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on

FINTECH: ACCELERATING THE DIGITAL REVOLUTION

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SUMMIT HANDBOOK

ENABLING FINTECH FOR ALL

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9th GES GLOBAL ECONOMIC SUMMIT

on

FINTECH: ACCELERATING THE DIGITAL REVOLUTION

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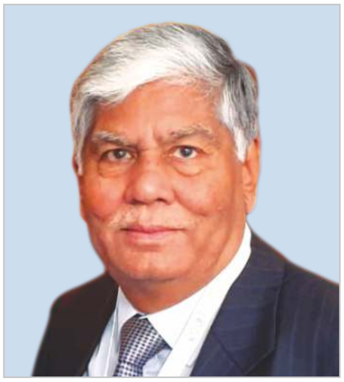
A Research Initiative by MVIRDC World Trade Center Mumbai

Chairman's Message



Fintech solutions are the need of the hour for realizing the Viksit Bharat vision and achieving the dream of USD 30 trillion GDP by 2047. These solutions have the potential to create 30 million jobs and boost exports in the coming years. MSMEs will play a crucial role in this vision, and we must address their longstanding demand for timely access to affordable credit. With a current credit gap of Rs. 20 lakh crore, bridging this gap through widespread adoption of fintech solutions is imperative. This gap is expected to widen as manufacturing activity increases, the government rolls out more production-linked incentives (PLIs), and Indian exporters receive more orders under recently signed free trade agreements.

Small-scale units can expand production capacity and fulfill domestic and export orders if they have easy access to trade credit, which is possible through digital lending solutions. Fintech solutions can not only improve access to credit but also facilitate instant payments, seamless cash flow management, logistics and supply chain management, cyber risk mitigation, insurance, and wealth management for MSMEs.

The 9th Global Economic Summit on Fintech: Accelerating Digital Revolution is organised with the objective of facilitating strategic alliance between fintech startups and MSMEs. The Summit will also facilitate global connections for local fintech startups through overseas experts from Luxembourg, Philippines, Japan, Kenya, Geneva and other regions.

This event is timely, as global investors are increasingly viewing India as a promising investment destination. India stands as a beacon of economic growth, stability, and peace in the emerging world order. Notably, India ranks third after the USA and China in fintech funding. Similar to IT companies, Indian fintech startups are exporting their products and solutions, showcasing their global competitiveness.

India's world-class payment system, UPI, has already been accepted by many foreign countries. Looking ahead, I foresee cross-border collaborations in other fintech areas such as Insurtech, fraud detection, digital currencies, and sustainable finance. Emerging economies in Asia, Africa, and Europe can significantly benefit from such collaborations in the fintech sector. The Summit will facilitate global investments, market linkages, technology partnerships, skill development, and other forms of strategic alliances to transform India into the fintech capital of the world. Recently, the Hon'ble Prime Minister expressed his vision of making Mumbai the fintech capital of the world.

I am pleased to announce that WTC Mumbai has published this Handbook to coincide with this important Summit. It documents new opportunities for global collaboration in the fintech sector and highlights key areas for future policy action. I thank all the experts who have contributed their valuable insights in the form of articles for this publication. I am confident that this Handbook will serve as a valuable reference for financial sector regulators, policymakers, diplomats, academicians, and researchers.

Dr. Vijay Kalantri
Chairman
MVIRDC WTC Mumbai

Preface

We are living in an era of phenomenal digital transformation, where activities such as shopping, travel arrangements, paying bills, and filing taxes can be done with the click of a button. In this digital age, enhanced customer engagement through innovative fintech products is a key driver of competitiveness, alongside traditional factors like price and product quality.

To boost customer satisfaction and competitiveness, businesses are collaborating with fintech companies to offer easy payment systems, consumer credit, and loyalty programs. Fintech solutions not only enhance customer engagement but also promote ease of doing business for MSMEs by providing instant access to credit with minimal paperwork, automating accounting practices, offering cost-effective insurance, and facilitating cash flow management and cross-border payment solutions.

Businesses are competing to adopt fintech solutions and stay ahead in this digital transformation race. Recognizing the significance of fintech solutions in driving MSME competitiveness, the World Trade Center Mumbai and the All India Association of Industries have organized the 9th edition of the Global Economic Summit on "Fintech: Accelerating the Digital Revolution" from August 8-10, 2024. I am confident this conference will foster insightful discussion and connections for local MSMEs and fintech companies.

I am pleased to inform you that, in conjunction with this Summit, we have produced a special publication documenting emerging trends in PayTech, WealthTech, LendingTech, Neobanking, and other fintech areas.

Fintech has opened new avenues for bilateral cooperation in payments, digital currencies, data protection, and more, among nations. Fintech innovations can contribute to regional integration by connecting payment systems and providing cost-effective mechanisms for cross-currency transactions.

The growing acceptance of India's UPI, in developing countries is a prime example of South-South cooperation in the fintech sector. UPI enables cashless payments and remittances, facilitating alternative credit assessment and access to credit for underserved populations. As the fintech ecosystem rapidly evolves, I anticipate more innovative products and solutions for MSMEs and new opportunities for cross-border collaboration in financial services.

This handbook aims to capture evolving trends and provide a roadmap for further advancement in the fintech sector through progressive policies, supportive regulation, and cross-country partnerships. The articles in this publication are curated by Indian and international experts from academia, industry, and non-profit organizations.

I am confident readers will benefit from the rich and diverse perspectives of the authors, and the insights highlighted in this book will spur further public discussion on this high-growth sector.

