Journal Paper: Democratizing Credit Access for Tribal, Rural, and Backward Communities in Chirang District, Assam, India: The Potential Impact of the Open Credit Enablement Network (OCEN)

Proposed Outline of Research Paper on OCEN

**I. Introduction**

Brief explanation of OCEN-

Open Credit Enablement Network (OCEN) is a digital infrastructure that aims to democratize the small ticket market in India. It is a framework of APIs that allow borrowers to easily interact with lenders (loan service providers (LSPs), account aggregators, and mainstream lenders such as banks and NBFCs). OCEN provides a standard set of tools representing the various components of a typical lending value chain. The overall goal of OCEN is to enable greater financial inclusion and provide more opportunities for individuals and small businesses to access credit. OCEN was launched in July 2020 as an open protocol infrastructure that will mediate interactions between LSPs such as FinTechs and e-commerce players and mainstream lenders such as banks and NBFCs. The OCEN founding team shares the vision of creating a decentralized network that enables the flow of credit between borrowers, lenders, and credit bureaus in a transparent and secure manner.

**Importance of OCEN in democratizing lending and enabling access to credit for micro-enterprises and street vendors-**

The Open Credit Enablement Network (OCEN) is an API framework that aims to democratize lending and enable greater financial inclusion, particularly for micro-enterprises and small businesses in India. OCEN provides a transparent credit scoring system for small businesses and vendors who often lack the collateral or credit history required to secure loans from traditional lenders. The platform's infrastructure holds the potential to innovate retail micro-lending and ease credit availing facility for everyone, especially individuals and MSMEs. OCEN is designed to create interaction among lenders, borrowers, lending service providers, and account aggregators. The overall goal of OCEN is to enable greater financial inclusion and provide more opportunities for individuals and small businesses to access credit. By empowering various entities and platforms in the tech ecosystem to play key roles in a reimagined lending value chain, OCEN can provide credit access to rural agriculturists/horticulturists and micro-enterprises across the country. The successful implementation of OCEN in these communities will require policymakers to address several challenges, including limited access to digital infrastructure and low levels of financial literacy among the rural and tribal population.

**Objective of the research paper**

The objective of the research paper is to explore the potential impact of the Open Credit Enablement Network (OCEN) in democratizing credit access for tribal, rural, and backward communities in Chirang District, Assam, India. The majority of the population in this region dwells in widespread forested uncommercialized areas and has almost no venues for trade and commerce due to lack of infrastructure and institutions. The tribal community's hesitancy is also a significant reason for their backwardness. The paper aims to highlight the challenges faced by these communities in accessing credit and how OCEN can provide a transparent credit scoring system for small businesses and vendors in these areas. The successful implementation of OCEN in these communities will require policymakers to address several challenges, including limited access to digital infrastructure and low levels of financial literacy among the rural and tribal population. The paper will also propose interventions such as Government Welfare schemes, Corporate Social Responsibility (CSR) practices, and policies to promote digital infrastructure and financial literacy to ensure that the benefits of OCEN are equitably distributed among tribal, rural, and backward communities in Chirang District, Assam, India.

**II. Background**

**Overview of IndiaStack and its role in India's fintech market**

IndiaStack is a set of open APIs and digital public goods that aim to unlock the economic primitives of identity, data, and payments at population scale. It is a unique digital infrastructure that allows governments, businesses, startups, and developers to utilize APIs to solve India's hard problems towards presence-less, paperless, and cashless service delivery. IndiaStack is being implemented in stages, starting with the introduction in 2009 of the Aadhaar "Universal ID" numbers. The project has four distinct technology layers: the **Presenceless** Layer, which involves storing biometric data such as fingerprints; the **Paperless Layer,** which enables the creation of digital documents; the **Cashless Layer,** which enables digital payments through all national banks and online wallets; and the **Consent Layer**, which aims to maintain security and control of personal data. India Stack is the largest open API in the world. Since its deployment, India has been organizing hackathons to develop applications for the APIs. Private companies can build apps integrated with state services, and the digital infrastructure is interoperable and “stacked” together. IndiaStack has helped promote financial and social inclusion and positioned the country for the digital age. The project's mission is to provide a unique digital infrastructure that can be applied to any nation, be it a developed one or an emerging one. The India Stack project is an essential part of India's fintech market, and it has played a significant role in promoting financial inclusion and digital payments in the country.

