

# **THE PROMISE OF THE OPEN CREDIT ENABLEMENT NETWORK (OCEN) FOR NANO ENTREPRENEURS**

---

July 2022

# Acknowledgements

## Authors

This perspective has been written by **Asawari Luthra** and **Abhishek Modi**, with support from **Abhishek Yadav**.

## Disclaimer

This report has been produced by a team from Sattva Consulting as a product for the Sattva Knowledge Institute (SKI). The authors take full responsibility for the contents and conclusions. Any participation of industry experts and affiliates who were consulted and acknowledged here, does not necessarily imply endorsement of the report's contents or conclusions. To quote this Perspective, please mention: Sattva Knowledge Institute, *The Promise of the Open Credit Enablement Network (OCEN) for Nano Entrepreneurs*, July 2022. Use of the report's figures, tables or diagrams, must fully credit the respective copyright owner where indicated. Reproduction must be in original form with no adaptations or derivatives. For use of any images in the report please contact the respective copyright holders directly for permission.

This work is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License:

**Attribution** - You may give appropriate credit, provide a link to the licence, indicate if any changes were made.

**Non-Commercial** - You may not use the material for commercial purposes.

**Share A Like** - If you remix, transform, or build upon the material, you must distribute your contributions under the same licence as the original.



To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-sa/4.0/>

## About Sattva Knowledge Institute

**Sattva Knowledge Institute (SKI)**, established in 2022, is our official knowledge platform at Sattva. The SKI platform aims to guide investment decisions for impact, shedding light on urgent problems and high potential solutions, so that stakeholders can build greater awareness and a bias towards concerted action. Our focus is on offering solutions over symptoms, carefully curating strong evidence-based research, and engaging decision-makers actively with our insights. Overall, SKI aims to shift intent and action toward greater impact by influencing leaders with knowledge. All of our content proactively leverages the capabilities, experience and proprietary data from across Sattva.

**Design:** Cognitive Designs; [cognitive.designs@gmail.com](mailto:cognitive.designs@gmail.com)



# CONTENTS

---

<b>1</b>	<b>Executive Summary</b>	<b>05</b>
<b>2</b>	<b>Introduction</b>	<b>05</b>
<b>3</b>	<b>Formal Credit Shortage for Nano Enterprises</b>	<b>06</b>
<b>4</b>	<b>OCEN: The What, How, and Why</b>	<b>09</b>
<b>5</b>	<b>Digital Readiness of Micro Enterprises to Embrace OCEN</b>	<b>18</b>
<b>6</b>	<b>Pathways for Ecosystem Actors</b>	<b>20</b>
	<b>Recommendations for Philanthropy</b>	<b>20</b>
	<b>Recommendations for Service Providers</b>	<b>21</b>
	<b>Regulatory Recommendations</b>	<b>22</b>
<b>7</b>	<b>Conclusion</b>	<b>22</b>
<b>8</b>	<b>References</b>	<b>23</b>



भारतीय रिज़र्व बैंक  
केन्द्रीय सरकार द्वारा प्रत्याभूत  
₹500

RESERVE BANK OF INDIA  
GUARANTEED BY THE CENTRAL GOVERNMENT

मैं धारक को  
पाँच सौ रुपये  
अदा करने का  
वचन देता हूँ।  
उजिनि आर पैटल  
गवर्नर

I PROMISE TO  
PAY THE BEARER  
THE SUM OF FIVE  
HUNDRED RUPEES

GOVERNOR

₹500  
1630

RESERVE BANK OF INDIA  
GUARANTEED BY THE CENTRAL GOVERNMENT

मैं धारक को  
पाँच सौ रुपये  
अदा करने का  
वचन देता हूँ।  
उजिनि आर पैटल  
गवर्नर

I PROMISE TO  
PAY THE BEARER  
THE SUM OF FIVE  
HUNDRED RUPEES

GOVERNOR

₹500  
94H 929931

पाँच सौ रुपये

भारतीय रिज़र्व बैंक  
केन्द्रीय सरकार द्वारा प्रत्याभूत  
₹500  
BH 651630

RESERVE BANK OF INDIA  
GUARANTEED BY THE CENTRAL GOVERNMENT

मैं धारक को  
पाँच सौ रुपये  
अदा करने का  
वचन देता हूँ।  
उजिनि आर पैटल  
गवर्नर

I PROMISE TO  
PAY THE BEARER  
THE SUM OF FIVE  
HUNDRED RUPEES

GOVERNOR

₹500

RESERVE BANK OF INDIA  
GUARANTEED BY THE CENTRAL GOVERNMENT

मैं धारक को  
पाँच सौ रुपये  
अदा करने का  
वचन देता हूँ।  
उजिनि आर पैटल  
गवर्नर

I PROMISE TO  
PAY THE BEARER  
THE SUM OF FIVE  
HUNDRED RUPEES

GOVERNOR

₹500

7B1578894

₹500  
6BK 135998

RESERVE BANK OF INDIA  
GUARANTEED BY THE CENTRAL GOVERNMENT

मैं धारक को  
पाँच सौ रुपये  
अदा करने का  
वचन देता हूँ।  
उजिनि आर पैटल  
गवर्नर

I PROMISE TO  
PAY THE BEARER  
THE SUM OF FIVE  
HUNDRED RUPEES

GOVERNOR

पाँच सौ रुपये

RESERVE BANK OF INDIA  
GUARANTEED BY THE CENTRAL GOVERNMENT

मैं धारक को  
पाँच सौ रुपये  
अदा करने का  
वचन देता हूँ।  
उजिनि आर पैटल  
गवर्नर

I PROMISE TO  
PAY THE BEARER

पाँच सौ रुपये

RESERVE BANK OF INDIA  
GUARANTEED BY THE CENTRAL GOVERNMENT

मैं धारक को  
पाँच सौ रुपये  
अदा करने का  
वचन देता हूँ।  
उजिनि आर पैटल  
गवर्नर

I PROMISE TO  
PAY THE BEARER

## Executive Summary

Micro and nano enterprises, also considered India's economic engines, cannot realise their full potential in contributing to the economy due to their lack of access to formal, affordable credit. The Open Credit Enablement Network, or OCEN, is an upcoming digital architecture that promises to challenge this situation and shift how credit is offered to micro and nano enterprises. Unlike traditional lending, OCEN's model of extending credit is reliant on cash flows instead of physical assets, which it determines by leveraging *financial digital trails*, or information that these enterprises produce on a daily basis. OCEN promises to reorient flows of money, information, and people, so as to underwrite fast, small-sized and customised loans to micro businesses, stimulating possibility and progress. However, an analysis of the digital context of nano entrepreneurs suggests that much groundwork is required before they can access, adopt and reap the benefits of the OCEN. Going forward, ecosystem actors will need to play a vital role in enabling access to affordable credit for segments who need it the most.

## Introduction

India is one of the fastest growing economies in the world, boasting the sixth largest GDP (IMF 2022). To a great degree, this economic growth is fuelled by the 63.3 million Micro, Small, and Medium Enterprises (MSMEs) operating in India (MSME Annual Report 2022). Together, MSMEs contribute to nearly a third (30.27%) of India's GDP, and after agriculture, employ more people than any other sector (Goel & Shah 2022). Despite being one of the strongest engines of economic growth, the contribution of Indian MSMEs to the country's GDP is lower than that of their counterparts in the USA and China (Ramachandran et al. 2018). There is then, immense unrealised potential of MSMEs to contribute to India's economy.

One of the greatest impediments faced by India's MSMEs in realising their full potential is their inability to access formal, affordable credit to expand their business operations. Nearly all credit-related challenges faced by MSMEs can be traced to pain points in traditional loan processes (Ramachandran et al. 2018; Sattva Knowledge Institute 2020). Thus, in 2020, the lending ecosystem only served 0.6 million or a mere 11% of all MSMEs, resulting in a significant credit gap. The biggest losers are micro or nano businesses, which comprise 99% of all MSMEs in India (Sidhartha 2020).

However, across India, with rapid formalising and digitising of MSMEs, the lending landscape too is shifting. In 2022, an upcoming digital architecture, the Open Credit Enablement Network or OCEN, has become the new buzzword in the financial lending space. iSPIRT, the developers of OCEN claim that it is designed to serve the credit needs of the "the next billion" and will usher in a "new paradigm of digital lending" (iSPIRT 2020). This perspective sets out to critically analyse the nature of OCEN; the new digital lending paradigm that it promises to enable, i.e. the cash-flow lending paradigm; and the potential that it holds for advancing financial inclusion

of micro and nano entrepreneurs who are at the very bottom of the MSME pyramid. Finally, the perspective chalks out opportunities available to numerous stakeholders in the ecosystem to contribute to actualising the potential and promise of this digital architecture.