I look forward to your valuable feedback and policy suggestions on the topics and issues covered in this handbook to support the fintech sector, which has a transformative effect on the entire economy.

Rupa Naik
Executive Director
MVIRDC WTC Mumbai

Key Highlights

- As per the RBI report, MSMEs in India have a credit gap of around INR 20-25 trillion. In India, MSMEs account for a mere 6% of total outstanding commercial bank loans, compared to 46.3% in China and 46% in South Korea. Fintech companies, with their unique product offerings, can play an important role in bridging this MSME credit gap.

- Penetrating the rural market and adapting to new data protection guidelines are challenges that the Indian fintech industry must overcome.

- To facilitate seamless and easy access to credit, regulators may consider adopting a more liberal regulatory and compliance framework for digital lenders.

- The Account Aggregator framework will facilitate the adoption of open banking/financing in India. However, it is essential to complement the framework with robust data security standards and consumer protection guidelines.

- The Reserve Bank of India may consider modifying and rationalizing the guidelines for Payment Aggregators to enhance the ease of doing business in the sector.

- Insurtech, by leveraging modern technology, can extend insurance services to the 95% of India's population that is currently underserved, while offering customized products to better mitigate risks.

- India, Middle East and ASEAN can create regional fintech funds and accelerators to support promising fintech ventures.

- India, Middle East and ASEAN can establish common guidelines for data protection, common practices of KYC, cybersecurity and Anti-money laundering measures.

- India and Japan, by leveraging their distinct characteristics and stages of fintech ecosystem development, can form a strategic collaboration in areas such as research and innovation, talent exchange and skill development, and financial inclusion initiatives, among others.

- India and the European Union could cooperate closely in FinTech and RegTech to benefit their economies. However, differences in regulatory standards and data protection norms pose challenges.

- India could take a leading role in fostering collaboration among G20 nations to reshape the global financial landscape and promoting a more inclusive, efficient, and secure ecosystem.+

- Digital platforms like SWIFT GPI and Ripple have made cross-border payments faster, more transparent, and cost-effective. However, interoperability and adherence to international standards remain challenges that require coordinated policy attention. For instance, adopting common messaging standards like ISO 20022 can facilitate smoother transactions and integration across different payment networks.

- Harmonizing regulations, particularly around data privacy and digital signatures, can streamline processes, allowing fintech companies to operate more efficiently across borders. For instance, establishing common electronic invoicing and trade documentation standards can significantly reduce administrative burdens.

Cover Story: Fintech Industry can Aid in Bridging INR 20 Trillion MSME Credit Gap

Micro, Small, and Medium Enterprises (MSMEs) are integral to the Indian economy, contributing approximately 30% to the nation's GDP and accounting for 45% of total exports. This sector is the second-largest employer in India, providing employment to over 150 million workers, which constitutes 45% of the country's total workforce. As India aspires to become a global manufacturing hub and aims to achieve developed economy status by 2047 and carbon neutrality by 2075, the advancement and scaling up of the MSME sector will be pivotal.

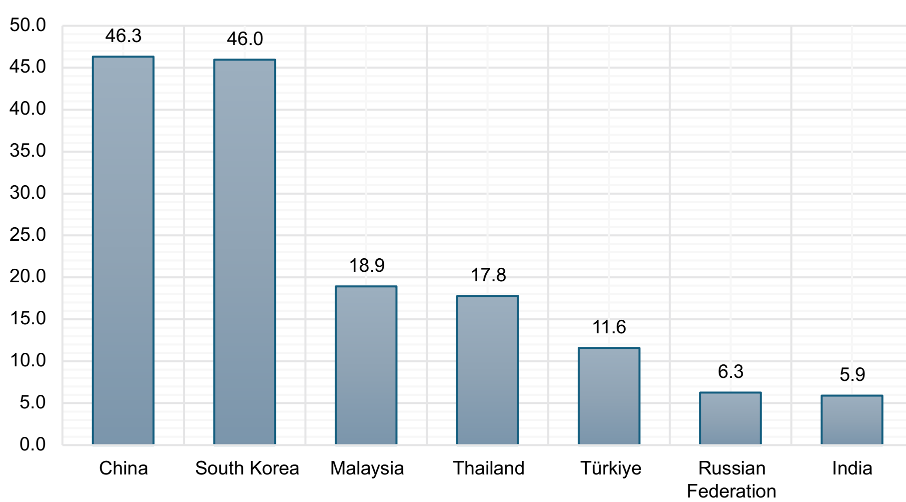
Despite its significance, the MSME sector in India has been grappling with numerous challenges, primarily in accessing cost-effective finance. According to the Reserve Bank of India (RBI), the MSME sector faces a credit gap estimated at INR 20-25 trillion (approximately USD 240-301 billion). This gap is largely attributed to inadequate documentation, compliance issues, and insufficient collateral. Data from the International Monetary Fund (IMF) financial inclusion databases indicates that MSMEs account for only 6% of outstanding loans from commercial banks. Although this share has more than doubled over the past two decades, it remains significantly lower than that of peer economies such as China and South Korea.

In the absence of funding from formal financial channels, MSMEs in India are compelled to seek credit from informal sources, where they are charged significantly higher interest rates. This adversely affects their profitability and reduces their competitiveness. The lack of access to credit at competitive rates also deters MSMEs from pursuing capital expansion, thereby limiting their capacity. Addressing these financial constraints is crucial for the sustained growth and development of the MSME sector in India.