**Introduction of open APIs as public digital infrastructure**

Open APIs are publicly available application programming interfaces that provide developers with programmatic access to a software application or web service. They are open-source APIs that are published on the internet and are free to access by consumers. Open APIs are a simplified way to connect your own infrastructure through cloud-native app development, but they also allow you to share your data with customers and other external users. Public APIs represent unique business value because they can simplify and expand how you connect with your partners. Private APIs are internal to an enterprise and only used for connecting systems and data within the business. Composite APIs combine multiple data and service APIs to create a single, unified API. APIs enable Open Banking, Open Healthcare, and could eventually lead to “Open Everything.” In short, APIs are a set of functions and procedures that allow for the creation of applications. They access the data and features of other applications, services, or operating systems.

**Brief history of OCEN and its launch in July 2020**

In July 2020, Nandan Nilekani, co-founder of Infosys, announced the launch of the Open Credit Enablement Network (OCEN), a disruptive architecture designed to advance credit inclusion in India. OCEN is a framework of application programming interfaces (APIs) that allows lenders and borrowers to come on the same platform and interact easily. It is a decentralized network that enables greater financial inclusion and provides more opportunities for individuals and small businesses to access credit. OCEN is part of the larger framework of open APIs known as India Stack, which allows the government, businesses, developers, and service providers to utilize a common digital infrastructure to streamline digital transactions and data-led processes. The launch of OCEN was announced by the government at the Global Fintech Festival 2020. OCEN aims to increase credit access in India by collaborating with the recently launched account aggregation framework. The successful implementation of OCEN in India will disrupt the credit market by providing financing that will help micro, small, and medium enterprises (MSMEs) grow into SMEs or large corporates. The growth of these micro-enterprises will, in turn, lead to sustainable job creation and boost growth in the broader Indian economy.

**Explanation of OCEN as a framework of APIs for interaction between lenders, loan service providers (LSPs), and account aggregators**

OCEN is a framework of APIs for interaction between lenders, loan service providers (LSPs), and account aggregators. It is a decentralized network that enables greater financial inclusion and provides more opportunities for individuals and small businesses to access credit. OCEN was launched in July 2020 as an open protocol infrastructure that will mediate interactions between LSPs such as FinTechs and e-commerce players and mainstream lenders such as banks and NBFCs. OCEN provides a standard set of tools representing the various components of a typical lending value chain, allowing them to 'plug in' lending into their existing products and services. OCEN is part of the larger framework of open APIs known as India Stack, which allows the government, businesses, developers, and service providers to utilize a common digital infrastructure to streamline digital transactions and data-led processes. The OCEN founding team shares the vision of creating a transparent credit scoring system for small businesses and vendors in India. The successful implementation of OCEN in India will disrupt the credit market by providing financing that will help micro, small, and medium enterprises (MSMEs) grow into SMEs or large corporates. The growth of these micro-enterprises will, in turn, lead to sustainable job creation and boost growth in the broader Indian economy.

