



DIGITAL PUBLIC INFRASTRUCTURE AND CREDIT ACCESS FOR MICRO ENTERPRISES IN SOUTH ASIA

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ABSTRACT

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This paper provides an overview of how Digital Public Infrastructure has started to transform credit access for micro enterprises in South Asia. It describes how digital identity systems, real time payment platforms and associated registration databases can help to close information gaps between lenders and small businesses. Evidence synthesised from Indian registration platforms, Asian Development Bank assessments, and recent institutional literature consistently indicates that enterprises with verifiable digital footprints are more likely to secure formal credit. Meanwhile, the lack of infrastructure coverage, digital literacy and the continued need for collateral requirements continue to limit benefits for the smallest and most remote units. This paper also highlights the potential and the persistent limitations of relying on common digital systems to close the longstanding credit gap of micro enterprises.

KEYWORDS: *Digital Public Infrastructure, Credit Access, Micro Enterprises, South Asia, Formal Credit*

1. INTRODUCTION

Micro-enterprises make up the largest portion of the businesses in South Asia. They employ a significant share of the labour force and participate actively in the local economy, yet most remain outside formal credit markets. Traditional lending models are based on collateral, audited accounts and long-term banking relationships. Few micro units have these credentials. The outcome is a long-term credit deficit which limits working capital, investment and growth.

Digital Public Infrastructure (DPI) is a relatively new concept. Digital identity verification, instant payments and data exchange shared by the same digital systems reduce the cost of establishing the identity of a firm and provide transaction histories for lenders to review. The most evolved example is India's Aadhaar-based identity, Unified Payments Interface and Udyam Registration Platforms. There are parallel activities in Bangladesh, Nepal, Sri Lanka, Bhutan and Maldives, but with varying levels of coverage and integration.

This study investigates how digital infrastructure and transaction histories directly influence credit access and financing outcomes for micro-enterprises. It uses secondary sources to trace the impact of digital footprints on lender decisions and to identify where the benefits are not reaching the smallest firms.

2. OBJECTIVES

The study is organised around two objectives:

1. To explore the impact of DPI on enhancing information for lenders and thus on facilitating formal credit access for micro enterprises in South Asia.
2. To understand the practical challenges that remain to achieve broad credit inclusion for the smallest businesses through digital formalisation.

3. REVIEW OF LITERATURE

The Asian Development Bank (2025a) examines DPI in South Asia and observes that a shared digital identity, payments and data exchange system is a basis for inclusive growth. The Bank observes that while these systems can reduce transaction costs for small businesses and improve their access to formal institutions, coverage and integration remain unevenly distributed across countries in the region.

Despite the rapid growth of digital finance, only around 14 per cent of India's MSMEs are accessing formal credit, according to Deloitte's State of Financial Services in India report (2026). Despite the significant growth in volumes of digital payments, the report highlights the need for greater financial inclusion for wider economic growth, and estimates a large credit gap.

The Centre for Social and Economic Progress (CSEP, 2025) has estimated the economic impact of India's DPI and brought to light how ubiquitous digital systems, such as Aadhaar, UPI,

GSTN and Udyam, have become. The assessment separates out the concept of system adoption and measurable economic outcomes, and recognises their contribution to formalisation and service delivery.

According to research from the Small Industries Development Bank of India (SIDBI, 2025), small businesses that regularly use digital payments are much more likely to get their loans approved. This is particularly the case for the smallest micro and nano retailers who typically fall short of qualification due to a lack of tax papers, formal income proof or property to offer as collateral. As a result, financial institutions are changing how they evaluate risk, using these day-to-day electronic transaction footprints to verify a merchant's actual cash flow.

The Alliance for Financial Inclusion (2025) states that digital public infrastructure and credit enablers together can mitigate a significant part of the MSME finance gap in low- and middle-income countries. The analysis pinpoints digital identity systems and quick payment platforms as tools that can improve credit assessments and broaden financing reach.

Bhargava and Mahajan (2025) explore the new credit-related DPI in India, such as the Unified Lending Interface and the Open Credit Enablement Network. They say that existing systems have allowed for real time digital lending, but the architecture is still underserving growth-oriented enterprises and more flexible financing models are required to unlock greater employment benefits.