Leveraging digitisation for bridging MSME credit gap

Over the last decade, India has developed a robust Digital Public Infrastructure (DPI), now among the largest in the world. Government initiatives such as Aadhaar, Jan Dhan Yojana, BharatNet, e-KYC, GSTIN, and IndiaStack have revolutionized the country's digital ecosystem. Leveraging this infrastructure, more than 500 million individuals have been brought under the formal financial system. However, while the success of this financial inclusion has been impressive, it has also been uneven. The digital payment ecosystem has experienced explosive growth, with retail digital transactions increasing by 1848% in volume and 513%

Country-wise share of MSMEs in commercial bank outstanding loans (in %)



Sources- IMF, Compiled by MVIRDC WTC Mumbai

in value. Despite this, the lending side of the ecosystem has yet to gain similar momentum.

How Fintech companies can help MSMEs

The Financial Technology (Fintech) sector, leveraging modern cutting-edge technology and utilizing data generated through India's digital ecosystem, can play a pivotal role in bridging the credit gap for MSMEs. Fintech companies, using advanced data analytics and machine learning techniques, can develop innovative methods to assess the creditworthiness of MSMEs. Many fintech firms also offer alternative financing options through their digital platforms, such as peer-to-peer lending and crowdfunding. Additionally, fintech companies provide AI-powered solutions to facilitate ease of compliance and bookkeeping practices at a low cost.

These advancements can significantly reduce the barriers to accessing formal credit for MSMEs by streamlining the loan application process and providing tailored credit solutions. By harnessing the power of digital tools and data, fintech companies can enhance the financial inclusion of MSMEs, fostering their growth and development.

Fintech Ecosystem in India

India has the third-largest Fintech ecosystem globally with 10,244 Fintech startups. The industry was valued at USD 50 billion in 2022 and is expected to reach a total valuation of USD 1 trillion by 2030. The Fintech sector secured the second-highest funding in 2022. On the regional level, the southern Indian states have been leading in the development of the Fintech ecosystem in the country. Karnataka has the highest number of FinTech startups in the country followed by Maharashtra and Tamil Nadu. On the state level, the development of Fintech industry ecosystem is influenced by state industrial and startup policies.

Maharashtra took the lead as the first state in the country to implement a dedicated policy aimed at fostering the development of the Fintech sector. The Fintech Policy 2018 was introduced with the goal of positioning Mumbai among the world's top five global centers for Fintech and promoting Fintech startups within the state, among other objectives. To support these initiatives, a Fintech corpus fund of INR 250 crores was established, alongside the creation of the "Mumbai Fintech Hub".

In 2021, the Tamil Nadu state government launched the five-year Tamil Nadu Fintech Policy 2021 with the ambitious objective of positioning the state as a global leader in Fintech by 2025. The policy is geared towards transforming Chennai into a prominent "Fintech city." As a part of this initiative, the plan includes the development of a Digital Payment Zone within a 5 km radius, aimed at facilitating seamless digital payments.

While Karnataka leads in the Fintech ecosystem in the country, the state is yet to introduce a dedicated Fintech policy. Nevertheless, the state government has proposed to implement an integrated Fintech startup program. The Andhra Pradesh government, in collaboration with the Fintech Association of Hong Kong, has made an agreement to develop a Hong Kong-Andhra Pradesh entry point for Fintech startups and knowledge transfer in Vishakhapatnam known as "Fintech Valley Vizag." Meanwhile, the Telangana government has proposed a regulatory sandbox for Fintech. There are Fintech parks in Jaipur (Rajasthan) and Kolkata (West Bengal) there have been proposals for Fintech parks and hubs in GIFT city (Gujarat) and Noida (Uttar Pradesh) as well. The government of Odisha organizes a Fintech fest every year to promote Fintech startups in the state.

State wise Fintech Initiatives

States with Fintech Policy
- Maharashtra
- Tamil Nadu

States with proposed Fintech Policy
- Karnataka
- Telangana (Regulatory Sandbox)

States with Fintech hub/center
- Andhra Pradesh
- Rajasthan
- West Bengal

States with propsed Fintech hub/center
- Gujarat
- Uttar Pradesh

Challenges and way forward

The Reserve Bank of India (RBI) has taken several measures to promote lending fintech in India, including issuing digital lending guidelines, regulating peer-to-peer lending platforms as NBFCs, introducing an account aggregator framework, encouraging API-based services, allowing fintech lenders to contribute to priority sector lending, and launching a regulatory sandbox to test innovative fintech lending products.

However, there still regulatory hurdles faced by the industries. The continuously evolving and complex regulatory framework makes it difficult for fintech companies to ensure compliance. These companies are subject to rules and regulations from multiple authorities like RBI, SEBI, and IRDAI, creating further confusion and delays in compliance. Establishing a single agency to oversee fintech-related regulations an

Access to data is another area of concern. While India is generating a lot of data through account aggregators, which can be very useful for making lending decisions, access to such data is restricted to regulated entities. A mechanism could be considered where registered fintech companies are provided access to this data, particularly concerning MSME lending. This would facilitate more accurate credit assessments and improve access to credit for MSMEs.

Conclusion

India's Digital Public Infrastructure (DPI) can play a crucial role in fostering an enabling ecosystem for sustainable and inclusive growth in the country. The emerging fintech industry in India has the capability to leverage this ecosystem to facilitate the ease of doing business for MSMEs by providing innovative solutions to their contemporary financial problems. While many initiatives have been undertaken to promote the fintech ecosystem in the country, a more liberal approach may be suggested to further promote the lending fintech ecosystem.

