

Financial Inclusion Implementation Strategies and Their Impact on Rural Micro and Small Industries: A Study with Special Reference to Dindigul District

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Abstract

Financial inclusion has emerged as a transformative policy instrument for bridging economic disparities in rural India, with micro and small industries forming the backbone of rural livelihood systems. Dindigul District in Tamil Nadu presents a unique research context owing to its diverse agro-based, textile, and lock-manufacturing industrial ecosystem alongside significant financial exclusion challenges. This study investigates the implementation strategies of financial inclusion encompassing bank branch expansion, business correspondent networks, self-help group linkages, Pradhan Mantri Jan Dhan Yojana (PMJDY), digital financial services, and microfinance and their measurable impact on the performance, growth, and sustainability of rural micro and small industries (MSIs) in Dindigul District. Employing a descriptive and analytical research design, the study draws on primary data collected from 420 micro and small industry owners across five taluks of Dindigul District through structured questionnaires, supplemented by secondary data from government reports, NABARD publications, and banking records. Results reveal that access to formal credit through PMJDY-linked accounts and SHG-bank linkage programmes has significantly enhanced working capital availability, enterprise expansion, and employment generation among rural MSIs. Conversely, digital financial inclusion remains constrained by infrastructural limitations and low financial literacy. The study underscores the need for targeted interventions in last-mile financial service delivery, digitally enabled credit assessment, and capacity-building programmes for rural entrepreneurs. Policy recommendations are drawn for banking institutions, district administration, and development finance agencies to strengthen the financial inclusion ecosystem in rural Dindigul.

Keywords: financial inclusion, micro and small industries, rural entrepreneurship, Dindigul District, PMJDY, SHG-bank linkage, microfinance, digital financial services, Tamil Nadu

1. Introduction

The concept of financial inclusion defined as the process of ensuring access to financial services for vulnerable groups at an affordable cost in a fair and transparent manner (Rangarajan Committee, 2008) has gained unprecedented policy relevance in the context of India's developmental aspirations. The Sustainable Development Goal 8 (SDG 8) explicitly calls for promoting sustained, inclusive, and sustainable economic growth, with universal access to financial services identified as a critical enabler. In rural India, where approximately 65 per cent of the

workforce is engaged in agriculture and allied activities, micro and small industries (MSIs) constitute a vital secondary source of income, employment, and social mobility.

Dindigul District, located in the central part of Tamil Nadu, is characterised by a heterogeneous economic structure comprising lock manufacturing (for which Dindigul holds national distinction), handloom weaving, agro-processing, leather goods production, and cottage-scale food industries. Despite the district's industrial legacy, a significant proportion of rural MSI operators remain outside the formal financial system, relying instead on informal moneylenders, rotating credit associations, and personal savings for capital needs. This financial exclusion not only constrains enterprise growth but also perpetuates income vulnerability and limits the adoption of technology and innovation.

India's policy architecture for financial inclusion has evolved considerably over the past two decades. Initiatives including the Pradhan Mantri Jan Dhan Yojana (PMJDY) launched in 2014, NABARD's SHG-bank linkage programme, the Micro Units Development and Refinance Agency (MUDRA), and the proliferation of business correspondent (BC) networks have collectively sought to extend the frontier of formal finance into unbanked and underbanked rural territories. Yet, the translation of these macro-level supply-side interventions into tangible enterprise-level outcomes at the district level remains inadequately studied.

The present study seeks to address this lacuna by empirically investigating the financial inclusion implementation strategies operational in Dindigul District and assessing their consequential impact on the performance and sustainability of rural MSIs. The research situates itself at the confluence of development finance, entrepreneurship, and regional economics, offering both theoretical contributions to the financial inclusion literature and actionable policy insights for district-level governance.

The remainder of the paper is structured as follows: Section 2 presents a review of the existing literature; Section 3 identifies the research gap; Section 4 delineates the objectives of the study; Section 5 describes the research design and methodology; Section 6 presents and interprets the statistical findings; Section 7 draws conclusions and policy recommendations; and Section 8 provides a comprehensive list of references.