**III. Functioning of OCEN**

**Explanation of how OCEN will mediate interactions between loan service providers and mainstream lenders**

OCEN is a framework of APIs that allows borrowers to easily interact with lenders, loan service providers (LSPs), and account aggregators. It is an open protocol infrastructure that will mediate interactions between LSPs such as FinTechs and e-commerce players and mainstream lenders such as banks and NBFCs. OCEN provides a standard set of tools representing the various components of a typical lending value chain, allowing them to 'plug in' lending into their existing products and services. The platform’s infrastructure holds the potential to innovate retail micro-lending and create a transparent credit scoring system for small businesses and vendors in India. OCEN is part of the larger framework of open APIs known as India Stack, which allows the government, businesses, developers, and service providers to utilize a common digital infrastructure to streamline digital transactions and data-led processes. The implementation of OCEN has the potential to change the face of MSME lending in India by facilitating micro-small-and-medium enterprises (MSMEs) to access formal lending and small businesses to create new innovations in MSME credit and the digital infrastructure that supports it. The digital infrastructure that will be created using the framework can include those who are new to credit. If properly implemented, OCEN has the potential to ease credit availing facility for everyone, especially individuals and MSMEs, and digitize the entire lending process.

**Introduction of account aggregators as 'Loan Service Providers'**

Account aggregators are a framework designed to enable designated financial service providers to share applicant data seamlessly across the financial ecosystem. They act as middlemen to lenders based on the consent of the borrower. Account aggregators are licensed by the Reserve Bank of India (RBI) and are critical in bridging the credit gap between financial institutions and millions of borrowers in India, especially in rural areas. The Sahmati Account Aggregator Platform, approved by the RBI, allows borrowers to share credit histories digitally with microfinance lenders in India. The implementation of account aggregators in India is part of the larger framework of open APIs known as India Stack, which allows the government, businesses, developers, and service providers to utilize a common digital infrastructure to streamline digital transactions and data-led processes. The successful implementation of account aggregators in India will ease credit availing facility for everyone, especially individuals and MSMEs, and digitize the entire lending process.

**Role of key leaders such as SBI, HDFC Bank Ltd., ICICI Bank Ltd., IDFC First Bank Ltd., Axis Bank Ltd. in partnering with iSPIRT for this new credit rail**

iSPIRT, a non-profit technology think tank, has partnered with key leaders such as SBI, HDFC Bank Ltd., ICICI Bank Ltd., IDFC First Bank Ltd., Axis Bank Ltd., and others to promote the Open Credit Enablement Network (OCEN) and initiatives in rural areas like Chirang, Assam. The think tank's goal is to provide Indian startups with multiple types of public resources, including technical building blocks, startup-friendly policies, and market catalysts. iSPIRT has been involved in promoting India Stack applications, including OCEN, and has been acknowledged by the United States Agency for International Development for initiating the project. The successful implementation of OCEN in India will disrupt the credit market by providing financing that will help micro, small, and medium enterprises (MSMEs) grow into SMEs or large corporates. The growth of these micro-enterprises will, in turn, lead to sustainable job creation and boost growth in the broader Indian economy. The partnership between iSPIRT and key leaders in the banking industry will help to facilitate the implementation of OCEN and other initiatives in rural areas like Chirang, Assam, and increase credit access for individuals and small businesses in India.

**Explanation of how OCEN will enable creation of specialized entities, each specialized at one part of the job**

OCEN is a framework of APIs that enables the creation of specialized entities, each specialized at one part of the job. It is an initiative to unbundle lending and enable the creation of specialized entities, each specialized at one part of the job. The platform provides a standard set of tools representing the various components of a typical lending value chain, allowing them to 'plug in' lending into their existing products and services. OCEN is designed to create interaction among lenders, borrowers, lending service providers, and account aggregators. It aims to increase credit access, especially for individuals and small businesses in India, by collaborating efforts with lenders, lending service providers, and technology service providers. The entities can bring valuable platform data to underwrite new-to-credit customers and provide cheap and tailored credit systems to MSMEs, leading to the growth of the sector. OCEN is part of the larger India Stack framework, which includes Aadhaar and UPI as its base. It aims to facilitate paperless, secure, and real-time transactions. The successful implementation of OCEN in India will disrupt the credit market by providing financing that will help micro, small, and medium enterprises (MSMEs) grow into SMEs or large corporates. The growth of these micro-enterprises will, in turn, lead to sustainable job creation and boost growth in the broader Indian economy.