By harnessing the potential of India's DPI, fintech companies can streamline processes, reduce costs, and enhance financial inclusion for MSMEs. A liberalized regulatory framework could enable fintech firms to access critical data and develop tailored financial products, thereby addressing the credit gap more effectively. Encouraging collaboration between traditional financial institutions and fintech companies can also lead to a more resilient and dynamic financial ecosystem, ultimately contributing to the sustained growth and development of MSMEs in India.

Collaborative Opportunities between India, ASEAN, Africa and Middle East in the Fintech Sector

Ms. Amor Maclang
Secretary General, International Digital Economies Association (IDEA), Executive Director, Fintech Philippines Association, Chairman and Founder, Digital Pilipinas

The financial technologies (fintech) sector has experienced exponential growth over the past decade, transforming the way financial services are delivered and used. Fintech encompasses a broad range of innovations, from mobile banking and payment apps to blockchain and AI-driven financial solutions. This rapid evolution has created a dynamic global market characterized by innovation, competition, and collaboration.

> **"The fintech industry experienced record capital growth in the latter half of the last decade, with venture capital funding rising from $19.4 billion in 2015 to $33.3 billion in 2020, marking a 17% annual increase and a 1.2-fold rise in deal activity."**

For example, the fintech industry experienced record capital growth in the latter half of the last decade, with venture capital funding rising from $19.4 billion in 2015 to $33.3 billion in 2020, marking a 17% annual increase and a 1.2-fold rise in deal activity. In 2021, the sector thrived amid pandemic-induced digitization and ample liquidity, seeing funding soar by 177% to $92.3 billion and a 19% increase in deals.

Despite a global decline in VC funding during 2022, due to geopolitical tensions among other reasons, fintech maintained a stable proportion of total VC funding at 12%. The inevitable technological revolution is expected to drive fintech revenues to grow almost three times faster than traditional banking, with anticipated annual growth of 15% for fintechs compared to 6 % for traditional banks between 2022 and 2028[1].

Collaboration in the fintech industry, especially between specific countries and regions, is crucial. It allows for the pooling of resources, sharing of best practices, and cross-border innovation, which can drive financial inclusion, enhance customer experiences, and spur economic growth. In this context, the regions of ASEAN (Association of Southeast Asian Nations), Africa, the Middle East, and India present unique opportunities for collaboration. Each of these regions has its distinct strengths and challenges in the fintech landscape, making them ideal partners in driving forward the next wave of financial innovation.

India, with its robust digital infrastructure and large, young (median age 28 years) and increasingly technologically oriented population, has emerged as one of the most respected global fintech leaders. The ASEAN region, characterized by a diverse and rapidly growing market, offers fertile ground for fintech innovations, particularly in financial inclusion and mobile payments, particularly remittances.

Africa, known for its leapfrogging technology adoption, has shown remarkable success in mobile money and digital financial services. Meanwhile, the Middle East, especially UAE, Saudi Arabia, and Qatar, among others, with its strategic investments and supportive regulatory environment, has undoubtedly become a key player in the global fintech scene.

Challenges

One of the main challenges is regulatory differences and compliance issues. Navigating the diverse regulatory landscapes is a primary challenge in cross-regional fintech collaboration. Each region has its own set of financial regulations, compliance requirements, and legal frameworks, which can complicate efforts to

[1] https://www.mckinsey.com/industries/financial-services/our-insights/fintechs-a-new-paradigm-of-growth

> **Collaboration in the fintech industry, allows for the pooling of resources, sharing of best practices, and cross-border innovation, which can drive financial inclusion, enhance customer experiences, and spur economic growth.**

harmonize operations. What could be permissible in India may not align with regulations in ASEAN countries or the Middle East. This regulatory fragmentation can create barriers to entry, increase operational costs, and slow down the pace of innovation.

The fintech landscape is marked by varying levels of infrastructure and technological development across regions. For instance, India's Unified Payments Interface (UPI) or the UAE's Dubai International Financial Centre (DIFC) have shown how government-supported strong infrastructure can empower fintech solutions. Conversely, Kenya's M-Pesa demonstrates how fintech can overcome infrastructure challenges, yet rural connectivity issues persist in many parts of Africa.

Similarly, Nigeria's urban centers like Lagos are fintech hotspots, but rural areas lag due to underdeveloped digital infrastructure. In ASEAN, Singapore's advanced digital landscape contrasts sharply with Indonesia's uneven infrastructure, where fintech adoption is robust in urban areas but hindered in rural regions. These disparities can slow down integration, creating uneven adoption rates but also leaving space for new projects to change the current conditions.

Another challenge for new fintechs, especially from abroad, is that entering new markets often involves overcoming a variety of barriers, including differing business practices, consumer behavior, and cultural nuances. For fintech companies, understanding and adapting to these local differences is crucial for success. Additionally, local competition, bureaucratic red tape, and the need for strategic local partnerships can pose further challenges.

Opportunities

These regions still have a large unbanked and underbanked population. One of the most compelling opportunities for fintech collaboration lies in addressing these significant portions of people. By leveraging fintech innovations, there is an unforeseen potential now to enhance financial inclusion, providing tens of millions of people with access to banking services, credit, and investment opportunities that were previously impossible. For example, in India, companies like Paytm and PhonePe, along with the government's Pradhan Mantri Jan Dhan Yojana (PMJDY) initiative, have provided financial services to millions. In the Philippines, GCash and PayMaya have brought financial services to remote areas. Nigeria's Paga offers mobile payment solutions and microloans to underserved communities.

