial knowledge, financial behaviour, and financial attitude — and conceptualizes access to finance as a multidimensional construct beyond formal account ownership or a binary loan-approval outcome. The study draws on primary survey data from 450 micro-enterprise owners, collected through face-to-face interviews between October 2023 and March 2024. The questionnaire adapted established financial literacy measures and captured enterprise characteristics, financial practices, and perceived access to finance. The analytical procedure included descriptive statistics, exploratory and confirmatory measurement validation, and partial least squares structural equation modelling (PLS-SEM). While formal account ownership was reported by 93% of respondents, bank loans accounted for only 17% of start-up finance. Among those who applied for bank credit, 47% reported rejection, with insufficient collateral cited as the most frequent reason. The component-level structural model indicated a significant positive association between financial knowledge and access to finance ($\beta = 0.925$, $p < .001$) and between financial behaviour and access to finance ($\beta = 0.241$, $p = .035$), whereas the association for financial attitude was not statistically significant ($\beta = 0.125$, $p = .976$). A separate higher-order model indicated a significant positive association between overall financial literacy and access to finance ($\beta = 0.906$, $p < .001$). Given the cross-sectional design, these results should be interpreted as associations rather than causal effects. The study provides state-specific evidence on the relationship between financial literacy dimensions and perceived access to finance among micro-enterprises in Odisha, highlighting the distinction between financial inclusion through account ownership and effective access to and use of enterprise finance. The findings suggest that financial capability initiatives can be enhanced through practical modules on interest and loan-cost calculation, business record-keeping, cash-flow planning, and credit documentation, complemented by streamlined lending procedures and borrower support. The effectiveness of such measures requires rigorous evaluation rather than being assumed to improve loan outcomes.

IndexTerms - financial literacy, financial knowledge, financial behaviour, access to finance, micro enterprises, Odisha, India, PLS-SEM

JEL Classification - G21, G32, L26, O16

I. INTRODUCTION

Micro enterprises are important sources of livelihood, self-employment and local economic activity in India. Their small scale, limited capital base and frequent informality, however, can make it difficult to obtain suitable and affordable institutional finance. External finance can support working capital, investment and resilience, but lenders may face difficulty assessing enterprises with limited formal accounts, short credit histories or insufficient collateral. Entrepreneurs may also face barriers related to product awareness, documentation, application procedures and uncertainty about loan approval.

These challenges are relevant to Odisha, where micro enterprises operate across urban, semi-urban and rural settings and across a range of activities, including trade, services, manufacturing and agriculture-related businesses. The state's varied geography and business environments make it important to examine not only whether enterprises have bank accounts, but also whether they can obtain finance that meets their needs.

Financial literacy offers one possible explanation for differences in financing experiences. The OECD/INFE framework treats financial literacy as a combination of awareness, knowledge, skills, attitudes and behaviours needed to make sound financial decisions (OECD/INFE, 2016). In an enterprise setting, relevant capabilities include understanding borrowing costs, preparing and maintaining records, planning cash flows, comparing financing options and interpreting repayment obligations. Such capabilities may help owners present information to lenders and assess whether a loan is appropriate. They cannot, however, remove constraints arising from collateral, business risk, lender policies or the local availability of credit.

This study investigates the relationship between financial literacy and access to formal finance among micro enterprises in Odisha. It addresses three questions: (1) How do sampled enterprises finance their start-up and operating needs, and what barriers do they report in seeking formal credit? (2) How are financial knowledge, financial attitude and financial behaviour associated with access to finance? (3) What practical and research implications follow from the observed relationships?

The study contributes in three ways. First, it provides survey evidence from 450 micro enterprises in a state-specific setting. Second, it distinguishes the cognitive, attitudinal and behavioural dimensions of financial literacy rather than treating literacy as a single undifferentiated concept. Third, it uses a multidimensional understanding of access to finance that includes perceived availability, affordability, use and procedural ease. The cross-sectional design means that the findings identify associations rather than causal effects.

II. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

A. Financial literacy in the enterprise context

Financial literacy has been conceptualised in several ways. Knowledge-centred approaches emphasise understanding of concepts such as interest, inflation, risk and diversification. Broader approaches incorporate the skills and behaviours through which knowledge is applied. The OECD/INFE definition explicitly includes awareness, knowledge, skills, attitudes and behaviour (OECD/INFE, 2016). This broader formulation is relevant to micro-enterprise owners because knowing a financial concept does not necessarily mean that it is applied consistently in business decisions.

Research on household finance links financial knowledge with planning and financial decision-making (Lusardi & Mitchell, 2014). Cross-country work has also documented differences in financial-literacy levels by socioeconomic characteristics (Atkinson & Messy, 2012). In enterprise settings, training and financial education interventions have been associated with changes in business practices, although outcomes vary by context and intervention design (Bruhn & Zia, 2013; Cole et al., 2011). Evidence specific to micro enterprises in Odisha remains limited, motivating a context-focused analysis.

In this study, financial literacy is examined through three related dimensions such as financial knowledge, financial attitude and financial behaviour. Financial knowledge refers to understanding of financial concepts, including interest, inflation, balance sheets and risk–return relationships. Financial attitude captures planning orientation, confidence and future-oriented financial goals. Financial behaviour refers to practices such as separating personal and business finances, planning for uncertainty, securing business records and using financial information when making decisions.

B. Access to finance and information asymmetry

Access to finance is not equivalent to owning a bank account. For micro enterprises, it can involve the availability of suitable products, the affordability of borrowing, actual use of formal financial services and the ease of completing application and disbursement procedures. These dimensions recognise that an enterprise may be financially included in a basic sense yet remain unable to obtain appropriate credit.

Information asymmetry provides one theoretical explanation for credit constraints. Akerlof (1970) describes how uneven information can impair market functioning, while Stiglitz and Weiss (1981) show how imperfect information can contribute to credit rationing. Micro enterprises with limited documentation may find it difficult to communicate their repayment capacity, while lenders may struggle to distinguish viable borrowers from higher-risk applicants. Regular records, credible cash-flow information and an understanding of loan requirements may help reduce some informational barriers. They do not necessarily overcome collateral requirements or other institutional constraints.

C. Theoretical perspectives

The study draws on four complementary perspectives. Human Capital Theory treats knowledge and skills as capabilities that can improve decision-making and resource allocation (Becker, 1964). Information Asymmetry Theory explains why incomplete borrower information can constrain lending and why transparent records may matter to lenders (Akerlof, 1970; Stiglitz & Weiss, 1981). The Theory of Planned Behaviour distinguishes attitudes from perceived control and action, suggesting that favourable intentions may not translate into behaviour when practical constraints remain (Ajzen, 1991). Financial inclusion research further emphasises that access depends on both service availability and the ability to use services effectively (Demirgüç-Kunt et al., 2018; Ozili, 2021).

Taken together, these perspectives suggest that financial knowledge and behaviour may be associated with access to finance, while attitudes may operate less directly or depend on other capabilities and institutional conditions. This study tests the direct relationships reported in the research model; it does not establish the mechanisms as causal.

D. Study Hypotheses

H1: Financial knowledge is positively associated with access to finance among micro enterprises in Odisha.

H2: Financial behaviour is positively associated with access to finance among micro enterprises in Odisha.

H3: Financial attitude is positively associated with access to finance among micro enterprises in Odisha.

H4: Overall financial literacy, modelled as a higher-order construct, is positively associated with access to finance among micro enterprises in Odisha.

III. METHODOLOGY

A. Study setting, design and sample

The study adopted a quantitative, cross-sectional survey design. Primary data were collected from micro-enterprise owners through face-to-face interviews between October 2023 and March 2024. The reported usable sample comprised 450 respondents from rural, semi-urban and urban locations in Odisha. The article's source materials describe the sampling approach as stratified, with geographic coverage intended to reflect variation in the state's business and socioeconomic settings. Because the available materials do not provide a complete sampling-frame description or district-level response rates, the sample should not be assumed to be fully representative of all micro enterprises in Odisha.

