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Financial Inclusion of Street Vendors in Ranchi: An Empirical Study of Determinants and Challenges

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Abstract
Street vendors constitute one of the most visible yet financially excluded segments of India's urban informal economy. Despite their significant contribution to urban livelihoods and local markets, their access to formal financial services remains constrained by institutional, procedural, and infrastructural barriers. This study investigates the determinants and challenges of financial inclusion among street vendors in Ranchi district, Jharkhand. Primary data were collected from 200 street vendors across major vending zones, and an Exploratory Factor Analysis (EFA) was undertaken to identify the underlying dimensions shaping their financial inclusion behaviour.
The findings reveal that financial inclusion among street vendors is influenced by a complex interplay of digital capability, cost and access-related frictions, product relevance, institutional trust, and community-driven behavioural cues. While digital payment usage has increased, barriers such as cumbersome documentation, inconsistent connectivity, low product fit, and limited financial awareness continue to restrict effective participation in the formal financial ecosystem. The study provides actionable insights for policymakers, financial institutions, urban local bodies, and digital service providers to strengthen the financial inclusion architecture for informal-sector workers. Enhancing digital literacy, simplifying procedures, improving infrastructure, and expanding tailored financial products emerge as critical pathways for inclusive and sustainable urban economic development.

Introduction
Financial inclusion has emerged as a critical pillar of inclusive economic development, especially in rapidly urbanising economies such as India. The Government of India, through policies such as the Pradhan Mantri Jan Dhan Yojana (PMJDY), Aadhaar-enabled payment systems, Direct Benefit Transfers (DBT), and the PM SVANidhi scheme, has articulated a national vision for bridging financial access gaps among marginalised and informal-sector populations. Yet, despite significant progress, large sections of the urban informal workforce remain excluded, under-served, or only superficially included within the formal financial ecosystem.
Street vendors constitute one of the largest segments of India's urban informal economy. According to estimates from the Ministry of Housing and Urban Affairs (MoHUA), nearly **10 million street vendors** operate in Indian cities, contributing significantly to local markets, urban food distribution, and service delivery. However, vendors often face unstable income, lack of documentation, low financial literacy, and limited interaction with formal institutions. These characteristics place them at a disadvantage in accessing secure, affordable, and technology-driven financial services.
Ranchi, the capital city of Jharkhand, hosts thousands of street vendors operating across major commercial zones, local markets, and transport hubs. Despite the introduction of the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014, financial inclusion of this segment remains uneven. Rapid digitalisation after the COVID-19 pandemic has further created new opportunities but also widened capability gaps.

Against this background, the present study examines **key determinants and challenges of financial inclusion** among street vendors in Ranchi district using **Exploratory Factor Analysis (EFA)**. The research identifies latent dimensions underlying inclusion behaviour and offers evidence-based recommendations for policymakers and financial institutions.

Review of Literature

Studies on financial inclusion have expanded significantly in the past decade. Scholars emphasise that inclusion is multidimensional, combining access, usage, quality, digital capability, affordability, and trust (Sarma, 2008; Demirgüç-Kunt & Klapper, 2013). Several studies highlight digital payments as a key driver of inclusion, especially in the informal sector (Raghavan, 2020; Mehrotra & Yetman, 2022). Research indicates that informal-sector workers remain perennially excluded due to irregular incomes, lack of documentation, and limited exposure to bank-led financial services (ILO, 2018; Banerjee & Duflo, 2011). Street vendors, in particular, rely heavily on cash and face barriers in accessing credit and savings products (Bhowmik, 2010).

Digitalisation has emerged as a transformative enabler of inclusion (Suri & Jack, 2016). However, studies show uneven adoption due to digital literacy gaps, infrastructure constraints, and behavioural resistance (Mathew, 2021; Gupta & Arora, 2022).

Financial products offered by formal institutions are often incompatible with the income patterns of vendors (Sharma & Kukreja, 2013). Micro-credit, small-ticket loans, and flexible repayment schemes are more effective (Yunus, 2007).

Awareness of schemes, trust in institutions, and peer networks significantly shape financial decisions (Cole et al., 2011; Karlan et al., 2014). Behavioural factors such as fear of fraud, low confidence in digital transactions, and herd behaviour also influence outcomes.

Research Gaps:

Despite a growing body of literature, limited empirical studies exist on the **determinants of financial inclusion** among street vendors in **Jharkhand**, particularly in Ranchi. This study addresses this gap.

Research Objectives

1. To assess the current level of financial and digital inclusion among street vendors in Ranchi.
2. To identify the underlying determinants of financial inclusion using exploratory factor analysis.
3. To examine the challenges faced by vendors in accessing and using financial services.
4. To provide policy recommendations for improving financial inclusion of informal workers.