According to PayNearby's MSME Digital Index Report (2026), UPI and Aadhaar assisted banking has a significant contribution to the transaction volume at semi urban and rural MSME retail stores. The report highlights that retailers are becoming more confident in digital tools and that using digital payments is correlated with better business activity at the last mile.

The Bank for International Settlements (2019) documents how Aadhaar e-KYC, DigiLocker, and UPI have significantly minimised friction in identity verification and data sharing for unsecured credit journeys in India.

The Press Information Bureau (2025–2026) and India Brand Equity Foundation (2026) have reported the numbers of Udyam registrations in official statistics, which show the numbers are growing rapidly. According to these sources, the number of registered enterprises rose from less than one crore in the immediate post-reform period to over 7.83 crore by early 2026, thereby expanding the cohort of digitally identifiable micro-enterprises.

Table 1. Growth in the number of Registered Micro, Small and Medium Enterprises on Udyam Platforms, India

Period	Approximate Registered Enterprises
Around financial year 2021-22	0.79 crore
By February 2026	Over 7.83 crore

Source: Ministry of Micro, Small and Medium Enterprises data reported through Press Information Bureau and India Brand Equity Foundation compilations.

Payment data provide a secondary layer of critical insights, as enterprises utilising digital transaction methods generate a verifiable ledger of cash flows. Institutional observations indicate that micro-units maintaining active digital payment histories exhibit a higher probability of credit approval relative

Even as digital tools see rising use, finance remains one of the critical issues that SMEs face in Asia, according to the Asian Development Bank's Asia SME Monitor (2025b). The report stresses the importance of having some policy action taken to make digital formalisation become a reality with regard to financing.

The literature shows that DPI can enhance the information environment for lending and foster formalisation, but there is still a significant credit gap. The majority of institutional evaluations concur that digital footprints support lenders to better evaluate risk, and that coverage gaps, literacy barriers and residual collateral practices remain a constraint on benefits for the smallest businesses.

4. METHODOLOGY

The paper is entirely secondary data based. These sources encompass the Asian Development Bank's assessment of digital public infrastructure in South Asia, official MSME registration data from the Government of India, institutional studies on digital payments and lending, and other regional reports on enterprise finance. No primary surveys or interviews were carried out. Evidence is presented in relation to the two objectives mentioned, and includes consideration of registration patterns, digital transaction records and reported credit outcome changes.

5. DISCUSSION AND FINDINGS

5.1 Digital Public Infrastructure and the Information Channel for Credit

Verifying corporate identity, income, or repayment capacity carries prohibitive transaction costs for lenders, and many micro-enterprise applications are rejected as a result. Digital Public Infrastructure tackles this information problem head-on. A robust digital identity framework significantly minimises friction during the onboarding process. Real time payment systems create ongoing sales and cash flow records. The linked registration platforms provide a single point of reference for banks and non-bank lenders to query.

In India, the Udyam Registration Portal and Udyam Assist Platform have caused unprecedented numbers of businesses to register. By official estimates, the total volume of registrations increased from less than one crore in the beginning period after 2020 to more than 7.83 crore by early 2026. The registration process does not guarantee credit directly. But it provides for a digital identity which is gaining increasing importance among formal lending institutions.

to comparable cash-reliant firms. Some fintech lenders and banks now consider UPI and related transaction streams as an alternative source of cash flow, thereby cutting down on the need for conventional collateral for small-ticket loans.

Table 2. Core Digital Public Infrastructure Elements Supporting Credit Access

DPI Element	Function for Credit	Observed Effect
Digital identity	Low cost KYC and legal recognition	Faster onboarding of micro borrowers
Real time payments	Transaction history and cash flow signal	Alternative data for credit assessment
Enterprise registration platforms	Verifiable business identity	Eligibility for schemes and formal loans
Data exchange layers	Consent based sharing of records	Reduced documentation burden

Source: Synthesised from Asian Development Bank (2025a) and institutional analyses of India's digital finance architecture.