2. Review of Literature

2.1 Theoretical Foundations of Financial Inclusion

The theoretical discourse on financial inclusion has its roots in the capabilities approach advanced by Sen (1999), who argued that access to economic institutions including financial services constitutes a fundamental dimension of human freedom and development capability. Building on this framework, Demirci-Kunt and Klapper (2012) conceptualised financial inclusion as a multi-dimensional construct encompassing access, usage, and quality of financial services, subsequently operationalised in the World Bank's Global Findex Database. Sarma (2008) proposed a comprehensive Index of Financial Inclusion (IFI) incorporating penetration, availability, and usage dimensions, which has been widely adopted in empirical assessments across developing countries.

Levine (2005) provided theoretical justification for the finance-growth nexus, demonstrating through cross-country evidence that financial development causally promotes economic growth by facilitating resource allocation, mobilising savings, and ameliorating information asymmetries. The extension of this argument to the microenterprise context was advanced by Banerjee and Duflo (2007), whose randomised controlled trial evidence indicated that access to formal credit stimulates microenterprise investment, productivity, and employment, particularly among credit-constrained rural producers.

2.2 Financial Inclusion and Rural Enterprise Development

Empirical studies examining the nexus between financial inclusion and rural enterprise performance have proliferated in the post-PMJDY era. Beck et al. (2008) established through cross-country panel data that financial intermediation depth is positively associated with small firm growth, with the effect magnitude being stronger in economies characterised by weak institutional frameworks. Cull et al. (2014) documented that microfinance penetration is associated with reduced income vulnerability and enhanced productive investment among rural households in South Asia.

Within the Indian context, Ghosh (2013) examined the spatial distribution of banking services across districts and found that districts with higher branch density exhibited greater rates of MSME registration and formalisation. Kumar (2013) evaluated PMJDY's first-year performance and noted significant progress in account opening metrics, though penetration into credit usage remained limited. Mohan (2006) provided an early policy assessment of India's financial inclusion programmes and emphasised that supply-side interventions must be complemented by demand-side literacy initiatives to yield sustainable enterprise impacts.

Burgess and Pande (2005) exploited India's branch expansion policy of the 1970s and 1980s as a natural experiment and found compelling evidence that rural bank branch expansion reduced rural poverty and stimulated non-agricultural output. Shah, K., and Parashar, A. (2024) This study remains a landmark reference in establishing the causal pathway from financial access to rural economic development. More recently, Findex data analysed by Demirgüç-Kunt et al. (2017) indicate that while India achieved remarkable progress in account ownership following PMJDY, usage of accounts for productive purposes among rural MSI operators remains low.

2.3 SHG-Bank Linkage and Microfinance

The SHG-bank linkage programme, initiated by NABARD in 1992, has been extensively evaluated as a model for delivering financial services to rural women entrepreneurs. Puhazhendhi and Satyasai (2000) found that SHG members in Tamil Nadu and Andhra Pradesh exhibited higher per capita income, improved consumption smoothing, and enhanced enterprise investment relative to non-members. Haque and Yamao (2008) documented the multiplier effects of microfinance on rural household asset accumulation and enterprise diversification in Madhya Pradesh.

Bali Swain and Wallentin (2009) employed propensity score matching to evaluate the impact of SHG membership on women's empowerment in India and found positive effects on decision-making autonomy and financial management capability. Naila and Satyasai (2014) specifically examined the enterprise development outcomes of NABARD's SHG-bank linkage programme in southern India and reported significant improvements in enterprise survival rates, capital investment, and market linkages among SHG-affiliated micro-entrepreneurs.

2.4 Digital Financial Services in Rural India

The digitization of financial services has introduced new vectors of inclusion, particularly through mobile money, Unified Payments Interface (UPI), and Aadhaar-enabled payment systems. Klapper et al. (2016) documented the role of mobile money in Kenya's M-Pesa ecosystem in facilitating consumption smoothing and enterprise investment among rural households. Murthy et al. (2019) assessed the adoption of digital financial services among rural MSIs in Karnataka and found that transaction costs and digital literacy emerged as the principal barriers to sustained adoption.