## Formal Credit Shortage for Nano Enterprises

MSMEs are broadly defined as businesses with annual revenue up to ₹2.5 billion or approximately \$35 million. As of 2021, the Indian government provides for MSMEs to be further categorised as 'micro', 'small' or 'medium' sized enterprises on the basis of their annual revenue or turnover (Ramachandran et al. 2018).

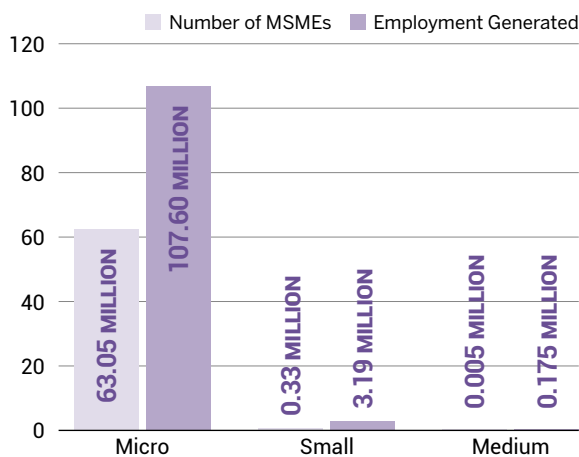
**Figure 1: Distribution of MSMEs by Annual Revenue and Sector**

Criteria	Manufacturing		Services	
	Turnover	Investment	Turnover	Investment
<b>Micro</b>	Up to ₹50 million	Up to ₹2.5 million	Up to ₹50 million	Up to ₹1 million
<b>Small</b>	Up to ₹500 million	Up to ₹100 million	Up to ₹500 million	Up to ₹100 million
<b>Medium</b>	Up to ₹2.5 billion	Up to ₹500 million	Up to ₹2.5 billion	Up to ₹500 million

(MSME Annual Report 2021)

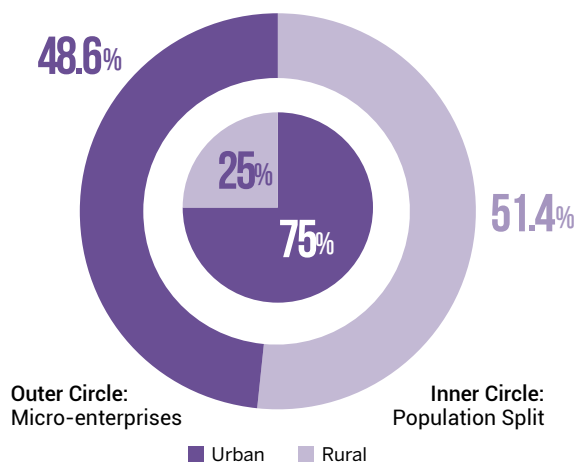
The beating heart of India's MSME landscape, however, is micro or nano businesses, the smallest of enterprises. The micro sector's 63 million estimated enterprises account for more than 99% of all MSMEs in India (Sidhartha 2020). Significantly, micro enterprises like kirana shop owners, makeup artists and call centre agents, employ 97% of all persons employed by the MSME sector (Sidhartha 2020). Recruiting largely from the rural populace, micro enterprises generate 23% of the total 50% employment generated by the MSME sector. This is significant because agriculture, which employs the largest proportion of the workforce in

**Figure 2: Estimated number of MSMEs and employment generation by type**



(MSME Annual Report 2021)

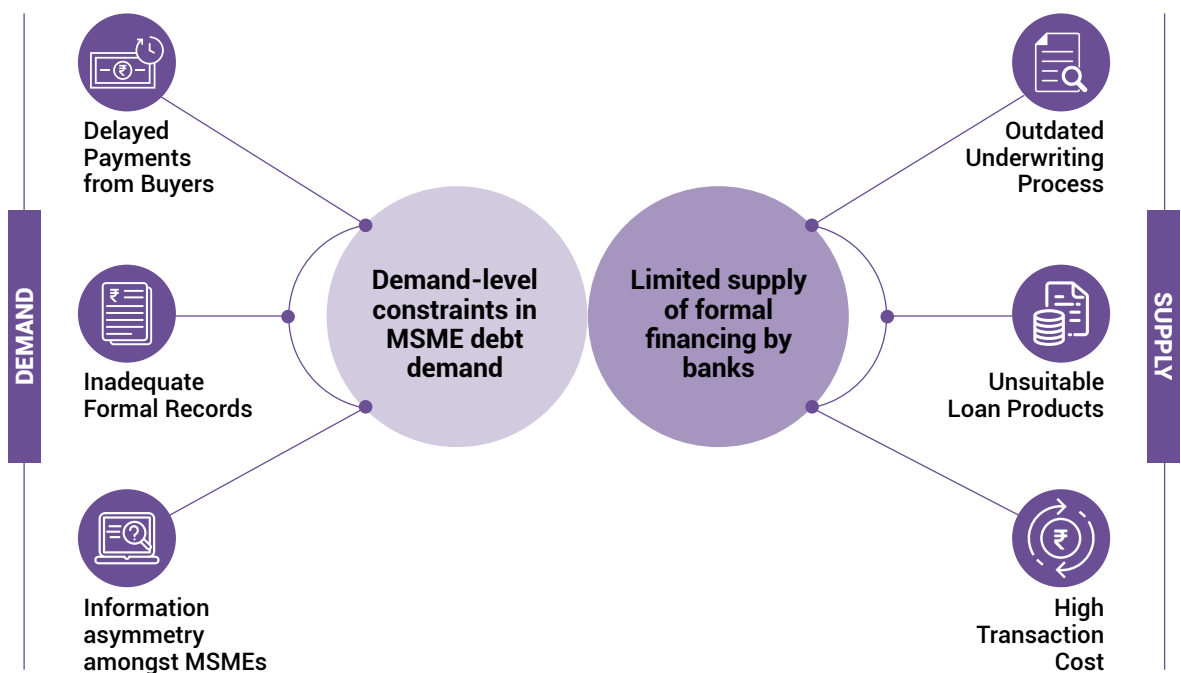
**Figure 3: Segmentation of micro enterprises by geography and population**



India, is under undue stress. Thus, slowdown in agricultural productivity implies that MSMEs and in particular, micro enterprises will need to accommodate the workforce migrating out of the agricultural sector (MSME Annual Report 2021).

Despite their importance to the economy, micro enterprises continue to face significant constraints, preventing them from unlocking their full potential in contributing to the country's GDP and to the lives of the people they employ. The World Bank has highlighted that one of the most significant constraints to the growth and scaling of micro enterprises is their inability to access affordable credit and financing (GAME & D&B 2022). The lack of access to credit implies that MSMEs, particularly micro enterprises, fundamentally have poor working capital reserves and flows, which in turn results in their low productivity and investments, and thereby, their stuntedness (GAME & D&B 2022). Thus, micro enterprises end up being perennially small and are unable to expand their operations or grow to become mid-sized enterprises. This phenomenon, known as India's 'Missing Middle,' hinders the economy's potential to grow at reasonable pace and create adequate employment (GAME & D&B 2022).

**Figure 4: Supply and demand challenges that lead to limited access to formal credit for MSMEs in India**



(Sattva Analysis 2022)

The estimated credit gap for MSMEs stands at around ₹24.46 trillion (RBI 2019) which is an outcome of constraints on both the demand and supply sides of the traditional lending process (iSPIRT 2020a). On the demand side, MSMEs are constrained in accessing formal finance primarily due to three reasons: *limited literacy and awareness* about existing financial schemes; *existing relations with informal loan providers* who influence their credit decisions; and most importantly, *unsuitable loan products offerings and requirements*.

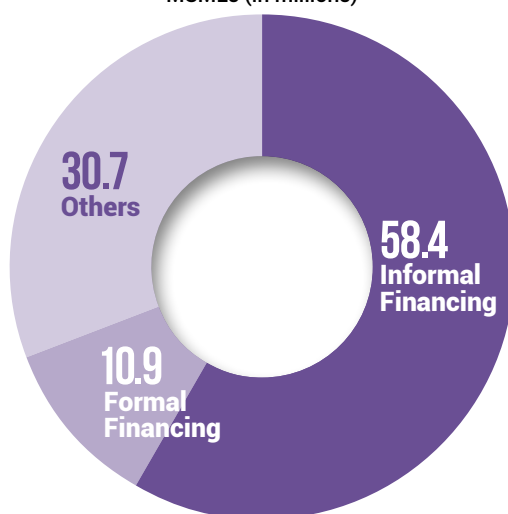
Loan products offered by traditional financial institutions are unsuitable to micro enterprises mainly because of their largely unorganised and informal nature, and because they do not possess CIBIL scores, physical collateral, or formal records like income tax returns that are required for the underwriting of loans.