The sample included 40% rural, 11% semi-urban and 49% urban enterprises. In the reported profile, 79% of owners were male, 6% female and 15% of enterprises were jointly owned. Sole proprietorships accounted for 72% of respondents. Around 65% reported employing between one and five people, and 72% reported initial investment below ₹5 lakh. The sample included enterprises in trade, hospitality, mining and quarrying, utilities, agriculture-related activities, construction, manufacturing and transport. Table 1 summarises the reported sample profile.

Table 1: Profile of the sampled micro enterprises

Sample characteristic	Reported distribution
Location	Rural 40%; semi-urban 11%; urban 49%
Ownership/owner profile	Male 79%; female 6%; jointly owned 15%
Legal form	Sole proprietorship 72%
Employment	1–5 employees: 65%
Initial investment	Below ₹5 lakh: 72%
Business tenure	4–5 years: 42%; 2–3 years: 21%; 6–10 years: 20%; over 10 years: 18%

B. Measures and survey instrument

A structured questionnaire captured respondent and enterprise characteristics, financial literacy, financing sources, experiences with formal credit and perceptions of access to finance. Financial-literacy items were adapted from the OECD/INFE framework and prior financial-literacy research. The constructs covered financial knowledge, financial attitude and financial behaviour. Access to finance was measured through items relating to availability, affordability, usage and procedural or institutional ease. The instrument was piloted with 45 enterprises; the source article reports a pilot Cronbach's alpha of 0.889 for 32 items and minor wording adjustments following Odia translation.

The available article reports 19 financial-literacy items and a multi-item access-to-finance measure. The thesis also discusses business-performance measures, but the present article focuses on the financial-literacy/access-to-finance relationship and does not make claims about business performance that are not fully reported in the article's principal model.

C. Analytical strategy

Data screening and descriptive analyses were conducted using SPSS 26. Measurement assessment and structural modelling were reported as being conducted in SmartPLS 4. Exploratory factor analysis was conducted to examine the dimensionality of the literacy items. The reported diagnostics included the Kaiser–Meyer–Olkin statistic, Bartlett's test, internal-consistency reliability, average variance extracted (AVE), the Fornell–Larcker criterion and the heterotrait–monotrait ratio (HTMT). The structural model was assessed using path coefficients, t-statistics, p-values and the coefficient of determination (R^2), with bootstrapping reported for significance testing.

The source materials report both a component-level model and a separate higher-order financial-literacy model. Their coefficients are presented separately below and should not be interpreted as estimates from one simultaneous model. The underlying SmartPLS output, item-level data and complete model specifications should be checked before journal submission, particularly to confirm construct specification, bootstrapping settings and the interpretation of R^2 .

IV. RESULTS

A. Financing patterns and reported barriers

Formal bank-account ownership was high in the sample: 93% of respondents reported having a formal account. However, account ownership did not correspond to widespread reliance on bank credit for business start-up. Reported start-up sources included own savings (25%), friends or relatives (20%), moneylenders (15%), bank loans (17%), finance companies (10%) and microfinance (9%). Table 2 summarises these sources. These figures describe the reported primary start-up source and should not be interpreted as the full range of financing used over an enterprise's life.

Table 2: Reported start-up finance sources

Reported start-up finance source	Share
Own savings	25%
Friends or relatives	20%
Moneylenders	15%
Bank loan	17%
Finance companies	10%
Microfinance	9%

Among respondents who had not approached a bank, the reported reasons included fear of rejection (26%), no perceived need for a loan (25%), sufficient business-generated cash (18%), lack of awareness (9%) and distance from a bank (6%). Among those who applied for bank credit, 47% reported that their application was rejected. The leading reported reasons for rejection were insufficient collateral (40%), low turnover (20%), inadequate business experience (17%) and unsuitable location (14%). The denominators for these percentages should be made explicit in the final submission and verified against the survey dataset.

On the reported five-point scale, staff service quality received a mean score of 3.10 and processing speed 3.01. Absence of collateral and positive perceptions of officials each scored 3.00, while low interest rates and convenient location scored 2.70. These descriptive results indicate that respondents considered both institutional interactions and borrowing conditions relevant to access.