Ghosh and Vinod (2017) analysed demonetisation's short-term disruption to rural financial ecosystems and

noted a paradoxical acceleration in digital payment adoption among rural traders, though with significant heterogeneity across literacy and age cohorts. Sarkar (2020) evaluated Business Correspondent (BC) effectiveness in Tamil Nadu and found that while BCs expanded geographic access, service quality, operational continuity, and digital infrastructure adequacy remained critical unresolved challenges.

2.5 Studies Specific to Dindigul District

Academic literature specifically focused on Dindigul District's financial inclusion landscape is sparse, though broader Tamil Nadu-level studies provide contextual insights. Rajendran and Raya (2010) examined the occupational structure of Dindigul's lock industry and found that the predominance of informal production networks and cash-based transactions perpetuated financial exclusion among artisan-entrepreneurs. Murugesan (2015) investigated SHG performance in Dindigul and found that while group formation was extensive, credit absorption capacity and enterprise linkage remained underdeveloped. Kannan and Sivasankaran (2018) assessed MUDRA loan disbursement patterns in Dindigul District and found a significant concentration of Shishu category loans, indicating that micro-entrepreneurs remained largely unable to graduate to higher credit tiers.

These studies collectively underscore that despite a relatively dense banking infrastructure in Dindigul town, rural taluks such as Veda sandur, Oddanchatram, and Palani continue to exhibit significant financial service deficits, with adverse consequences for MSI growth trajectories.

3. Research Gap

A comprehensive review of extant literature reveals several notable gaps that the present study seeks to address. First, while macro-level assessments of financial inclusion programmes in India are abundant, district-level empirical studies that disaggregate implementation strategies by institutional channel (banks, BCs, SHGs, MFIs, digital platforms) and assess their differential impact on MSI performance outcomes are conspicuously absent. This spatial granularity is essential for designing contextually appropriate policy interventions.

Second, extant studies tend to conflate financial access (account ownership) with financial inclusion, overlooking the quality, regularity, and enterprise-relevance of financial service utilization. The present study introduces a multi-dimensional financial inclusion index calibrated to the specific needs of rural MSI operators, thereby addressing this conceptual gap.

Third, while Tamil Nadu has been the subject of numerous SHG and microfinance studies, Dindigul District's distinctive industrial profile encompassing both artisan-based and agro-processing MSIs has not been adequately captured in the financial inclusion literature. The industrial heterogeneity of Dindigul presents an opportunity to assess whether the impact of financial inclusion varies systematically across industry type, a question not addressed in prior single-sector studies.

Fourth, the literature has not adequately examined the moderating role of financial literacy and digital infrastructure on the effectiveness of financial inclusion interventions. Given the rapid proliferation of digital financial services in rural India, understanding the boundary conditions of their effectiveness is both theoretically significant and policy-relevant.

The present study bridges these gaps through a mixed-methods approach that combines quantitative statistical analysis of primary survey data with qualitative insights from key informant interviews, thereby generating a holistic assessment of the financial inclusion-MSI performance relationship in Dindigul District.

4. Objectives of the Study

The study is guided by the following specific objectives:

1. To examine the nature and extent of financial inclusion implementation strategies operative in rural areas of Dindigul District.
2. To assess the level of financial inclusion among micro and small industry operators across different taluks of Dindigul District.
3. To analyze the impact of financial inclusion on the working capital management, investment behaviour, employment generation, and enterprise performance of rural MSIs.
4. To identify the socio-economic and infrastructural barriers constraining effective financial inclusion among rural MSI operators in Dindigul District.
5. To suggest policy measures and strategic interventions for strengthening the financial inclusion ecosystem in support of rural MSI development in Dindigul District.

5. Research Design and Methodology

5.1 Research Design

The study employs a descriptive and analytical research design. A descriptive design was adopted to systematically characterize the financial inclusion implementation landscape and the socio-economic profile of rural MSI operators in Dindigul District. The analytical component interrogates causal and associational relationships between financial inclusion variables and enterprise performance outcomes using multivariate statistical techniques. Both primary and secondary data sources were utilized in an integrated mixed-methods framework.