On the supply side, financial institutions are unable to disburse small and short term loans, which are required by micro enterprises, for the following reasons: high cost of customer acquisition on small ticket loans that leaves little room for profit; unviable cost of assessing creditworthiness of micro enterprises due to unavailability of formal records; and lastly, due to difficulties in timely collection of repayments, as repayment cycles are not customised for micro enterprises who prefer to repay in weekly, rather than equal monthly instalments.

**Figure 5: Access to affordable credit is the biggest challenge in scaling MSMEs in India**

**More than 80% of MSMEs have no access to formal financing**

Distribution of formal and informal financing to MSMEs (in millions)



**Entrepreneurs are dependent on informal credit sources**

Personal resources are the most preferred option for MSMEs to meet financial requirements.

**80%** Entrepreneurs did not avail any loan or financial service from banks or non-banking financial institutions (NBFIs).

Borrowing cost is the single biggest reason for dependency on personal finance.

**99%** Majority of informal lending comes from unregistered chit-funds such as moneylenders.

Informal lenders cater to unregistered micro enterprises that do not have formalised processes in place.

**38%** Annualised interest rates on informal borrowing is at least twice that of formal borrowing.

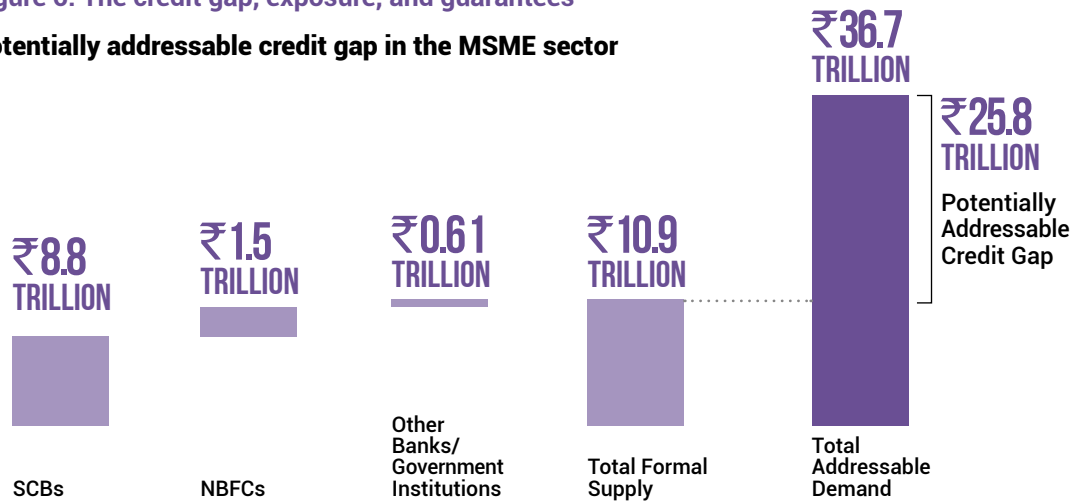
(IFC 2018; SIDBI 2018)

In summary, a mismatch exists between minimum loan ticket size offered by lenders and that which is required by micro enterprises (iSPIRT 2020). Such impediments are substantial enough to compel micro enterprises to continue seeking informal sources of finance to address their credit needs, often at much higher interest rates. As illustrated in the figure above, roughly 40% of all MSME credit demand is served by informal credit sources, with interest rates at least twice as high as formal credit. An additional 25% of MSME borrowing is invisible – through personal proprietor (rather than business) loans (Ramachandran et al. 2018). The traditional lending ecosystem in India, then, does not meet the unique financing needs of micro enterprises, which is precisely the situation that OCEN aims to challenge, by shifting how credit is offered to micro enterprises.



Figure 6: The credit gap, exposure, and guarantees

Potentially addressable credit gap in the MSME sector



(IFC 2020)

## OCEN: The What, How, and Why

This section explores why OCEN is being hailed as ushering in a new paradigm that will revolutionise lending for India's credit-starved growth engine, the MSMEs.

### The cash flow-based lending paradigm: Unlocking sachet-sized loans by leveraging information as collateral.

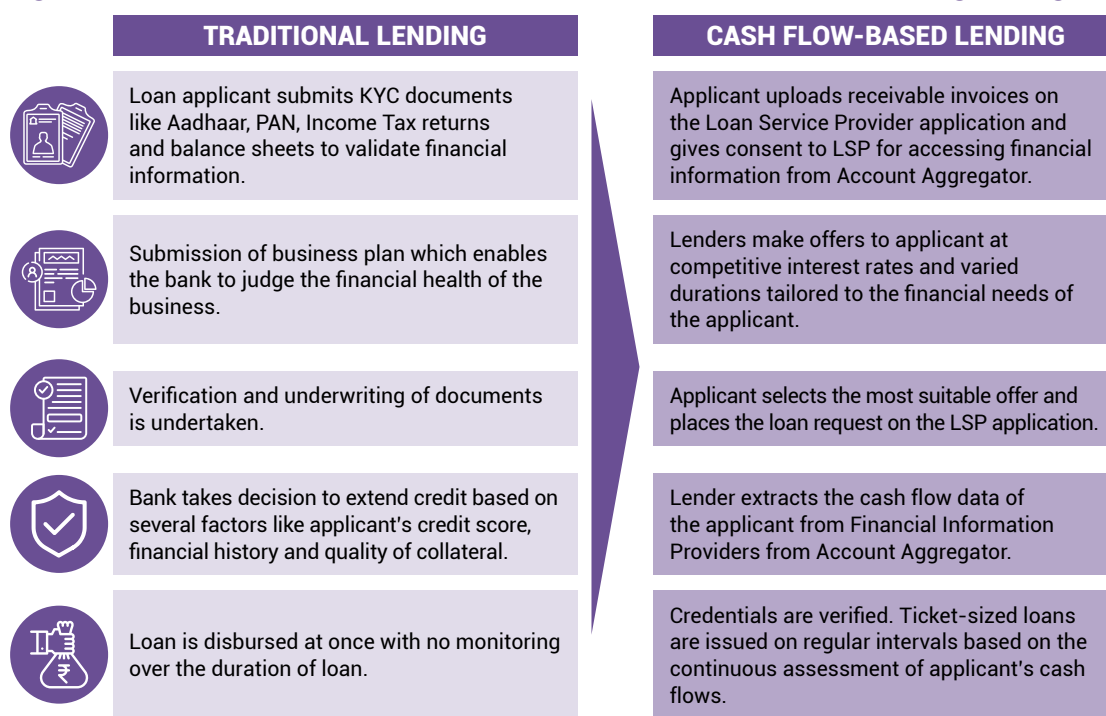
Simply put, OCEN is an open protocol infrastructure, a set of rules that allows two parties to exchange information. It reimagines the typical lending value chain by reorienting the flow of people, money and information, such that overall costs are reduced and greater productivity is unlocked.

OCEN's ingenuity and innovation lies in the fact that instead of determining the creditworthiness of micro enterprises on the basis of physical collaterals and assets which they often lack, it seeks to leverage their existing *information, data* or *financial digital trails* as collateral. OCEN will allow lenders to gain a view of the borrowers' real-time GST and UPI transaction data, to gain insight into the business's cash flows, on the basis of which they can then extend and underwrite fast, small-sized and customised loans to address the specific financial needs of borrowers (Sarma 2021; iSPIRT 2020a). It is due to the inflow of a continuous stream of digital financial data from the borrower that OCEN is being hailed as ushering in a new "cash flow-based lending" paradigm.