B. Measurement model

The source article reports indicator loadings above 0.78 and high internal consistency and convergent validity for the constructs. Reported AVE values exceeded 0.85. The Fornell–Larcker criterion was reported as satisfied, and HTMT ratios were below 0.85. Table 3 summarises the values reported in the article. The unusually high alpha values may indicate very strong item consistency, but they also warrant a check for item redundancy and construct overlap before publication.

Table 3: Measurement model: reliability and convergent validity

Construct	Items reported	Cronbach's α	Composite reliability (pc)	AVE
Financial knowledge	7	0.983	0.980	0.850
Financial attitude	5	0.973	0.973	0.923
Financial behaviour	4	0.985	0.986	0.932
Access to finance	6	0.967	0.973	0.858

C. Structural relationships

In the component-level model, financial knowledge was positively associated with access to finance ($\beta = 0.925$, $t = 40.327$, $p < .001$). Financial behaviour also showed a positive, statistically significant association ($\beta = 0.241$, $t = 2.111$, $p = .035$). The direct path from financial attitude was not statistically significant ($\beta = 0.125$, $t = 0.030$, $p = .976$). The model's reported R^2 was 0.821 in the journal-article draft; the thesis chapter separately reports $R^2 = 0.918$ for a model with the three literacy dimensions. This discrepancy must be resolved using the original model output before submission. Accordingly, no single R^2 is asserted here as definitive. Table 4 summarises the hypothesis tests.

Table 4: Structural model results and hypothesis tests

Hypothesis/path	Reported coefficient	Reported test	Interpretation
H1: Financial Knowledge $\rightarrow$ Access to Finance	$\beta = 0.925$	$t = 40.327$; $p < .001$	Positive, statistically significant association
H2: Financial Behaviour $\rightarrow$ Access to Finance	$\beta = 0.241$	$t = 2.111$; $p = .035$	Positive, statistically significant association
H3: Financial Attitude $\rightarrow$ Access to Finance	$\beta = 0.125$	$t = 0.030$; $p = .976$	Not statistically significant
H4: Overall literacy $\rightarrow$ Access to Finance (separate higher-order model)	$\beta = 0.906$	$t = 114.981$; $p < .001$	Positive, statistically significant association

The separate higher-order model reports a positive association between overall financial literacy and access to finance ($\beta = 0.906$, $t = 114.981$, $p < .001$). Because the component-level and higher-order models are distinct specifications, the coefficient should be read as evidence from that separate model rather than as an additional independent effect alongside the component paths.

V. DISCUSSION

A. Financial inclusion beyond account ownership

The descriptive findings distinguish account ownership from enterprise credit access. Although 93% of respondents reported a formal bank account, only 17% identified a bank loan as their primary start-up funding source. This gap suggests that account-based indicators alone do not capture whether micro enterprises can obtain credit appropriate to their needs. At the same time, start-up finance may reflect owner preference, business cash flow and the stage of enterprise development as well as credit constraints; the descriptive pattern should therefore not be read as proof that all non-borrowing enterprises were excluded.

B. Knowledge and financial practices

The component-level model identifies financial knowledge as positively associated with access to finance, while financial behaviour also has a smaller positive association. These results are consistent with the proposition that understanding financial concepts and maintaining organised business practices may help entrepreneurs evaluate credit products and communicate financial information. They are also consistent with an information-asymmetry interpretation: reliable records and an ability to understand borrowing terms may improve the information available to both borrowers and lenders.

The large reported coefficient for financial knowledge should nevertheless be interpreted cautiously. Its magnitude may reflect the scale construction, overlap between knowledge indicators and perceived access items, or the model's specification. Cross-sectional self-reported measures also create the possibility of common-method effects. Future analysis should report confidence intervals, effect sizes, predictive assessment and robustness checks, and should compare subjective access measures with objective indicators such as application, approval, loan size and loan pricing.

C. Financial attitude and the intention–action distinction

Financial attitude did not show a statistically significant direct path in the reported component-level model. This finding does not establish that attitudes are irrelevant. Rather, it indicates that the model did not detect an independent direct association after accounting for the other included dimensions. Attitudes may relate to behaviour or perceived control, or their association may depend on external constraints; these possibilities require explicit mediation or moderation tests and cannot be inferred from the reported direct path alone.