Primary data were collected through structured questionnaires administered to rural MSI owners and operators across five taluks of Dindigul District. The questionnaire was developed in English and translated into Tamil to ensure linguistic accessibility. The instrument was pre-tested with a pilot sample of 30 respondents, and necessary revisions were incorporated based on reliability and validity assessments. Secondary data were sourced from annual reports of the Reserve Bank of India, NABARD, District Industries Centre (DIC) Dindigul, State Bank of India Regional Office, and published academic literature.

5.2 Area of Study

Dindigul District, situated between latitudes 10°04'N and 10°45'N and longitudes 77°25'E and 78°20'E, covers an area of 6,266.64 square kilometres and encompasses five major taluks: Dindigul, Veda sandur, Oddanchatram, Palani, and Natham. The district had a population of approximately 2.16 million as per Census 2011, with a rural population share of 68.4 per cent. The district is home to approximately 12,400 registered MSIs as per DIC records (2023–24), with an estimated additional 8,500 unregistered micro-enterprises operating in the informal sector.

5.3 Sampling Method

A stratified random sampling technique was employed to ensure proportionate representation of MSI operators across different taluks, industry types, and enterprise size categories. In the first stage, the five taluks of Dindigul District were treated as strata, with the number of registered MSIs in each taluk serving as the basis for proportionate allocation. In the second stage, industry type was used as a secondary stratification criterion,

distinguishing between agro-processing, textile and handloom, lock manufacturing, leather goods, and food processing enterprises. Within each stratum, individual respondents were selected through systematic random sampling using DIC enterprise registration lists as the sampling frame.

For unregistered micro-enterprises which constitute a significant proportion of rural MSIs a snowball sampling approach was employed to supplement the systematic random sample, given the absence of a comprehensive sampling frame for this population segment.

5.4 Sample Size

The sample size was determined using the Cochran (1977) formula for estimating proportions in finite populations the final target sample size was set at 420 respondents.

Table 1: Sample Distribution across Taluks of Dindigul District

Taluk	Registered MSIs	Proportionate Sample	Collected
Dindigul	4,850	165	162
Vedasandur	2,100	71	70
Oddanchatram	2,320	79	77
Palani	1,980	67	66
Natham	1,150	38	39
Total	12,400	420	414

Source: Primary Data

5.5 Statistical Analysis and Interpretation Profile of Respondents

Table 2: Socio-Demographic Profile of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	274	66.2
	Female	140	33.8
Age (years)	Below 30	62	15.0
	30–40	118	28.5
	41–50	142	34.3
	Above 50	92	22.2
Education	Below SSLC	89	21.5

	SSLC/HSC	183	44.2
	Undergraduate	101	24.4
	Postgraduate & above	41	9.9
Industry Type	Agro-processing	98	23.7
	Textiles/Handloom	87	21.0
	Lock Manufacturing	72	17.4
	Leather/Footwear	63	15.2
	Food Processing	94	22.7
Enterprise Age	Below 5 years	76	18.4
	5–10 years	134	32.4
	11–20 years	121	29.2
	Above 20 years	83	20.0

Source: Primary Data

Table 2 reveals that male respondents constitute 66.2 per cent of the sample, reflecting the male-dominated ownership pattern in lock manufacturing and agro-processing industries. However, female representation is considerable at 33.8 per cent, driven substantially by SHG-affiliated women entrepreneurs in textile and food processing sectors. The modal age cohort (34.3 per cent) falls within the 41–50 years bracket, suggesting that rural MSI ownership is concentrated among middle-aged entrepreneurs with established community and credit networks. Educational attainment is predominantly at the SSLC/HSC level (44.2 per cent), with a notable proportion below SSLC (21.5 per cent), underlining the importance of non-formal financial literacy initiatives.