### A comprehensive infrastructure: Building on top of the India Stack to serve "the next one billion".

OCEN is not a technical architecture that has been designed to work in isolation. Instead, it is a new piece of, and builds upon, a larger open digital public infrastructure called the India Stack. The India Stack is a set of Application Programming Interfaces (APIs), open-

Figure 7: Distinction between the Traditional and New Cash Flow-Based Lending Paradigms



(ISPIRT 2020)

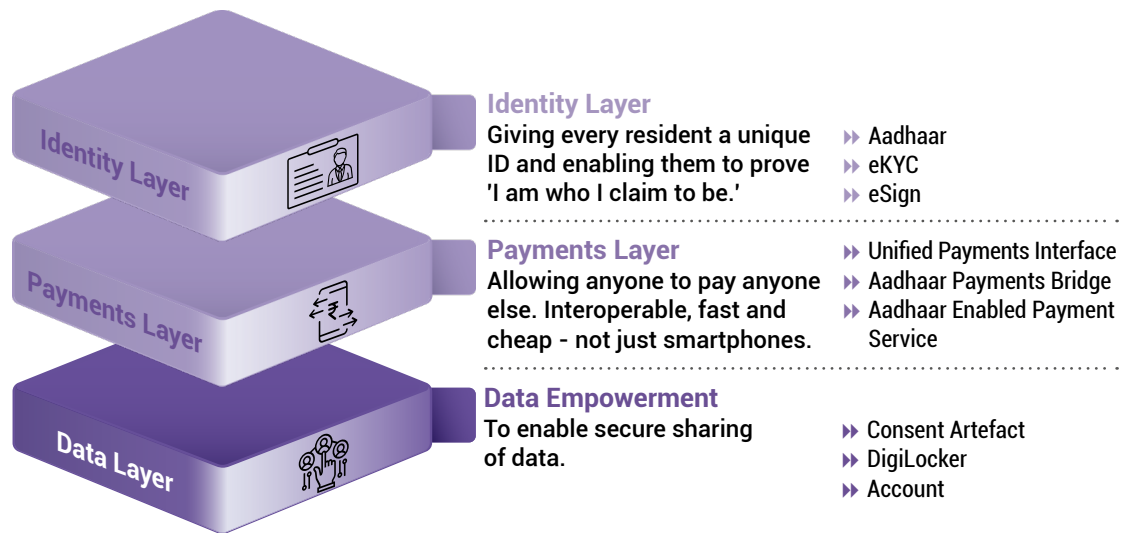
access software standards that allow different applications, devices and stakeholders to communicate with one another.

Currently, it comprises three foundational layers: a digital identity layer, a payment layer, and a data management layer (see Figure 8). It is in conjunction with these layers that OCEN, designed specifically to solve for lending, will realise its goal of digital financial inclusion. Layer one, the digital ID card, will dramatically lower the cost of confirming borrowers' identities. Layer two, the retail payment systems, will facilitate digital payments and money transfers between banks, fintech firms, and digital wallets (borrowers). The third layer of the stack, for data empowerment, will allow borrowers to share their personal digital documents (that will replace traditional physical ones) for verification with their consent (Carriere-Swallow et al. 2021). OCEN is modelled as a fourth layer (for credit) of this digital public good, on top of which others can build financial and non-financial technology products.

### The Account Aggregator: A new framework for integrating user data and building synergy across the layers of the India Stack.

Account Aggregators (AA) or data fiduciaries are a crucial new piece of the data empowerment layer of the India Stack that is falling into place, and without which OCEN's promise of digital financial inclusion of the underserved will be impossible. While OCEN's cash flow-based lending paradigm is premised on employing data generated from users' activities from myriad sources, currently no framework exists to aggregate and integrate such data in one place. Instead, user data is fragmented across institutions which prevents one from obtaining a comprehensive

Figure 8: Layers of the India Stack

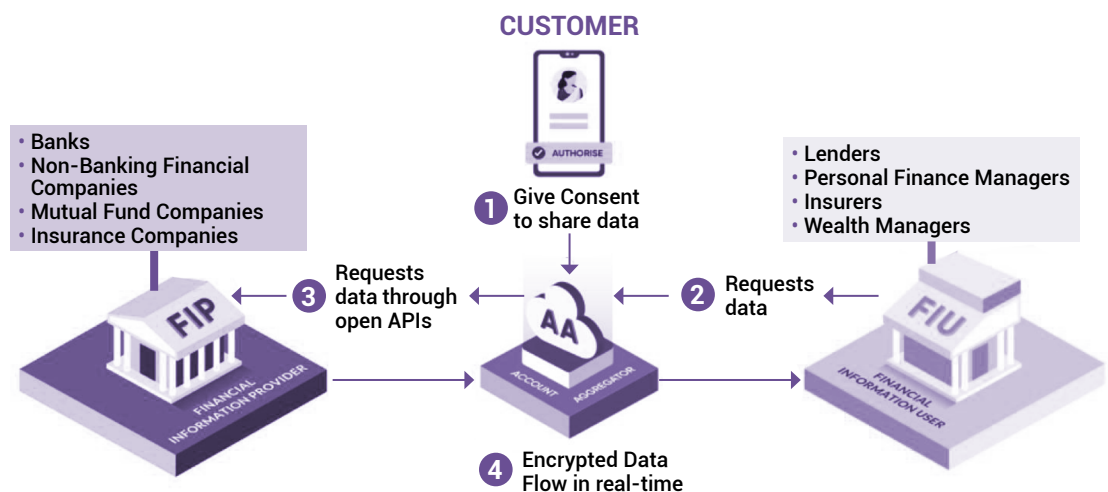


(ISPIRT 2020)

view of users. Account Aggregators are being introduced to enable the collection, assembly, and synthesis of user information from multiple accounts in a single place. Here, user accounts include loan/credit, savings and current, and investment accounts; government accounts such as public provident funds and income tax returns data; and supplementary business or consumer accounts such as those of e-commerce, food or mobility aggregators.

AA will essentially be third-party companies that “act like bridges to deliver data from Financial Information Providers (FIP) that hold (users’) personal or corporate financial data to Financial Information Users (FIU) that are providing financial services to (the users)” (Sahamati 2022). The significance of AAs is two-fold: one, since they are not permitted to see, stock or sell user data but only to collect and transmit it, users get complete control over their data and the extent to which it can be shared. But of greater importance is the fact that AAs will build synergies across all the layers of the India Stack.

Figure 9: Mechanisms of the Account Aggregator



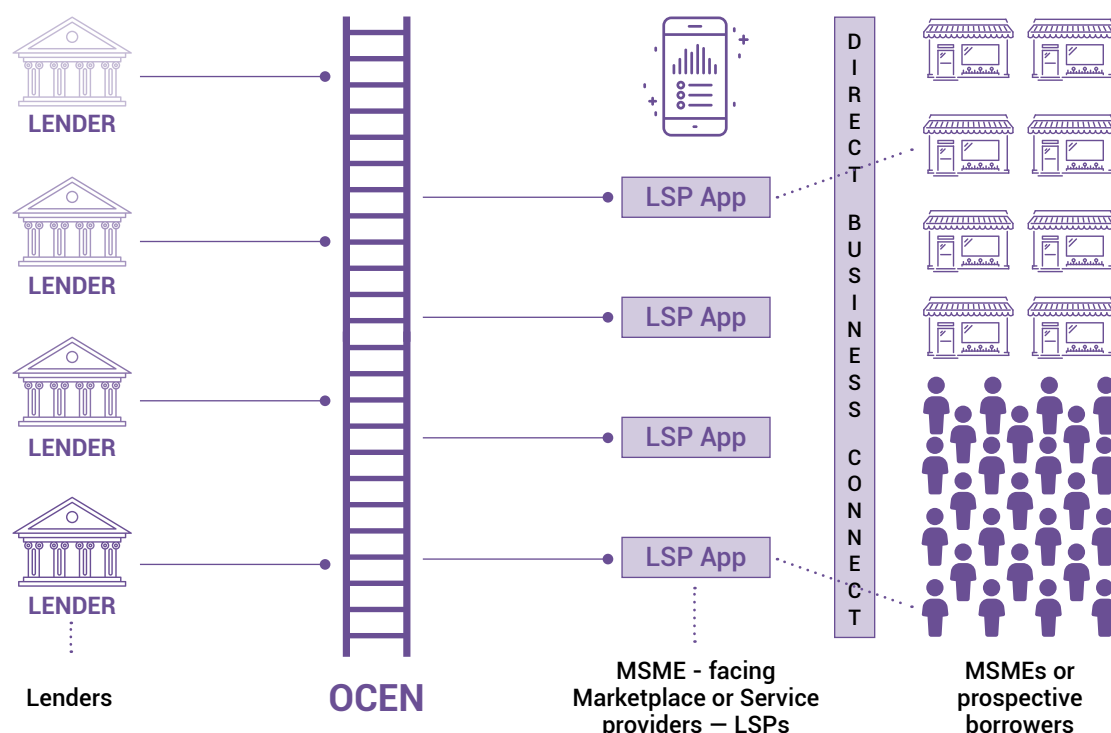
(Sahamati)

### Actors of the OCEN Ecosystem: Introducing Loan Service Providers (LSPs) to bridge the gap between lenders and nano entrepreneurs.