**IV. Benefits of OCEN**

**Explanation of how OCEN will democratize access to credit and lower interest rates for customers**

The platform provides a transparent credit scoring system for small businesses and vendors in India, especially in rural areas. OCEN enables the creation of specialized entities, each specialized at one part of the job, which can bring valuable platform data to underwrite new-to-credit customers and provide cheap and tailored credit systems to MSMEs, leading to the growth of the sector. OCEN is designed to create interaction among lenders, borrowers, lending service providers, and account aggregators. It aims to increase credit access, especially for individuals and small businesses in India, by collaborating efforts with lenders, lending service providers, and technology service providers. The successful implementation of OCEN in India will disrupt the credit market by providing financing that will help micro, small, and medium enterprises (MSMEs) grow into SMEs or large corporates. The growth of these micro-enterprises will, in turn, lead to sustainable job creation and boost growth in the broader Indian economy. Once OCEN is launched in its full capacity, it will digitize the entire lending process and ease credit availing facility for everyone, especially individuals and MSMEs. The platform’s infrastructure also holds the potential to innovate retail micro-lending and create appropriately sized, priced, and timed credit products.

**Importance of OCEN in making small value loans feasible**

OCEN is an important platform in making small value loans feasible. Here's how:

* OCEN is designed to democratize the small ticket market in India and provide more opportunities for individuals and small businesses to access credit.
* OCEN is an API framework that allows lenders and borrowers to come on the same platform and interact easily, making it easier for small businesses and vendors to access credit.
* OCEN provides a transparent credit scoring system for small businesses and vendors in India, especially in rural areas.
* OCEN enables the creation of specialized entities, each specialized at one part of the job, which can bring valuable platform data to underwrite new-to-credit customers and provide cheap and tailored credit systems to MSMEs, leading to the growth of the sector.
* OCEN aims to increase credit access, especially for individuals and small businesses in India, by collaborating efforts with lenders, lending service providers, and technology service providers.
* OCEN is part of the larger India Stack framework, which includes Aadhaar and UPI as its base. It aims to facilitate paperless, secure, and real-time transactions, making it easier for small businesses and vendors to access credit.
* Once OCEN is launched in its full capacity, it will digitize the entire lending process and ease credit availing facility for everyone, especially individuals and MSMEs. The platform’s infrastructure also holds the potential to innovate retail micro-lending and create appropriately sized, priced, and timed credit products.

**Role of private equity and venture capital players, angel investors, high net worth individuals and others as investors**

Private equity and venture capital players, angel investors, high net worth individuals, and others can invest in the OCEN framework. Here's how:

* OCEN is a disruptive architecture designed to advance credit inclusion in India, and it aims to increase credit access in India by collaborating with the recently launched India Stack framework.
* OCEN is a framework of APIs for interaction between lenders, loan service providers (LSPs), and account aggregators, and it aims to create an ecosystem where any customer interfacing service provider can enable credit.
* Private equity and venture capital players, angel investors, high net worth individuals, and others can invest in the various entities that will be created as part of the OCEN framework, each specialized at one part of the job.
* These entities can bring valuable platform data to underwrite new-to-credit customers and provide cheap and tailored credit systems to MSMEs, leading to the growth of the sector.
* CSR projects, NGOs, and rural development departments can also invest in the OCEN framework to support financial inclusion and provide more opportunities for individuals and small businesses to access credit.
* OCEN aims to democratize the small ticket market in India and provide more opportunities for individuals and small businesses to access credit, making it an attractive investment opportunity for private equity and venture capital players, angel investors, high net worth individuals, and others who are interested in supporting financial inclusion and economic growth in India.