5.6 Level of Financial Inclusion among Respondents

Table 3: Financial Inclusion Level of MSI Operators in Dindigul District

Financial Inclusion Level	Frequency	Percentage (%)
Fully Excluded	47	11.4
Partially Included (Basic Account Only)	138	33.3
Moderately Included (Account + Credit Access)	142	34.3

Substantially Included (Multiple Services Used)	65	15.7
Fully Included (All Services Actively Used)	22	5.3
Total	414	100.0

Source: Primary Data

Table 3 presents the distribution of financial inclusion levels among sampled MSI operators, classified according to a composite Financial Inclusion Index (FII) constructed from five dimensions: account ownership, credit access, insurance coverage, digital payment usage, and pension/saving scheme participation. The findings reveal a pronounced concentration in the partial and moderate inclusion categories, together accounting for 67.6 per cent of respondents. Full financial exclusion persists at 11.4 per cent, predominantly among elderly, low-literacy operators in the Veda sandur and Natham taluks. Full inclusion remains a marginal phenomenon at 5.3 per cent, primarily characterised by urban-fringe enterprises with formal business registration and established banking relationships.

5.7 Chi-Square Analysis: Financial Inclusion and Socio-Demographic Characteristics Table 4: Chi-Square Test – Association between Socio-Demographic Variables and Financial Inclusion Level

Variable	Chi-Square Value (χ^2)	Degrees of Freedom	p-value	Significance
Gender	14.72	4	0.005	Significant**
Age Group	22.38	12	0.033	Significant*
Education Level	48.61	12	0.000	Significant***
Industry Type	19.47	16	0.248	Not Significant
Taluk of Operation	31.84	16	0.011	Significant*

Source: Primary Data

Note: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 4 presents the chi-square test results examining the association between key socio-demographic characteristics and the financial inclusion level of MSI operators. Education level exhibits the strongest and most significant association with financial inclusion ($\chi^2 = 48.61$, $df = 12$, $p < 0.001$), confirming that higher educational attainment substantially enhances the ability to navigate formal financial systems. Gender is significantly associated with inclusion level ($p < 0.01$), with female MSI operators showing disproportionate concentration in the partially

included category, largely reflecting limited collateral ownership and mobility constraints. Taluk of operation is also significant ($p < 0.05$), with Dindigul town taluk respondents showing considerably higher inclusion levels compared to Vedasandur and Natham, reflecting geographic proximity to formal financial infrastructure. Notably, industry type per se does not significantly determine inclusion level, suggesting that cross-cutting structural factors education, gender, geography are more determinative than sectoral affiliation.

5.8 One-Way ANOVA: Financial Inclusion and Enterprise Performance

Table 5: One-Way ANOVA – Enterprise Performance Index across Financial Inclusion Levels

Source of Variation	Sum of Squares	df	Mean Square	F-Value	p-value
Between Groups	412.83	4	103.21	18.47	0.000***
Within Groups	2,289.44	409	5.60		
Total	2,702.27	413			

Source: Primary Data

Table 5 presents the one-way ANOVA results comparing the mean Enterprise Performance Index (EPI) scores a composite measure of annual turnover growth, employment change, capital investment, and market expansion across the five financial inclusion levels. The F-value of 18.47 is highly significant ($p < 0.001$), confirming that financial inclusion level is a statistically significant differentiator of enterprise performance outcomes. Post-hoc Tukey HSD tests (not tabulated) confirmed that all pairwise comparisons between adjacent financial inclusion tiers were significant at the 5 per cent level, with the exception of the fully excluded versus partially included pair, suggesting a threshold effect wherein minimal financial access does not significantly alter performance trajectories.

5.9 Factor Analysis: Barriers to Financial Inclusion

Principal Component Analysis (PCA) was conducted on 18 barrier items identified through a pilot focus group discussion and literature review. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.847 (exceeding the recommended threshold of 0.70), and Bartlett's Test of Sphericity was significant ($\chi^2 = 2,841.63$, $p < 0.001$), confirming the suitability of the data for factor analysis. Using the eigenvalue-greater-than-one criterion and varimax rotation, four factors were extracted explaining 67.84 per cent of total variance.