Like the other pieces of the India Stack, OCEN is a software architecture that integrates not only other digital technologies, but also integrates and connects various stakeholders under one roof. OCEN provides a common language to connect small borrowers, lenders, AAs, and LSPs to one another. To deepen the penetration of financial services to the underserved, the OCEN framework proposes a new type of financial actor for the lending value chain: Loan Service Providers or LSPs. LSPs are essentially marketplaces, e-commerce platforms and business networks that regularly engage MSME customers and possess insight into the status of their business activities. Mainstream lenders like banks have the capital to lend but are unable to do so due to prohibitive costs of acquisition and underwriting. Therefore, LSPs are being envisioned as the solution that will bridge the gap between borrowers and lenders, because of their low-cost of customer acquisition and better visibility into the credit needs and usage of MSMEs (iSPIRT 2020a; iSPIRT 2020b). For instance, service providers like Swiggy can develop a credit model for restaurants upon analysing their number of orders, user ratings, delivery time etc., thereby acting as “agents of the borrowers” and enabling the flow of credit from lenders to borrowers using OCEN. A technical blueprint for LSPs is still under development, but its first tangible realisation is the Sahay application.

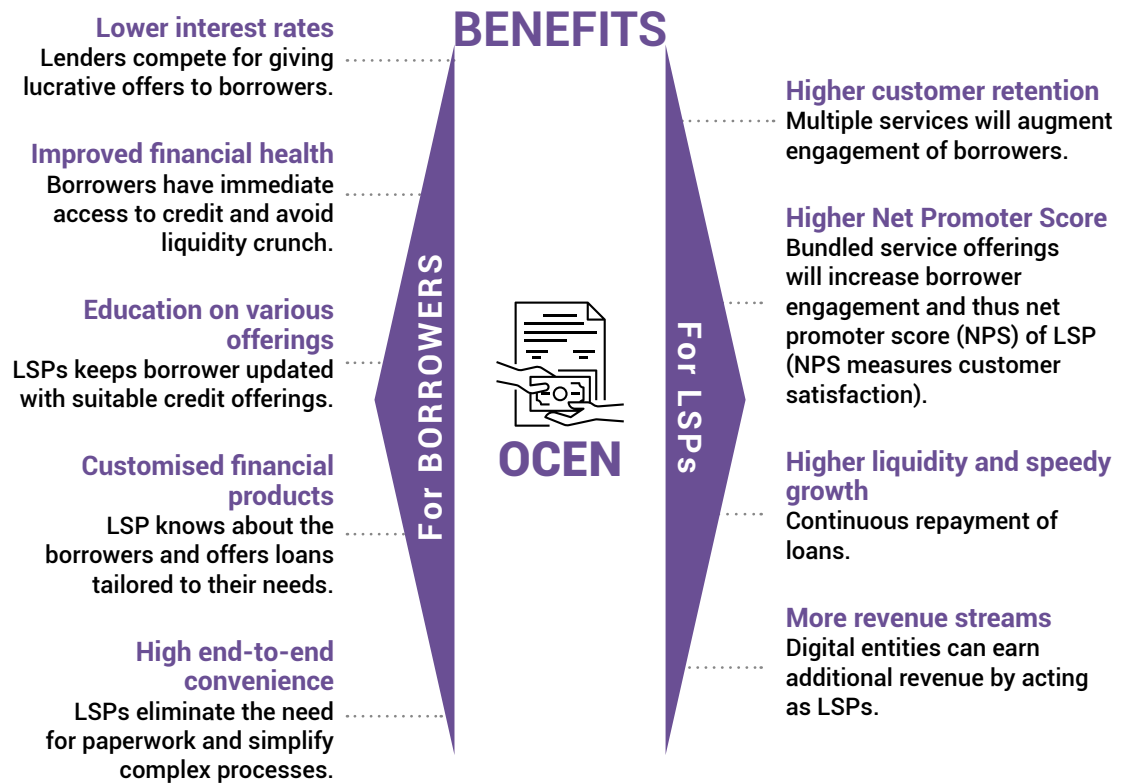
Figure 10: Actors in the OCEN Network

**FIs can now leverage existing network of 'prospective-borrower facing' entities**



(iSPIRT 2020b)

Figure 11: LSPs: Role and Significance



(ISPIRT 2020b)

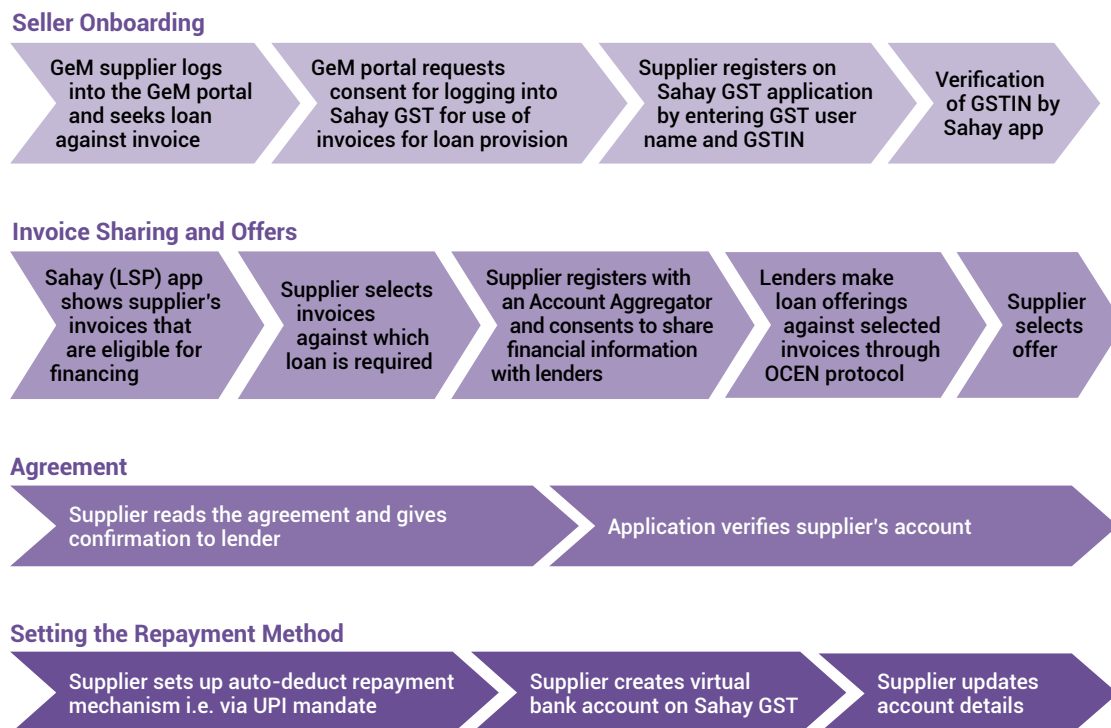
### Visualising the cash flow-based lending process

To understand and visualise the practical application of OCEN-enabled cash flow-based lending, let us consider the user journey of a borrower on the Sahay Government eMarketplace (GeM) application. Sahay GeM is a government marketplace, which in 2021 also added a feature whereby merchants can now receive loans via OCEN against outstanding invoices and orders. It is the first practical use case or reference implementation of OCEN, just as BHIM was for UPI.

The process flow of acquiring a loan on the Sahay GeM application, as in the illustration below, can be summarised in the following steps:

- A government department releases an order which attracts bidding from multiple suppliers. The government confirms the order with a single supplier.
- Upon confirmation of the order, the Sahay GeM App will provide the supplier the option to seek a loan against the invoice of the order. If the supplier chooses to do so, they will be required to log into their Sahay Goods and Services Tax (GST) account using their Goods and Services Tax Identification Number (GSTIN), which will represent the supplier's GST profile and thereby eligible invoices and cumulative cash flows.