In the Middle East, companies like Sarwa and PayTabs provide affordable investment options and secure online transactions, respectively. These examples illustrate how fintech can transform financial landscapes and provide essential services to previously underserved populations, highlighting the potential of cross-regional collaborations to achieve broader financial inclusion.

Growing smart device penetration and internet access is also rising. In India, the smart device market is projected to rise 10-13% in volume growth in 2024 alone, which is pivotal for fintech growth[2]. Smartphone users in Southeast Asia are also projected to grow 4.0% to reach more than 342 million people, with penetration reaching 88.9% among internet users[3]. In Africa, smartphone adoption is currently around 51%, way lower than in other regions, with almost 60% of the population still unconnected.

However, The Global Systems for Mobile Communication (GSMA) has projected that by this decade, at least 88% of the African population will own a mobile phone, unlocking the continent's digital potential. The Middle East shows one of the highest smartphone penetrations in the world, reaching an astonishing 97%[4]. This trend is particularly noticeable in emerging markets, where mobile-first strategies can reach a broader audience more effectively than traditional banking methods and simplify people's daily lives.

[2] https://telecom.economictimes.indiatimes.com/news/devices/indias-smart-devices-market-to-register-10-13-volume-growth-in-2024-as-adoption-remains-low-techarc/105962261
[3] https://www.emarketer.com/content/southeast-asia-digital-users-forecast-2023
[4] https://www2.deloitte.com/content/dam/Deloitte/xe/Documents/technology-media-telecommunications/GMCS-whitepaper.pdf

> **One of the main challenges is regulatory differences and compliance issues. Navigating the diverse regulatory landscapes is a primary challenge in cross-regional fintech collaboration.**

A young, tech-savvy population has also brought a lot of global attention. The demographic landscape across these regions features a large proportion of young individuals with solid computer literacy who are open to adopting new technologies.

When considering that the overall average age for the combined regions is approximately 25 years, it becomes clear that this demographic will help embrace fintech solutions and drive demand for innovative financial products and services. Their adaptability and openness to digital finance create a fertile ground for fintech firms to introduce and scale their offerings, advanced innovations, and much more.

Areas for Collaboration

Advanced Technology and Innovation

Joint ventures and partnerships in developing new technologies are crucial to fostering mutually beneficial ventures. Collaboration between fintech companies from India, ASEAN, Africa, and the Middle East can lead to the development of cutting-edge technologies.

Joint ventures can leverage the unique strengths of each region, such as India's expertise in software development, Africa's innovative mobile money solutions, ASEAN's diverse market needs, and the Middle East's strong investment capabilities. By pooling resources and expertise, these regions can co-create technologies that address local and global financial challenges.

Sharing knowledge and best practices can significantly enhance the joint fintech ecosystem. Regular conferences, workshops, and webinars can facilitate the exchange of ideas and strategies. Regions can learn from each other's successes and failures, thereby accelerating the adoption of effective fintech solutions. For instance, the success of mobile payment systems in Kenya can provide valuable insights for similar implementations in Southeast Asia or the Middle East.

Regulatory Harmonization

Harmonizing regulations across these regions will simplify cross-border operations for fintech companies. Collaborative efforts to create a standardized regulatory framework can also reduce compliance costs and complexities. This could involve mutual recognition of regulatory standards or the establishment of common guidelines for key areas such as data protection, common practices for KYC, cybersecurity, and anti-money laundering (AML) measures.

Collaboration on regulatory sandboxes and pilot programs

Regulatory sandboxes allow fintech companies to test new products and services in a controlled environment with reduced regulatory constraints. Joint sandboxes involving multiple regions are perfect tools for fostering cross-border innovations and provide a clearer path to market entry. On the other hand, pilot programs are used to assess the viability and scalability of new fintech solutions, benefiting from shared oversight and support from participating countries.

> **Another challenge for new fintechs, especially from abroad, is that entering new markets often involves overcoming a variety of barriers, including differing business practices, consumer behavior, and cultural nuances.**

Investment and Funding

Encouraging cross-border investments fuels the growth of fintech startups across regions. Investors from one region can provide the necessary capital and market access to startups in another, fostering a more interconnected fintech ecosystem. Collaborative investment networks and platforms can facilitate these financial flows and help startups scale more rapidly.

Creating regional fintech funds and accelerators to support the development of promising fintech ventures is highly important. Such funds can pool resources from various countries to provide comprehensive support, including seed funding, mentorship, and market access. Accelerators can offer structured programs to help startups refine their business models, connect with potential partners, and navigate regulatory landscapes.

Talent and Skills Development

Focusing on developing a skilled workforce is crucial for the growth of any sector in the economy. Exchange programs between educational institutions and fintech companies in these regions can enhance the skills and knowledge of professionals. Joint training initiatives can cover a wide range of sectors, with a focus on emerging technologies, regulatory compliance, and market-specific challenges, ensuring that the workforce is well-equipped to drive innovation.

“These regions still have a large unbanked and underbanked population. One of the most compelling opportunities for fintech collaboration lies in addressing these significant portions of people.”

Partnerships between universities, technical institutes, fintech firms, can foster a steady pipeline of talent. These collaborations can include internships, research projects, and curriculum development tailored to the needs of the fintech industry. By aligning educational outcomes with industry requirements, these regions can ensure a continuous supply of qualified professionals ready to contribute to the fintech ecosystem.