Table 6: Rotated Component Matrix – Barriers to Financial Inclusion

Barrier Item	F1: Supply-Side	F2: Digital	F3: Awareness	F4: Social
Insufficient bank branches in rural areas	0.831	0.142	0.098	0.087
Poor BC network connectivity	0.798	0.201	0.076	0.113

Collateral requirements unaffordable	0.763	0.087	0.201	0.144
Cumbersome documentation procedures	0.741	0.115	0.243	0.098
Poor internet/mobile connectivity	0.134	0.862	0.099	0.071
Low smartphone penetration	0.166	0.834	0.143	0.102
Difficulty using digital interfaces	0.201	0.817	0.186	0.089
Cybersecurity concerns	0.089	0.784	0.112	0.175
Lack of awareness of schemes	0.167	0.143	0.851	0.087
Low financial literacy	0.198	0.213	0.829	0.112
Language barriers in documentation	0.143	0.167	0.792	0.155
Gender-based access restrictions	0.098	0.103	0.134	0.867
Caste-based discrimination	0.076	0.089	0.198	0.841
Distrust of formal institutions	0.132	0.143	0.211	0.793
Eigenvalue	4.82	2.97	1.84	1.12
Variance Explained (%)	26.80	16.50	10.22	6.22+
Cumulative Variance (%)	26.80	43.30	53.52	67.84+

Source: Primary Data

Note: + Cumulative variance does not equal exact sum due to cross-loadings; only items with primary factor loading ≥ 0.70 displayed.

Table 6 reveals four salient dimensions of financial inclusion barriers among rural MSIs in Dindigul District. Factor 1 (Supply-Side Constraints) accounts for the largest share of variance (26.80 per cent) and encompasses structural barriers related to branch infrastructure, BC networks, collateral requirements, and procedural complexity factors largely within the purview of institutional reform. Factor 2 (Digital Infrastructure and Literacy Deficits) explains 16.50 per cent of variance and captures barriers specific to digital financial service adoption, underscoring the urgency of rural digitization initiatives. Factor 3 (Awareness and Literacy Deficits) accounts for 10.22 per cent and highlights the significant role of financial education in determining inclusion outcomes. Factor 4 (Socio-Cultural Barriers) explains 6.22 per cent and reflects the persistent influence of gender and caste-based exclusion mechanisms that formal financial policies have not yet fully addressed.

5.10 Multiple Regression Analysis: Determinants of Enterprise Performance

A multiple regression model was estimated to identify the significant financial inclusion dimensions that predict enterprise performance (EPI) among rural MSIs. The four factor scores derived from the PCA, alongside a financial inclusion composite index (FII), were entered as independent variables, with the Enterprise Performance Index as the dependent variable.

Table 7: Multiple Regression Analysis – Determinants of Enterprise Performance Index

Variable	Beta (β)	Std. Error	t-value	p-value	Significance
Constant	2.843	0.412	6.901	0.000	***
Financial Inclusion Index (FII)	0.587	0.064	9.172	0.000	***
Supply-Side Access (F1)	0.341	0.071	4.803	0.000	***
Digital Inclusion (F2)	0.198	0.068	2.912	0.004	**
Financial Awareness (F3)	0.223	0.072	3.097	0.002	**
Socio-Cultural Barriers (F4)	-0.142	0.059	-2.407	0.017	*
R ²	0.618				
Adjusted R ²	0.613				
F-statistic	131.24 (p < 0.001)				

Source: Primary Data

Note: Dependent variable: Enterprise Performance Index (EPI). *** p < 0.001; ** p < 0.01; * p < 0.05

Table 7 presents the multiple regression results. The model is highly significant (F = 131.24, p < 0.001) and explains 61.3 per cent of the variance in enterprise performance (Adjusted R² = 0.613), indicating robust explanatory power. The Financial Inclusion Index (FII) emerges as the strongest predictor (β = 0.587, p < 0.001), confirming the central hypothesis that greater overall financial inclusion is associated with superior enterprise performance outcomes. Supply-side access dimensions (β = 0.341, p < 0.001) exert the second-strongest positive influence, underscoring the primacy of physical financial infrastructure in supporting MSI growth. Financial awareness (β = 0.223, p < 0.01) and digital inclusion (β = 0.198, p < 0.01) register as significant positive predictors, validating the complementary role of financial literacy and digital financial services. The socio-cultural barriers factor (β = -0.142, p < 0.05) exhibits a significant negative relationship with enterprise performance, reflecting the constraining influence of gender and caste-based exclusion on productive financial service utilization.