**Figure 12: Workflow of borrowers' OCEN-enabled digital loan journey using the Sahay application, OCEN's first reference implementation**



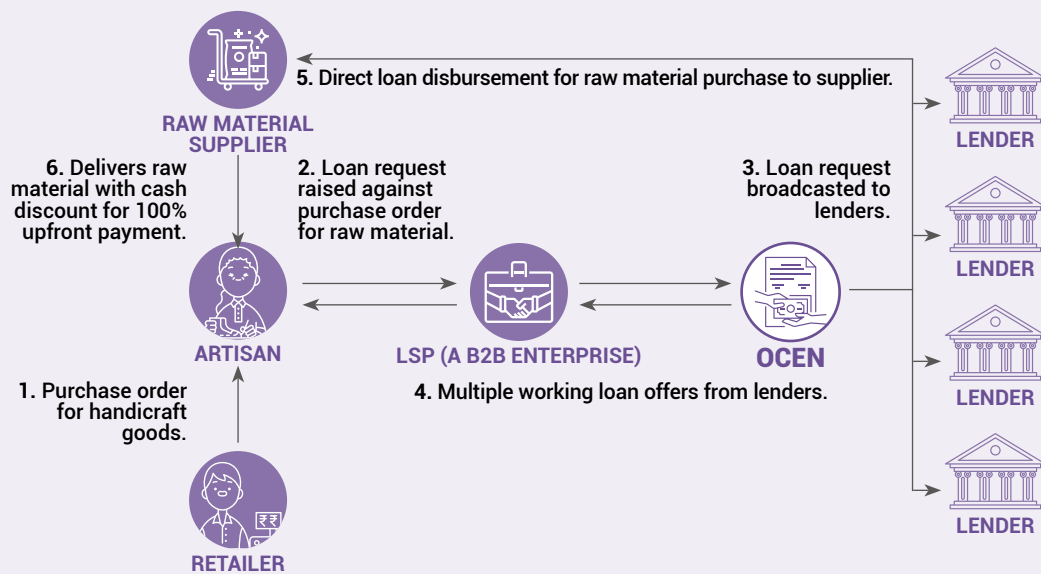
(ISPIRT 2020a)

- To seek loan offers against eligible invoices, the supplier will give consent to the Account Aggregator to share their GSTIN and bank account details with lenders.
- Lenders will assess the supplier's account information to assess the historic actions of their enterprise and the supplier's ability to repay (on Sahay GeM, given that once the delivery of the order is complete, there is an assured payer on the other side, the credit risk of extending a loan to merchants is very low). Accordingly, lenders will have less than 10 seconds to revert to the supplier with offers.
- Next, the supplier will authorise the loan agreement and simultaneously set up repayment methods with a GeM-authorized collecting agent using UPI.
- Once the collection mandate is approved, the loan is dispersed by the lender, all in about four minutes.

The Sahay GeM use case is but one example of how OCEN can be employed to ease the liquidity crunch faced by MSMEs. Below are two more illustrations of how OCEN can be leveraged to offer financial products to borrowers at various stages of their credit requirement cycles.

## USE CASE 1: Loan procurement for raw material purchase by an artisan

Let us take a look at Shambhu, an artisan in rural Kolhapur who has inherited the craft of making Kolhapuri *Chappals* from his father. Kolhapuri *Chappals* are in high demand in urban areas, however due to a shortage of working capital, artisans like Shambhu are unable to withstand the competition from popular brands. To ease the problem of market access, these artisans have tied up with several B2B e-marketplaces, like *Rangсутra* and *Rural Handmade*. In our hypothetical example below, we seek to explain how B2B e-marketplaces can act as LSPs to facilitate cash flow-based lending via OCEN for rural artisans like Shambhu, such that their working capital requirements are met.

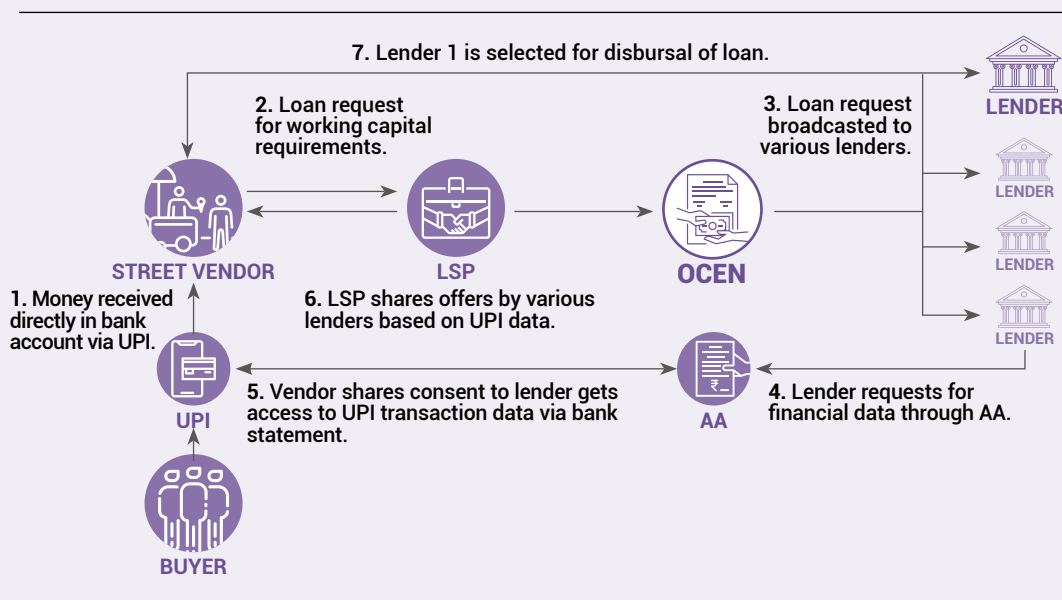


The process flow of OCEN-enabled cash flow-based lending pans out in the following manner:

- The retailer places an order for *chappals* with the artisan via the B2B platform.
- Against the purchase order that the artisan receives, s/he places a loan request with the B2B platform, that in this scenario acts as the loan service provider.
- During the entire OCEN-enabled digital loan process, the B2B platform already possesses significant insight into artisan data and can additionally request more using the Account Aggregator.
- Upon analysing the artisan's data and thereby financial behaviour, the B2B platform generates a raw material loan request for lenders through the OCEN protocol.
- Based on the artisan's data, lenders then make loan offerings to the artisan.
- The artisan will then receive an option to confirm a lender of their choice.
- Upon selection of the loan offer, the loan is then disbursed directly to the raw material provider for ensuring restricted use.
- Finally, once the retailer makes the payment for the order i.e. for *chappals* to the B2B platform, it is proportionately paid back to the lender.

## USE CASE 2: Street vendor sourcing loan by developing digital financial trail using UPI

Let us consider the case of Savitri, a vegetable street vendor in the city of Delhi. She seeks to expand her sales but a working capital crunch restricts her from doing so. Savitri usually depends on her local money lender for meeting her daily working capital needs, but the rate of interest on the loans are exorbitant. OCEN solves this problem by ensuring timely flow of correct-sized working capital loans to Savitri. In the example below, we envision a third-party fintech firm as an LSP. The process flow of Savitri acquiring a loan through the fintech is illustrated below:



- The use case takes into account the fact that street vendors are increasingly integrated into the digital payments system. Most of the street vendors receive their payments directly into their bank accounts through UPI.
- For purchasing inventory, the vendor puts a loan request to the LSP, which in turn broadcasts loan requests to various lenders.
- The street vendor intimates her data sharing consent to the lender. She then requests for loan offers from the LSP, which in turn redirects the request to various lenders via the OCEN framework.
- Lenders pull loan applicant's details through the Account Aggregator and make their loan offers tailored to the needs of the vendor via the OCEN framework.
- The vendor accepts the offer that suits her needs and conveys the selection of the lender via OCEN.



**OCEN combined with AA holds the potential to offer fast, small-ticket and customised loans to those who can produce few formal records to prove their creditworthiness, thereby accelerating their access to formal affordable credit.**