Case Studies of Successful Collaborations

One notable example is the partnership between India's Paytm and Japan's SoftBank, which extended its reach to the Middle East and Africa. This collaboration has helped Paytm expand its payment solutions to new markets, leveraging SoftBank’s extensive network and investment capabilities. Another example is the cooperation between Singapore’s Grab Financial Group and Indonesia's Ovo, which has revolutionized digital payments and financial services in Southeast Asia through joint efforts in technology and market penetration.z

These collaborations succeeded due to several factors. Firstly, they involved partners with complementary strengths, such as Paytm's technological expertise and SoftBank’s financial resources and global presence. Secondly, they focused on addressing specific market needs, such as improving payment accessibility in underbanked regions. Thirdly, strong alignment of strategic goals and shared visions among partners fostered seamless integration and mutual support.

Such collaborations highlight the importance of selecting partners with complementary capabilities and shared objectives. Establishing clear communication channels and governance structures ensures smooth coordination. Moreover, leveraging local insights and adapting solutions to meet specific regional needs can significantly enhance the impact and acceptance of fintech innovations.

Future Prospects and Recommendations

To put it straight, the future of fintech collaboration between India, ASEAN, Africa, and the Middle East can become really promising, including serious growth in cross-border partnerships, technology transfers, and investment flows. The increasing convergence of regulatory frameworks and the rise of regional fintech hubs will further accelerate collaborative efforts.

Governments should focus on creating conducive regulatory environments that facilitate cross-border fintech operations. Encouraging public-private partnerships can drive innovation and address infrastructural challenges. Companies should seek strategic alliances with local and international partners to leverage complementary strengths and market insights.

Investors should support regional fintech funds and accelerators to nurture early-stage startups and foster innovation. There are several successful cases, such as the governments of the UAE, Singapore, Hong Kong, and Luxembourg, which have shown that providing friendly policies toward technology benefits not only the country's economy but also fosters startups and innovators to grow and develop even better products.

In conclusion, the collaboration between India, ASEAN, Africa, and the Middle East in the fintech sector presents truly inclusive and immense potential. By addressing common challenges and leveraging shared opportunities, these regions have it all to create a vibrant and interconnected fintech ecosystem that will benefit millions of people. There are dozens of successful case studies that already shown the power of strategic alliances and common visions.

Moving forward, governments, as well as startups and other involved entities will have to continue dialogue, cooperative efforts, and strategic investments will be key to unlocking the full potential of fintech collaboration, driving innovation, and enhancing financial inclusion across these diverse regions.

■

Collaboration Opportunities among FinTech Ecosystems in Asia: A Focus on India and Japan

Mr. Makoto Shibata
Head of FINOLAB & Chief Community Officer, FINOLAB Inc.

Introduction

The financial technology (FinTech) has experienced rapid growth in recent years, with Asia emerging as a significant player in the domain. Within Asia, both India and Japan would offer very interesting case studies due to their unique market dynamics, technological advancements, and regulatory environments. This article is to explore the collaboration opportunities among the FinTech ecosystems in Asia, with a particular focus on these two markets. It covers the current state of FinTech ecosystems in both countries, the potential synergies, and the strategic initiatives that can foster cross-border collaboration. We hope to stimulate the discussion at the Global Economic Summit 2024 to further increase the awareness in both end of the FinTech community.

The FinTech Landscape in India

India's FinTech landscape has evolved rapidly, driven by a combination of technological innovation, regulatory support, and a large population, some of them with limited access to financial services.

Key factors contributing to the growth of FinTech in India include:

- **Digital Payment Systems:** The introduction of the Unified Payments Interface (UPI) has revolutionized digital payments in India. UPI allows seamless, real-time payments across different banks and platforms, significantly boosting the adoption of digital payments.

- **Regulatory Initiatives:** The Reserve Bank of India (RBI) and other regulatory bodies have been proactive in creating a conducive environment for FinTech growth. Initiatives like the Payment and Settlement Systems Act and the establishment of regulatory sandboxes have encouraged innovation.

- **Financial Inclusion:** India has a vast unbanked and underbanked population. FinTech companies have tapped into this market by offering affordable and accessible financial services, such as microloans, digital wallets, and insurance.

- **Technological Advancements:** The widespread adoption of smartphones and the internet has enabled FinTech companies to reach remote areas, providing services like mobile banking, digital lending, and investment platforms.

The FinTech Landscape in Japan

Japan's FinTech ecosystem, though relatively mature, has seen slower growth compared to India. However, it remains a significant player in the Asian FinTech landscape due to its advanced technology infrastructure, accumulation of household assets and supportive regulatory framework.

Key aspects of Japan's FinTech ecosystem include:

- **Advanced Technology:** Japan is known for its technological prowess, particularly in areas like blockchain, artificial intelligence (AI), and cybersecurity. These technologies have been leveraged to enhance FinTech solutions, ensuring high security and efficiency.

- **Regulatory Environment:** The Financial Services Agency (FSA) in Japan has implemented policies to support FinTech innovation. Initiatives like the Regulatory Sandbox Framework allow FinTech startups to test their solutions in a controlled environment.

- **Mature Financial Market:** Japan has a highly developed financial market with a robust banking system. FinTech companies have focused on improving traditional financial services, offering solutions like robo-advisors, digital banking, and blockchain-based payment systems. Moreover, based on the following 3 major national agenda, we expect to see new financial products and services to be generated by both traditional financial institutions and emerging FinTech startups.

- **Aging Population:** Japan's aging population presents unique challenges and opportunities for FinTech. Companies are developing solutions tailored to the elderly, such as simplified digital banking interfaces, fraud prevention technologies and support for dementia.