D. Institutional and structural constraints

The reported rejection reasons point to constraints beyond financial literacy, particularly collateral, turnover, business experience and location. Respondents also identified service quality, processing time, cost and proximity as relevant aspects of access. These results reinforce the need to treat access to finance as an interaction between borrower capabilities and institutional

lending conditions. Financial education alone cannot substitute for suitable products, transparent requirements, proportionate documentation and appropriate credit-risk assessment.

VI. IMPLICATIONS FOR POLICY AND PRACTICE

The findings suggest several areas for consideration by enterprise-support agencies, financial institutions and micro-enterprise owners. These are implications derived from the observed associations and reported barriers; the study did not evaluate the effectiveness of the interventions listed below.

A. Financial capability support

Financial-literacy programmes could emphasise practical, enterprise-specific skills rather than awareness alone. Relevant modules include calculating the total cost of borrowing, comparing repayment schedules, preparing basic cash-flow and profit-and-loss statements, separating business and household transactions, maintaining records and understanding application documentation. Materials should be accessible in local languages and adapted to different levels of numeracy and digital access. Programme evaluation should track changes in financial practices and subsequent credit outcomes.

B. Lending processes and borrower support

Financial institutions could make eligibility criteria, documentation requirements, fees and expected processing stages easier to understand. Application checklists and guided support may reduce uncertainty for first-time applicants. Where feasible and consistent with prudent lending, assessment processes may consider documented cash flows and business activity alongside collateral. The survey findings also suggest that staff interaction and processing speed merit attention, although the study does not establish that changes in these areas would cause higher approval rates.

C. Monitoring meaningful financial inclusion

Monitoring frameworks could distinguish basic account ownership from the use and quality of enterprise finance. Relevant indicators include applications, approval and rejection rates, reasons for rejection, time to decision, effective borrowing cost, loan purpose, repeat use, repayment outcomes and borrower-reported suitability. Disaggregating indicators by geography, gender, enterprise age and sector would help identify groups facing different constraints.

VII. LIMITATIONS AND FUTURE RESEARCH

Several limitations qualify the findings. First, the cross-sectional design does not establish temporal order or causality. Second, the study is geographically limited to Odisha, and the sample's representativeness cannot be fully assessed from the reported sampling details. Third, the data rely substantially on self-reported perceptions and experiences, which may be affected by recall or response bias. Fourth, the access-to-finance construct includes perceived dimensions; future work should combine these measures with administrative loan data. Fifth, the available reporting contains differences in model-fit/variance-explained figures and some denominator ambiguities that must be reconciled against the underlying dataset and analysis outputs.

Future research could use longitudinal designs to examine whether changes in financial capability precede changes in borrowing outcomes; experimental or quasi-experimental evaluations could test the impact of targeted training. Comparative studies across Indian states and between rural, semi-urban and urban enterprises could assess contextual variation. Further analysis could examine gender, tribal status, sector, enterprise age and digital financial capability, provided sample sizes support reliable subgroup estimates. Researchers should also test potential mediation pathways between attitude, knowledge, behaviour and access, while distinguishing perceived access from objective credit outcomes.

VIII. CONCLUSION

This study examines financial literacy and access to finance among 450 micro enterprises in Odisha. The findings show a distinction between formal account ownership and the use of bank credit, with respondents reporting reliance on own and informal sources as well as barriers related to collateral, turnover and application experience. In the reported component-level model, financial knowledge and financial behaviour are positively associated with access to finance, whereas the direct association for financial attitude is not statistically significant. A separate higher-order model also reports a positive association between overall financial literacy and access.

The evidence supports treating financial capability as one relevant dimension of micro-enterprise finance, while recognising that access is also shaped by lender practices and enterprise circumstances. Practical financial education, clearer lending processes and measurement of actual credit outcomes are potential areas for further policy development and evaluation. Because the study is cross-sectional and some model statistics require reconciliation, the results should be interpreted as associations within the surveyed sample rather than causal or universally generalisable effects.

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