**V. Challenges in Implementing OCEN in Chirang District, Assam, India**

Implementing OCEN in Chirang District, Assam, India, may face some challenges. Here are some possible challenges:

* **Lack of awareness:** The success of OCEN depends on the participation of lenders, borrowers, lending service providers, and account aggregators. However, many people in Chirang District, Assam, India, may not be aware of the benefits of OCEN and how it works. Therefore, there may be a need for awareness campaigns and training programs to educate people about OCEN and its potential benefits.
* **Limited access to digital infrastructure:** OCEN is a digital infrastructure that requires internet connectivity to function. However, many areas in Chirang District, Assam, India, may have limited internet connectivity, which could hinder the adoption of OCEN. Therefore, there may be a need for infrastructure development to improve internet connectivity in these areas.
* **Limited access to smartphones:** OCEN relies on smartphones to enable borrowers to easily interact with lenders and get small credit loans. However, many people in Chirang District, Assam, India, may not have access to smartphones, which could limit the adoption of OCEN. Therefore, there may be a need for initiatives to provide affordable smartphones to people in these areas.
* **Lack of trust:** Some people in Chirang District, Assam, India, may be hesitant to use OCEN due to concerns about data privacy and security. Therefore, there may be a need for measures to ensure the security and privacy of user data and build trust among users.
* **Limited participation of lenders:** The success of OCEN also depends on the participation of lenders. However, some lenders may be hesitant to participate in OCEN due to concerns about the creditworthiness of borrowers and the risk of default. Therefore, there may be a need for measures to ensure the creditworthiness of borrowers and mitigate the risk of default.
* **Low levels of financial literacy among the population** VISA (2012) study ranked India at the 23rd position among the 28 countries surveyed for the level of financial literacy in India. Low levels of financial literacy may hinder the adoption of OCEN, as people may not fully understand the benefits of OCEN and how it works. Therefore, there may be a need for initiatives to improve financial literacy in Chirang District, Assam, India, to address this challenge.

**VI. Interventions to Address Challenges**

**Government Welfare schemes**

Government welfare schemes can complement the efforts of OCEN to increase credit access and financial inclusion.For example, government welfare schemes can provide financial assistance to people who may not have access to formal credit, and OCEN can provide a transparent credit scoring system for small loans. The combination of government welfare schemes and OCEN can help to address the challenges of financial exclusion and poverty in Chirang District, Assam, India.

**Examples of Government Welfare schemes that promote financial inclusion**

The Government of India has launched several welfare schemes to promote financial inclusion in the country. Some examples of government welfare schemes that promote financial inclusion in India include:

​**Ayushman Bhar​​at**- Aims at providing universal health coverage to most vulnerable inidans, in Chirang recently all ration card holders are compulsorily covered in this scheme as a part of governments initiative.

**Pradhan Mantri Jan Dhan Yojana (PMJDY**): Launched in 2014, PMJDY aims to connect every household in the country with the banking system and provide access to banking services such as credit, pension, and insurance at a reasonable cost.

**Pradhan Mantri Mudra Yojana (PMMY**): Launched in 2015, PMMY provides loans up to Rs. 10 lakh to micro and small enterprises.

**Stand-Up India**: Launched in 2016, Stand-Up India provides loans between Rs. 10 lakh and Rs. 1 crore to women and SC/ST entrepreneurs.

**Atal Pension Yojana (APY):** Launched in 2015, APY provides a pension to the unorganized sector workers.

These schemes act as a platform to support government social schemes and provide access to a range of financial services like availability of credit, insurance, and pension facility.The government welfare schemes have played a significant role in promoting financial inclusion in India and have helped to bring the unbanked population into the formal financial system.

**Corporate social responsibility (CSR) practices**

BGR refinery, NGOs like Sesta, the ant, IGSSS in Chirang may also be undertaking CSR activities to contribute to the social, environmental, and economic development of the region. CSR activities on focused area like Environment sustainability, Sanitation, Education, Health care, Art and Culture, Promotion of sports, Education and skill development can be seen in some areas of Chirang district.

**Policies to promote digital infrastructure and financial literacy**

**Explanation of policies to promote digital infrastructure and financial literacy in India**

**Examples of policies to promote digital infrastructure and financial literacy in India**

**VII. Conclusion**

**Summary of the research paper**

**Implications of OCEN in India's fintech market**

**Future prospects of OCEN**

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