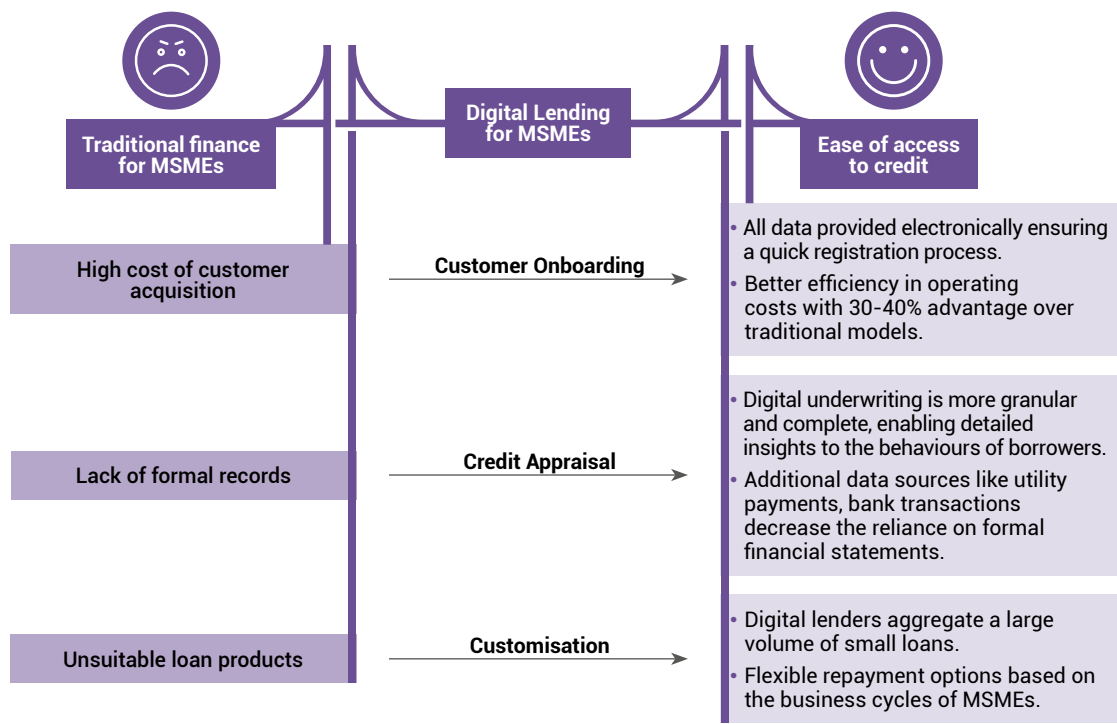
In comparison to the traditional lending process, notable advantages exist for the OCEN-enabled digital lending process, especially for addressing the credit-related challenges and needs of micro entrepreneurs.

An obvious advantage of OCEN-enabled digital loans is the speed of loan approval, with the turnaround happening within minutes in some cases. Unlike traditional loans that can take weeks or even months, digital loans have significantly shorter turnaround times because they replace manual filing of forms with the capture of digital data; account analysis is automated; and no in-person visits are required.

The loan process is made more streamlined and efficient by OCEN as it seeks to leverage new and more granular data sources to gauge a borrower's creditworthiness. New data sources, such as UPI transactions, GST and other surrogate data like utility payments afford lenders a more detailed and thereby complete view into the current and future credit behaviour of borrowers. OCEN, then, replaces traditional reliance on audited financials which nano enterprises usually lack, and instead shifts focus to different sources for underwriting, like data sources and digital trails that MSMEs generate on a daily and continuous basis.

**Figure 13: Role of digital lending in solving challenges in traditional finance**

**Digital Lending can solve key supply-side challenges in the traditional financing system**



(Sattva 2022)

# Digital Readiness of Micro Enterprises to Embrace OCEN

**While OCEN-enabled cash flow-based lending is theoretically conducive to the needs of micro enterprises; most of them will have to become significantly more digitally savvy before they can embrace the infrastructure.**

Despite India being the biggest spender on financial inclusion in South Asia and launching the India Stack, one of the most comprehensive digital public goods, it still has a long way to go before OCEN-enabled digital financial inclusion can become a demonstrable reality. It is only then that nano entrepreneurs, the lowest in the MSME pyramid, can reap its benefits. Two barriers remain.

One, the Indian economy is still primarily cash-based and informal with 72% of India's consumer transactions still happening in cash and roughly 190 million Indian adults not having access to bank accounts. Two, micro enterprises are far from homogeneous in their access, adoption, and use of available digital financial products and services.

Micro enterprises typically follow a set pattern in their digital sophistication journey, beginning with online searches primarily for entertainment, progressing to digital banking and sales. The MSME sector is diverse in its comfort and familiarity with the digital medium and digital financial products. Below, we segment micro enterprises on the basis of their familiarity and relationship with digital financial processes. The indicator will be suggestive of how inclined each segment will be to adopt and employ digital financial processes enabled by the OCEN infrastructure upon its launch, as well as the gaps ecosystem stakeholders will have to fill in if OCEN is to truly enable equitable financial inclusion. The segments are as follows:

**1. Digitally Inactive:** These include enterprises who are almost entirely removed from digital financial platform solutions and processes, owing to the owners' lack of a smartphone or/and due to their low digital and financial literacy. This segment comprises the rural populace, self-employed professionals like plumbers and micro enterprises discussed in this perspective, e.g. kirana stores. While rural India accounts for 38% of all internet subscribers, this populace is at the very first stage of their digital sophistication journey, wherein they primarily employ smartphones for entertainment purposes. As a result, they possess weak digital data trails and a low demand for digital lending.

This segment is far from ready to embrace OCEN, which aims to serve precisely this population. They will be the last to obtain and reap the envisioned benefits of OCEN if left to the market. Thus, if OCEN's vision is truly to be realised in practice, it is important to cover some ground: local role models need to be employed to invigorate access to this segment's bank accounts and financial education.

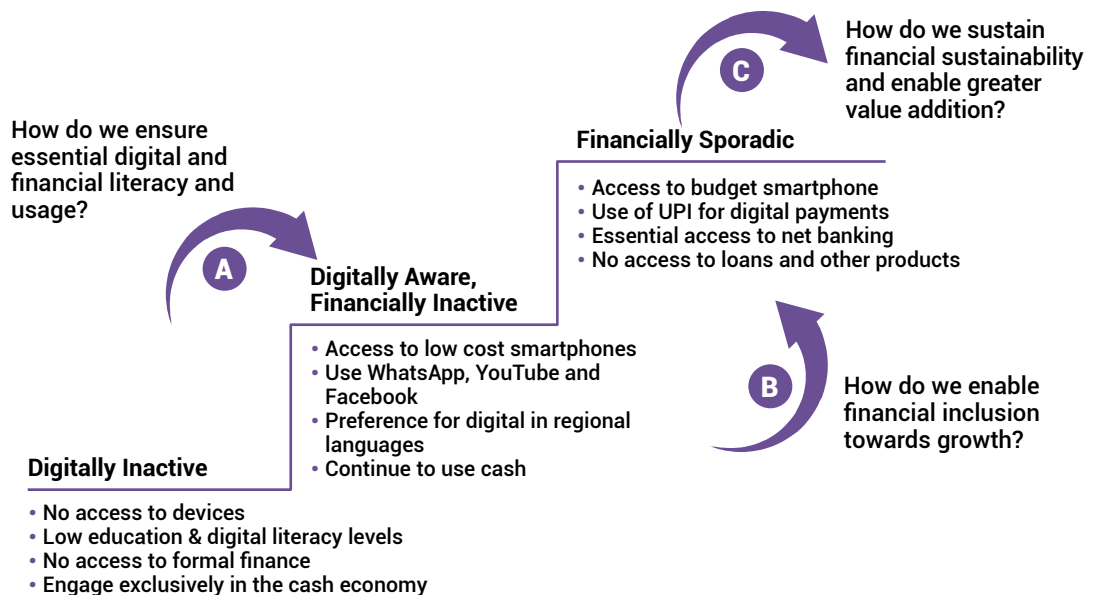
**2. Digitally Aware, Financially Inactive Users:** This segment comprises those who use smartphones but largely for entertainment purposes, as a result of which their financial digital trail is not robust. Furthermore, this segment comprises standalone businesses such as salons and pharmacies, micro enterprises that stand to benefit from OCEN. They do not possess access to larger supply chains that could facilitate their access to formal finance.

To bring them a step closer to employing OCEN, it is necessary to increase their current levels of digital activity by offering them financial education and assisting their onboarding to digital financial platforms.

**3. Financially Sporadic:** This segment is further along the digital sophistication journey, as they are familiar with digital banking and transactions and therefore, possess strong digital data trails. This segment comprises the urban and semi-urban populace, who interact with customer-facing retailers and long supply chains and therefore, offer a high potential for demand for digital lending, but do not access the same currently.

While this segment is going to be particularly attractive to digital lenders, to engage them in a sustainable manner, it is important that their experience of digital finance be cultivated through the creation of use cases and intuitive end-to-end design.

Figure 14: Segmentation of MSME segments based on digital financial inclusion maturity



(Sattva 2022)

## Pathways for Ecosystem Actors

For OCEN-enabled digital financial inclusion to be realised, as detailed in the previous section, it is vital to bridge the gap between consumers and digital solutions. Going forward, philanthropists, solution providers, implementation partners (foundations, corporates, NGOs, CSR and social enterprises) and the government alike, will need to foster innovations and regulations that provide an enabling environment for consumers to access, adopt and reap the benefits of OCEN.

Below, we list potential pathways for different actors of the ecosystem to contribute to taking the vision of OCEN further, which is to accelerate affordable credit for the most marginalised (iSPIRT 2020a).