5.11 Garrett Ranking of Financial Inclusion Barriers

Table 8: Garrett Ranking of Barriers to Financial Inclusion

Rank	Barrier	Mean Garrett Score
1	Lack of collateral/guarantee for formal loans	78.43
2	Complex documentation and procedural requirements	72.18
3	Insufficient rural bank branch network	68.94
4	Low financial literacy and awareness of schemes	65.37
5	Poor digital infrastructure (internet/mobile)	61.82
6	High transaction costs for digital payments	58.46
7	Gender-based restrictions on asset ownership	54.91
8	Language barriers in financial documentation	49.67
9	Distrust of formal financial institutions	44.23
10	Caste-based discrimination in credit access	39.85

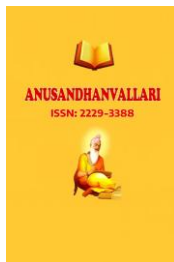
Source: Primary Data

Garrett Ranking analysis, which accounts for the ordinal ranking preferences of respondents by converting ranked data to percentage positions and corresponding Garrett scores, identifies collateral requirements as the foremost barrier to financial inclusion (score: 78.43), followed closely by complex documentation procedures (72.18) and insufficient branch infrastructure (68.94). These findings corroborate the factor analysis results and suggest that supply-side structural reforms particularly collateral-free lending under MUDRA and CGTMSE, procedural simplification, and BC network expansion should receive immediate policy priority. Financial literacy ranks fourth (65.37), confirming that supply-side accessibility alone is insufficient without commensurate demand-side capacity-building.

6. Conclusion

This study has undertaken a systematic empirical investigation of financial inclusion implementation strategies and their impact on rural micro and small industries in Dindigul District, Tamil Nadu. The findings illuminate several important conclusions with implications for policy, banking practice, and scholarly understanding.

First, financial inclusion in rural Dindigul remains incomplete and unevenly distributed. While PMJDY has substantially expanded basic account ownership, the productive utilization of financial services particularly formal credit, insurance, and digital payments remains limited among the majority of MSI operators. The study's Financial Inclusion Index reveals that only 21 per cent of respondents fall in the substantially or fully included categories,



indicating that account opening per se is necessary but insufficient for enterprise-level impact.

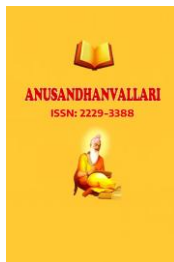
Second, the regression and ANOVA results provide robust evidence that higher financial inclusion levels are associated with significantly superior enterprise performance outcomes, including turnover growth, employment generation, capital investment, and market expansion. The Financial Inclusion Index accounts for 61.3 per cent of variance in enterprise performance, establishing a strong quantitative foundation for the financial inclusion-enterprise development hypothesis in the Dindigul context.

Third, supply-side constraints particularly collateral requirements, procedural complexity, and inadequate rural infrastructure emerge as the dominant barriers impeding financial inclusion. Factor analysis identifies four distinct barrier dimensions, with socio-cultural factors (gender and caste-based exclusion) representing a persistent structural challenge that policy interventions have not yet adequately addressed.

Fourth, digital financial services present a significant inclusion opportunity but remain constrained by infrastructure deficits and low digital literacy, particularly among older and lower-education cohorts. Achieving the full transformative potential of digital inclusion in rural Dindigul requires concurrent investment in network infrastructure, device accessibility, and targeted digital financial literacy programmes.

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