5.2 Constraints Limiting Credit Inclusion

However, a number of factors remain to limit access to credit for the smallest businesses, despite the increase in registrations and the increasing adoption of digital payments.

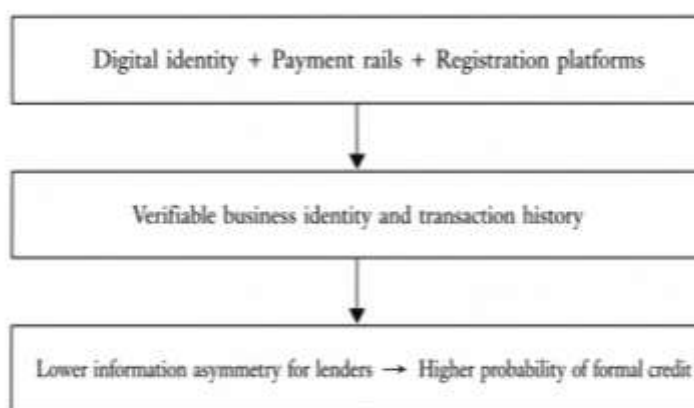
Digital infrastructure coverage itself is still incomplete. Payment systems are robust in urban and semi urban areas, but weaker in remote areas with lower connectivity and smartphone penetration.

Digital literacy also varies widely. Many micro entrepreneurs continue to use cash or need to be assisted in registering, thus delaying the establishment of a usable digital trail.

Moreover, formal lending decisions are not made solely on the basis of digital identities. Even if there is a digital footprint, formal banks and institutional lenders might require collateral and turnover levels that effectively bar nano and micro enterprises from accessing any credit facility.

The quality of formalisation varies as well: the information value of the records of some registered enterprises is low because they have only a small amount of digital activity. Outside India, identity, payment and registration systems across South Asia remain less advanced, narrowing the scope of the credit channel observed in the Indian case.

Figure 1. Pathway from Digital Public Infrastructure to Credit Access



Source: Author's conceptual synthesis based on ADB (2025a) and observed patterns in Indian digital lending and registration data.

Collectively, the evidence suggests that DPI enhances the information environment for lending and has already increased formal credit access for an increasing portion of micro enterprises. The same evidence shows that infrastructure alone does not close the credit gap. If the smallest companies are to gain from the benefits of last mile support, product design and regulatory flexibility are still required.

6. LIMITATION OF THE STUDY

This study is based on secondary sources only. It is unable to quantify the exact impact of digital records on the decisions made on individual loans and it does not reflect the experience of enterprises that are entirely offline. The uneven availability of data in other countries limits cross-country comparison. The analysis is thus descriptive and does not attempt to quantify impacts through primary econometric analysis.

7. POLICY IMPLICATIONS

The results suggest three practical directions. First, registration platforms need to be more closely coupled with credit delivery, to ensure that a new digital identity opens up new avenues for simplified credit products and guarantee schemes. Second, if the remote and less-literate entrepreneurs are to produce usable transaction histories, they must be assisted in their digital onboarding and vernacular interfaces must be used. Third, lenders and regulators can derive significant utility from recognising verified digital payment flows as legitimate cash flow inputs, thereby mitigating the reliance on conventional collateral for small-ticket working capital loans. These measures would contribute to expanding credit inclusion from the increasing volume of digital records.

8. CONCLUSION

DPI has altered the information landscape that surrounds micro enterprise lending in South Asia. When identity systems, payment rails and registration platforms work in harmony, companies have a verifiable digital footprint that enhances their chances of securing formal credit. The channel has immense potential as seen from the number of enterprises registered in India and the use of transaction data by lenders.

The gains are not complete. Many of the smallest units remain unserved, and literacy challenges and legacy collateral practices persist. To close the credit gap more completely, intentional steps must be taken to increase the reach of the digital, to make the product more user-friendly, and to recognise the digital footprint as a valid indicator of enterprise activity. The key challenge for policy makers is to make sure the digital infrastructure already established is translated into real financing opportunities for the micro enterprises that require them.

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