### **Recommendations for Philanthropy**

Given that OCEN is envisioned to be driven by the market, it is highly probable that the marginalised, the very segment of society that it seeks to empower, will not receive the attention that they require to make the most of this network. Philanthropic capital will become essential then, to serve primarily nano enterprises, the marginalised segments of the MSME sector. Pathways to digital innovation models for delivering financial services emerged from a closed roundtable conference organised by Sattva in 2022 and are as follows:

#### **Investing in digital literacy and phygital practices**

Philanthropic capital will need to streamline funding into literacy of the digitally inactive consumers by developing programmes that promote experiential models of learning, providing hands-on experience of digital technology and financial execution. Given the tactile nature of the digital medium, knowledge about digital financial products when merely imparted and not practised is extremely hard for users to recall. However, this is seen to radically improve when knowledge is combined with practice and hands-on assistance by guides. To achieve this, investment in, and scale-up of programmes to enable adoption of OCEN is the need of the hour.

#### **Investment with experimental capital to create use cases**

It is vital for philanthropic capital to invest in the building of multiple use cases to maximise the adoption of OCEN, especially when not all MSME owners have smartphones, or are marginalised to the extent of not using any phones. Philanthropic organisations possess the experimental capital to fund or co-create unique solutions for those at the very bottom of the MSME pyramid and test them with user groups from diverse socio-economic groups. Innovations and pilots that philanthropic capital can invest in include: digital credit provision, online savings instruments, access to net-banking accounts, agri-insurance, digital payments and remittances.

#### **Bundling different financial services can enhance the financial health of those living in rural communities**

Due to low literacy and smartphone usage, the demand for digital solutions is relatively low amongst the first two segments of MSMEs: the digitally inactive, and digitally aware but

financially inactive. One way to ensure OCEN's penetration amongst these segments is to design solutions that are multidimensional and can perform numerous functions. Bundling financial products will ensure that numerous functions will be served through a single product, thereby driving adoption amongst these segments. Such comprehensive products require greater investment and patient capital and therefore, philanthropic capital is best suited to support innovations that integrate myriad financial products and services.

### **Investing in knowledge creation and ecosystem advocacy**

While OCEN enables the new cash flow-based lending model, not enough is known about the nature and implications of such a model of lending for MSMEs and particularly for nano entrepreneurs. Not enough is known about the lending requirements of micro enterprises belonging to different industries either. For OCEN-enabled financial inclusion to be thought through and implemented, it is necessary to invest in knowledge creation through the commissioning of landscape studies, among other initiatives.

### **Recommendations for Service Providers**

In the MSME sector that has varying degrees of comfort with the digital medium, service providers (lenders, LSPs, social enterprises, NGOs, CSR etc.) too will need to ideate and implement segment-specific solutions to effectively serve the credit-strapped MSMEs. Pathways to achieve this are as follows:

#### **Leveraging MSME-facing entities for customer acquisition and enablement**

The high cost of customer discovery cost being one of the greatest hurdles to the disbursal of small-ticket loans to MSMEs, lenders will need to leverage ecosystem players such as e-commerce platforms and supply chains who already possess existing relations with MSMEs, to reduce the costs of customer acquisition.

With varying degrees of financial and digital literacy, the onus of moving up the ladder should not fall on the customer. In fact, both e-commerce platforms and business management ecosystems can ready customers for OCEN by encouraging them to participate in the GST network, and invigorating generation of a greater volume of digital financial trails. This will facilitate underwriting of loans for lenders who partner with them (iSPIRT 2020a). Thus, rather than thinking in terms of "customer acquisition," stakeholders should think in terms of "customer enablement" (Sattva 2022).

#### **Embracing data analytics to improve delivery of loans**

While cash flow-based lending depends on employing user information as collateral, lenders and service providers will need to embrace data analytics to analyse large quantities of data available from multiple sources, in order to improve underwriting, manage risk and offer flexible and customised loans (Ramachandran et al. 2018).

### **Designing custom user journeys to drive adoption**

As many consumers will be participating in digital lending processes for the first time, service providers will need to invest in designing custom user journeys to avoid dropouts and retain consumers. Service providers should look to partner with philanthropy, NGOs, CSRs and local networks to understand hyperlocal problems and thereby design hyperlocal solutions. Higher rates of adoption and penetration of OCEN can be achieved by designing digital financial interfaces that are easy to use at the community level, and that can be delivered at the last mile through community institutions (Sattva 2022).

### **Regulatory Recommendations**

While private players will play a vital role in innovating atop OCEN, the government will play a pivotal role in governing the infrastructure and in facilitating the right conditions for MSME credit growth. The government can do so in the following ways:

#### **Enabling data sharing with consent**

Given that MSME digital data trails are crucial to the functioning of OCEN and the cash flow-based lending paradigm, it is important that the government makes it easier for data from a variety of sources to be easily accessed by lenders, with consumer consent. To enable this, the government can play a vital role in instituting mechanisms that allow MSMEs to provide consent for digital lenders to access their tax data, digitised collateral data, as well as utility and telecom data (Ramachandran et al. 2018).

#### **Spurring further formalisation of MSMEs**

Despite the introduction of the GST-accelerated MSME formalisation, nearly 40% of micro enterprises are still informal. The government can further incentivise the formalisation of MSMEs by revamping government loan refinancing programmes that currently do not serve very small MSMEs. It can also modify MSME registration processes to ensure ease of registration, for example, for opening checking accounts (Ramachandran et al. 2018).

## Conclusion

In the coming years, OCEN, like any infrastructure, will function not only as an architecture that organises the circulation of people, ideas and money, but more importantly one that shapes and organises our everyday lives. However, in evaluating the readiness of MSME consumers themselves to adopt an infrastructure like OCEN, it is evident that these enterprises still have a long way to go in their digital sophistication journey before they can reap the promised benefits of OCEN. Ecosystem actors have several pathways to contribute to actualising the promise of OCEN, accelerating access for affordable credit to MSMEs, and realising equitable digital financial inclusion. With OCEN envisioned as the infrastructural base for the enterprises' imminent future, the need for thoughtful consideration of the architecture and its implementation is urgent.

## References

- Bhattacharya, S 2014, "Micro Entrepreneurship: Sources of Finance & Related Constraints", *Symbiosis Institute of Management Studies Annual Research Conference*.
- Damani, A 2021, "An OCEN of Opportunities: Expectations from the next Digital Public Good", *The Economic Times*.
- DB & GAME 2022, *Unlocking the full potential of India's MSMEs through prompt payments*, Dun & Bradstreet, Global Mass Alliance for Entrepreneurship.
- Finezza 2022, *10 Reasons Why OCEN Is India's Future of Financial Transactions*, Finezza Blog.
- Finezza 2021, *OCEN – The Way Ahead for Digital Lending and MSMEs*, Finezza Blog.
- iSPIRT 2020a, *Open House on New Credit Enablement Network (OCEN) #1*, YouTube.com.
- iSPIRT 2020b, *Open House on OCEN Varied LSP & Cashflow Lending Models #2*, YouTube.com.
- iSPIRT 2020c, *Open House on OCEN API Specification #3*, YouTube.com.
- Larkin, B 2013, "The Politics and Poetics of Infrastructure", *Annual Review of Anthropology*, vol. 42.
- Ministry of MSMEs 2022, *MSME Annual Report 2021-22*, Ministry of Micro, Small and Medium Enterprises, Government of India.
- Press Information Bureau 2019, "Know All about Account Aggregator Network – A Financial Data-Sharing System".
- Prove 2022, *India's Open Credit Enablement Network (OCEN)*, Prove.com.
- Ramachandran, A, Klemperer, S, Agarwal, N, Tripathi, S, Kumar, A, Ramachandran, M, Balaji, N & Gupta, P 2018, *Credit Disrupted: Digital MSME Lending in India*, Omidyar Network and Boston Consulting Group.
- RBI 2019, *Report of the Expert Committee on Micro, Small and Medium Enterprises*, Reserve Bank of India.
- Ruhela, S 2020, *Account Aggregators: Opportunities for Entrepreneurs and Technology Companies*, ProductNation, iSPIRT.
- Sahamati 2022, *OCEN & Account Aggregators Will Change Digital Lending in India*.
- Sarma, A 2021, *OCEN is Disrupting India's Lending Industry: Here's How*, Finflux Blogs.
- Sattva 2020, *Financial Inclusion of MSME*, Sattva Knowledge Institute.
- Sattva 2022, *Enabling Financial Inclusion through Digital Platforms*, Sattva Knowledge Institute.
- Sidhartha 2020, "99% businesses in India now in MSME category", *Times of India*, viewed on 7<sup>th</sup> August, 2022.