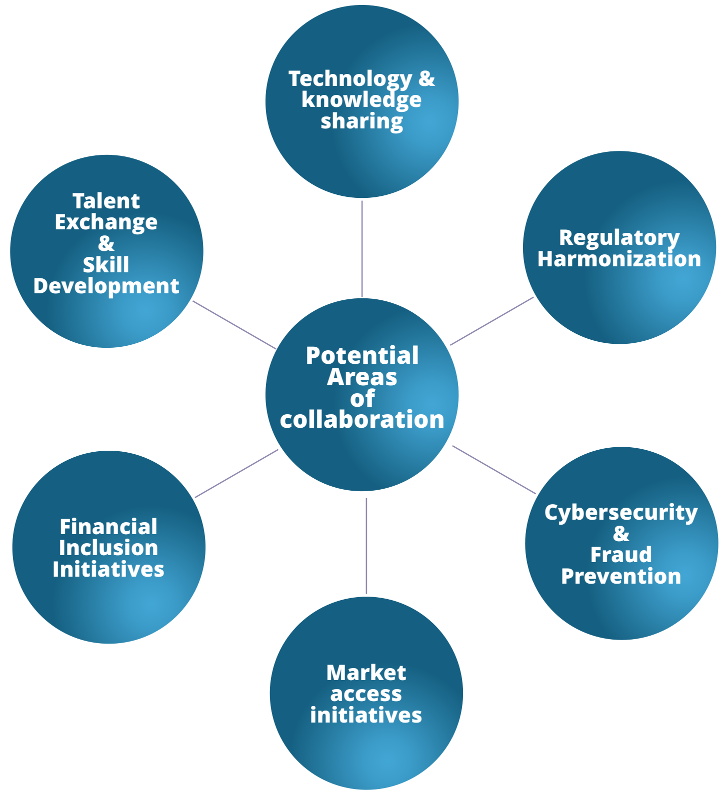
- **Cashless Society:** The use of cash in Japan tends to be high compared with other OECD countries and the Japanese government has been actively promoting a cashless society as part of its economic policy. This includes initiatives to increase the adoption of digital payments through subsidies and incentives.

- **From Savings to Investment:** Japanese tend to have high propensity to save with a limited portion of investment products in household assets. For promoting investment to mid-to-long term asset accumulation as well as a functional conduit of funds to promising businesses, the government has increased tax exemption for NISA, abbreviation for Nippon (Japan) Individual Savings Account in 2024.

Collaboration Opportunities Between India and Japan

The contrasting yet complementary FinTech landscapes of India and Japan offer numerous collaboration opportunities. By leveraging each other's strengths, both countries can enhance their FinTech ecosystems and address common challenges.

Key areas of potential collaboration include:



- **Technology Transfer and Innovation:** Japan's expertise in advanced technologies like AI, blockchain, and cybersecurity can significantly benefit Indian FinTech companies. Collaborations can involve technology transfer, joint research and development, and the implementation of Japanese technological solutions in the Indian market.

- **Market Expansion and Access:** Indian FinTech companies can explore opportunities to expand into the Japanese market, leveraging Japan's mature financial infrastructure. Similarly, Japanese FinTech firms can tap into India's vast and rapidly growing market. Joint ventures and strategic partnerships can facilitate market entry and expansion.

- **Regulatory Harmonization and Best Practices:** Both countries can collaborate on harmonizing regulatory frameworks to facilitate cross-border FinTech operations. Sharing best practices in regulation, such as sandboxes and compliance standards, can create a more favorable environment for FinTech innovation.

- **Financial Inclusion Initiatives:** India's experience in addressing financial inclusion can provide valuable insights for Japan, particularly in developing solutions for underserved populations. Joint projects aimed at promoting financial literacy and inclusion can benefit both countries.

- **Cybersecurity and Fraud Prevention:** With the increasing prevalence of digital financial transactions, cybersecurity is a critical concern. Japan's advanced cybersecurity solutions can be integrated into Indian FinTech platforms to enhance security and prevent fraud.

- **Talent Exchange and Skill Development:** Collaboration on talent exchange programs can help bridge the skill gap in both countries. Joint training initiatives, internships, and academic partnerships can nurture FinTech talent and promote knowledge sharing.

Case Studies of Successful Collaborations

- **Nippon Life Insurance and Reliance Capital:** Nippon Life Insurance, one of Japan's leading insurance companies, acquired a significant stake in Reliance Capital, an Indian financial services company. This collaboration has enabled the transfer of Japanese expertise in insurance to the Indian market, enhancing the quality and reach of insurance products.

- **SoftBank's Investments in Indian FinTech:** SoftBank, a Japanese multinational conglomerate, has made substantial investments in Indian FinTech startups like Paytm and PolicyBazaar. These investments have not only provided financial backing but also facilitated the adoption of advanced technologies and business models in the Indian market.

- **MUFG's Ganesha Fund:** MUFG Bank created Ganesha Fund, to invest in middle- to late-stage Indian startups. They aim to leverage group strengths to provide a wide range of financial services to their portfolio companies.

- **Sony and India's Digital Payments:** Sony has partnered with various Indian digital payment platforms to integrate its advanced security technologies, ensuring secure and efficient transactions. This collaboration has strengthened the digital payments infrastructure in India.