Research Methodology

Study Area

The study was conducted across major vending hubs of Ranchi district to ensure comprehensive representation of the city's informal retail landscape. Data were collected from key market clusters including Daily Market, Ratu Road, Harmu Market, Upper Bazar, Kanke Road, Lalpur Chowk, Main Road, and the surrounding railway station areas. These locations are among the busiest commercial centres in Ranchi and host a wide spectrum of street vending activities. The respondents comprised diverse categories of vendors such as food sellers, hawkers, service providers, mobile vendors, and fixed-stall operators, thereby capturing the heterogeneity of the urban informal economy in the region.

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Sampling and Data Collection

A sample of **200 street vendors** was selected using **purposive and convenience sampling**, ensuring representation by age, gender, product type, and vending location. Data were collected through structured, face-to-face interviews.

Measurement Instrument

A structured questionnaire with **15 Likert-scale variables (X1–X15)** was designed to measure the digital and financial inclusion behaviour of street vendors.

Fifteen variables representing digital use, access to services, affordability, trust, awareness, and social influence were used for the EFA. These included variables such as digital payment usage (X1), smartphone access (X2), digital literacy (X3, X4), trust (X5, X6), KYC ease (X7), bank proximity (X8), affordability of charges (X9), awareness of DBT/schemes (X10), training participation (X11), peer influence (X12), product suitability (X13), connectivity (X14), and ease of doing business through real-time payments (X15)

Variable Code	Statement (Measured on a 5-Point Likert Scale)
X1	I regularly use digital payments such as UPI/QR codes.
X2	I have reliable access to a smartphone and the internet for banking and payments.
X3	Making digital payments is easy and understandable for me.
X4	I can conduct digital transactions (check balance, transfer money, update passbook, etc.) without help.
X5	I trust banks and financial institutions for financial transactions.
X6	I feel secure while making digital transactions due to OTP verification and security features.
X7	KYC and account-opening procedures were simple and required minimal paperwork for me.
X8	Banks or Business Correspondents (BCs) are available at a convenient distance in my area.
X9	Fees/charges and data costs for bank/digital services are affordable for me.
X10	I am well-informed about government schemes/DBT/pensions, and the money gets credited to my account.
X11	I have participated in, or benefited from, financial inclusion trainings or awareness camps.
X12	Influence from fellow vendors or community groups motivates me to open/use bank accounts and digital payments.
X13	Financial products such as small-ticket loans, micro-savings, and insurance suitable for vendors like me are available.
X14	Connectivity and electricity in my area are reliable enough to support smooth digital transactions.
X15	Real-time digital transactions make it easier for me to conduct business.

Each item was rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The fifteen variables were designed to capture multiple dimensions of financial inclusion, including digital payment usage (X1–X4), trust and security (X5–X6),

procedural ease (X7), access and affordability of services (X8–X9), awareness and training (X10–X11), social influence (X12), product suitability (X13), infrastructural readiness (X14), and business convenience (X15). These variables were subjected to Exploratory Factor Analysis (EFA) to identify the underlying latent factors influencing the financial inclusion of street vendors in Ranchi.

Exploratory Factor Analysis was used to identify latent determinants of financial inclusion. The suitability of data for factor analysis was confirmed through the **KMO value (.501)** and **Bartlett's Test of Sphericity (p < .001)**.

Data Analysis

Descriptive Statistics : Analysis reveals moderate digital engagement (mean ≈ 3.16) but weaknesses in:

- KYC and documentation (low mean = 2.60)
- Connectivity (mean < 3.00)
- Trust and security (high variance)

Correlation Matrix : The correlation matrix showed meaningful associations, validating the suitability of EFA. Positive correlations were observed among:

- KYC and digital capability (X7 & X4)
- Peer influence and smartphone access (X12 & X2)

Negative

- Poor connectivity and security concerns (X14 & X6)

KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.601
Bartlett's Test of Sphericity	Approx. Chi-Square	415.60
	Df	105
	Sig.	.000

The KMO value of **0.601** indicates that the correlations among variables are adequate for extraction. Ideally, higher KMO values (>0.70) produce stronger factor solutions; however, studies in social science with complex behavioural variables often work with lower KMOs, especially when sample characteristics are heterogeneous.

Bartlett's Test of Sphericity yields a **highly significant p-value (p < .001)**, confirming that the correlation matrix is not an identity matrix and that the variables possess sufficient interrelationships to justify factor analysis.

Taken together, while the low KMO warns that the factor solution may be somewhat weak, the highly significant Bartlett's test supports proceeding with EFA, albeit with cautious interpretation.

Descriptive Statistics

The descriptive statistics highlight mixed levels of digital and financial engagement among street vendors. Digital payment usage (Mean = **3.16**) and access to nearby banks (Mean = **3.18**) show moderate adoption. The highest mean emerges for awareness of government schemes (X10, Mean = **3.26**), indicating strong exposure to DBT and welfare programs.

In contrast, the lowest mean score is for ease of KYC/account opening (X7, Mean = **2.60**), revealing procedural challenges. Indicators such as affordability of digital services (X9), digital security (X6), and connectivity (X14) also remain below the neutral point, highlighting technological and cost-related barriers. High standard deviations (SD > 1.40) in

variables related to trust (X5) and security concerns (X6) indicate wide divergence in experiences and perceptions among vendors.

Overall, the descriptive results suggest moderate digital engagement but persistent infrastructural and institutional constraints inhibiting full financial inclusion

Communalities

Most extraction values exceeded **0.60**, showing strong representation of variables in the factor structure. Communalities indicate the proportion of each variable's variance explained by the extracted components. High extraction values (>0.60) signal that the variable fits well with the factor structure.

Variables such as **digital transaction capability (X4 = .829)**, **KYC ease (X7 = .809)**, **smartphone access (X2 = .733)**, **scheme awareness (X10 = .723)**, and **training participation (X11 = .763)** show high communalities, suggesting they play a central role in defining underlying financial inclusion factors.

Variables such as **bank trust (X5 = .550)** and **bank proximity (X8 = .533)** exhibit lower communalities, indicating that these dimensions are somewhat independent and may require additional analysis or larger samples.

Overall, the communalities demonstrate that the chosen factors explain a substantial proportion of variance in key digital financial inclusion behaviours.

Total Variance Explained

The Total Variance Explained table shows that **seven components** have eigenvalues greater than **1**, collectively accounting for **68.27%** of the total variance—an acceptable level for social science data. The rotated solution distributes variance more evenly across components, enhancing interpretability.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.016	13.441	13.441	2.016	13.44	13.44	1.71	11.434	11.43
2	1.723	11.484	24.925	1.723	11.48	24.92	1.60	10.72	22.15
3	1.475	9.836	34.761	1.475	9.83	34.76	1.511	10.07	32.23
4	1.358	9.054	43.815	1.358	9.05	43.81	1.49	9.94	42.17
5	1.274	8.493	52.309	1.274	8.49	52.30	1.311	8.74	50.91
6	1.231	8.206	60.514	1.231	8.20	60.51	1.30	8.70	59.62
7	1.163	7.753	68.267	1.163	7.75	68.26	1.29	8.64	68.26
8	.853	5.689	73.956						
9	.833	5.555	79.511						
10	.783	5.219	84.730						

11	.679	4.524	89.254						
12	.503	3.356	92.610						
13	.450	2.999	95.609						
14	.365	2.436	98.045						
15	.293	1.955	100.000						

Extraction Method: Principal Component Analysis.

The EFA results revealed a clear seven-factor structure—(I) Digital Literacy & Use, (II) Access & Affordability, (III) Product Suitability, (IV) Digital Access & Connectivity, (V) Awareness & Financial Literacy, (VI) Trust & Security, and (VII) Social & Peer Influence—affirming that financial inclusion among street vendors is multidimensional. The notable perception–capability gap between perceived ease (X3) and actual digital competence (X4) indicates the need for practical training. Access barriers (X7–X9) and infrastructural limitations (X2, X14) highlight the role of structural reforms, while trust and peer-driven behaviours underline the significance of social dynamics in shaping financial decisions. Overall, the factors collectively illustrate that capability, infrastructure, institutional support, and social reinforcement must work together to advance meaningful financial inclusion.

		Component						
Particulars/ Factors	**Var**	**I**	**II**	**III**	**IV**	**V**	**VI**	**VII**
Making digital payments is easy and understandable for me.	X3	-.826						
I can do transactions/check balance/update passbook digitally without help.	X4	.776						
KYC and account opening have been simple and required minimal paperwork for me.	X7		.791					
Banks or Business Correspondents (BCs) are available at a convenient distance in my area.	X8		.618					
Fees/charges and data costs for bank/digital services are affordable for me.	X9		.608					
Products such as small-ticket loans, savings, and insurance suitable for vendors like me are available.	X13			.769				
I have reliable access to a smartphone and the internet for banking and payments.	X2				.859			

Connectivity and electricity in my area are reliable enough for smooth digital transactions.	X14				.692			
I am well informed about government schemes/DBT/pensions, and the money gets credited to my account.	X10					.756		
I have participated in, or benefited from, financial inclusion trainings or camps.	X11					.672		
I trust banks and financial institutions for transaction.	X5						.501	
I feel secured about digital transactions due to the system of OTP verification	X6						.726	
Due to real time transactions it is easy to do business.	X15						.692	
I regularly use digital payments such as UPI/QR codes.	X1							.735
Influence from fellow vendors or community savings groups motivates me to open/use accounts and digital payments.	X12							.621

The study confirms that financial inclusion among street vendors in Ranchi emerges from the combined influence of digital skills, infrastructural readiness, procedural ease, scheme awareness, trust, product relevance, and peer networks. Despite growing digital adoption, persistent gaps in connectivity, affordability, documentation, and trust continue to hinder deeper engagement. Strengthening digital literacy, simplifying KYC processes, improving infrastructure, enhancing scheme implementation, and designing vendor-centric financial products are essential to ensure inclusive and sustainable financial integration of street vendors.

Challenges Faced by Street Vendors

Street vendors in Ranchi face multiple barriers to financial inclusion, with **poor financial knowledge** emerging as the most serious challenge, followed by **security concerns/fraud risks** and **limited digital access**. Issues such as **high costs of financial services**, **lack of collateral or credit history**, and **distrust of banks** also significantly hinder access. Additional obstacles include **cultural preference for cash**, **difficulty opening bank accounts due to lack of ID/address proofs**, and **extra banking-related costs** like travel or lost work time. **Women vendors** and those with **low, irregular incomes** face compounded difficulties, making overall financial integration uneven and challenging. These challenges indicate the need for simultaneous infrastructural, procedural, and behavioural interventions.

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BARRIERS	24	39	50	60	75	Garret Value	Mean	Rank
Lack of ID and address proofs makes it hard to open bank accounts.	40	52	40	40	28	9488	47.44	10
	960	2028	2000	2400	2100			
High Costs of Financial products and services	36	52	24	44	44	10032	50.16	5
	864	2028	1200	2640	3300			
Lack of Access to Smart phones or Internet	55	56	44	22	23	8749	43.745	13
	1320	2184	2200	1320	1725			
Poor financial knowledge makes it hard to use banking services.	24	36	40	28	72	11060	55.3	1
	576	1404	2000	1680	5400			
Security Concerns and fraud	12	52	56	28	52	10696	53.48	2
	288	2028	2800	1680	3900			
No collateral or credit history stops them from getting formal loans.	36	48	48	16	52	9996	49.98	6
	864	1872	2400	960	3900			
Limited access to smartphones and internet keeps them away from digital banking.	36	28	32	60	44	10456	52.28	3
	864	1092	1600	3600	3300			
Banking involves extra costs like travel, fees, and lost work time.	52	48	20	48	32	9400	47	11
	1248	1872	1000	2880	2400			
They distrust banks because of negative past experiences.	44	48	28	44	36	9668	48.34	7
	1056	1872	1400	2640	2700			
Discrimination or neglect towards marginalized groups (street vendors)	48	28	32	44	48	10084	50.42	4
	1152	1092	1600	2640	3600			
Cultural preference for cash transactions	48	44	36	36	36	9528	47.64	9
	1152	1716	1800	2160	2700			
Women vendors face extra barriers due to social restrictions.	64	44	28	28	36	9032	45.16	12
	1536	1716	1400	1680	2700			

Irregular and low income prevents regular savings and repayments.	40	56	32	32	40	9664	48.32	8
	960	2184	1600	1920	3000			

Policy Recommendations

Financial inclusion can be strengthened through targeted digital and financial literacy training focused on practical skills and fraud prevention. Simplifying KYC requirements for mobile and undocumented vendors is crucial. PM SVANidhi implementation should be enhanced through proactive vendor outreach and bank support. Improving network connectivity, electricity access, and charging points in vending zones will address infrastructural gaps. Financial institutions should introduce small-ticket loans, micro-insurance, and flexible deposit products suited to vendors' income patterns. Finally, leveraging vendor unions and peer groups can promote trust, encourage collective learning, and improve adoption of digital financial services.

Conclusion

The study shows that financial inclusion among street vendors in Ranchi is shaped by multiple interconnected factors, including digital access, banking proximity, procedural ease, literacy, income stability, awareness, peer influence, and institutional trust. The seven EFA-derived components provide a clear framework for understanding these determinants.

While digitalisation has expanded opportunities, significant barriers—such as limited digital skills, documentation issues, infrastructural gaps, low trust, and inadequate awareness—continue to hinder full inclusion. Strengthening digital literacy, simplifying KYC processes, improving connectivity, enhancing scheme implementation, and designing vendor-centric financial products are essential steps. Overall, targeted and coordinated interventions are needed to ensure that street vendors are effectively integrated into the formal financial ecosystem.

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