- **FinTech Association of Japan and GIFT City:** India's first operational smart city and International Financial Services Centre (IFSC), GIFT City signed a Memorandum of Understanding (MoU) with the Fintech Association of Japan (FAJ) to strengthen the fintech ecosystem in GIFT City and Japan's fintech community.

Strategic Initiatives to Foster Collaboration

To maximize the potential of collaboration between India and Japan in the FinTech sector, several strategic initiatives can be undertaken:

Bilateral FinTech Forums: Establishing regular forums and conferences dedicated to FinTech collaboration can facilitate dialogue, networking, and knowledge sharing. These platforms can bring together policymakers, industry leaders, and innovators from both countries.

Joint Research and Development Centers: Creating joint R&D centers focused on FinTech innovation can drive technological advancements. These centers can work on developing cutting-edge solutions, addressing common challenges, and exploring new business models.

Government-to-Government Agreements: Bilateral agreements between the Indian and Japanese governments can provide a framework for cooperation. These agreements can cover areas like regulatory alignment, data sharing, and support for joint ventures.

Incubators and Accelerators: Establishing incubators and accelerators that support cross-border FinTech startups can nurture innovation. These programs can offer mentorship, funding, and market access to emerging FinTech companies from both countries.

Educational Partnerships: Collaboration between academic institutions in India and Japan can promote FinTech education and research. Exchange programs, joint courses, and collaborative research projects can enhance the skillsets of students and professionals.

Public-Private Partnerships: Encouraging public-private partnerships can drive large-scale FinTech initiatives. Governments, financial institutions, and FinTech companies can work together on projects that address critical issues like financial inclusion, cybersecurity, and digital transformation.

Conclusion

The FinTech ecosystems in India and Japan, while distinct in their characteristics and stages of development, offer significant opportunities for collaboration. By leveraging their respective strengths and addressing common challenges, both countries can enhance their FinTech landscapes, drive innovation, and create more inclusive financial systems. Strategic initiatives and successful case studies underscore the potential for mutually beneficial partnerships, paving the way for a thriving, interconnected FinTech ecosystem in Asia.

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Collaboration Opportunities between India and Europe in RegTech & FinTech: The Way Forward

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I. Introduction

FinTech: Finance, Technology and Regulation
Cambridge University Press 2024

India's FinTech and RegTech strategies and evolution have been recognized as a global role model. A dedicated group of leading experts and regulators has fundamentally transformed Indian retail and institutional finance through an innovative strategy focusing on digital transformation over the past 15 years. Whenever we speak to policymakers worldwide, we use India as an example of how to establish the necessary underpinnings for success in FinTech and RegTech: bipartisan engagement of experts, regulators, and policymakers, a willingness to push for fundamental change to benefit society—particularly in the context of digital public goods and financial inclusion—combined with patience and consistency.

Every groundbreaking project of this size faces setbacks and problems. The Indian experience has shown how a comprehensive digital identity system, combined with digital access, open access interoperable payments, and high levels of account, mobile money, or digital wallet access, can deliver highly affordable access to finance on an unprecedented scale.

Given this record and the highest growth in financial inclusion globally over the past decade, the question of how India and Europe can cooperate in RegTech and FinTech becomes vital. We highlight our initial vision in this article and seek to learn more about these opportunities during the Global Economic Summit held at the World Trade Center Mumbai from August 8 to 10, 2024.

In Part II we consider the institutional preconditions in Europe that shape opportunities for cooperation. In Part III, we identify topics suitable for cooperation, and sketch modes of cooperation in Part IV. Part V concludes.

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II. Institutional Preconditions in Europe

Europe has a highly developed financial services industry. Nations like Germany and France have thousands of banks and financial institutions. Most people have several bank and payment accounts for their different needs: daily business, investments, pension savings, insurance, and mortgages for residential and commercial real estate.

At the same time, the large financial centers of Europe, namely Frankfurt, Ireland, Luxembourg, and Paris, provide the full range of cutting-edge services for commerce and retail. For instance, the Grand Duchy of Luxembourg hosts the second-largest investment fund center in the world, with Luxembourg products being well-recognized globally for their stability and resilience, under the oversight of an effective regulator. Additionally, Luxembourg has developed into a European payments and insurance hub. The European banking system often runs on legacy technology yet manages to deliver for people and commerce alike.

III. Topics for Cooperation

1. Technical Literacy and Technological Change

India has achieved its utterly remarkable progress in financial inclusion with a revolutionary data-driven digital infrastructure strategy. We characterise this as a RegTech approach that took hundreds of millions of retail clients into the digital age: using technology to support the functioning of the financial system. Europe went through a similar process in the 2010s, albeit without a comprehensive strategy of the sort adopted in the context of India Stack.

Future of Data-Driven Finance

One area in which Europe is in dire need of a solution lies in digital agents replacing human ones. So far, this trend has been driven by most financial institutions focusing on cost cutting, but the consequences have been severe for the elderly and other marginalized populations. Artificial Intelligence and the embedding of human-like user interfaces could help many of the currently digitally excluded members of Europe's aging society retain their participation in economic and social life. Given India's experience with technology and technological change, I expect India can teach Europe a lot about how to manage technological change and how technology can deliver services previously delivered by human agents.

2. Datafication of Sustainable Finance

EU financial regulation is undergoing fundamental change in pursuit of a sustainable financial system. This includes the embedding of a classification system which is based on broad, newly generated data, including but not limited to the emission of green-house gas emissions, biodiversity, water quality, waste recycling, corruption, gender balance, and many more data points on environmental and social factors. This is accompanied by entirely new sustainability data reporting standards developed by EU regulators. Given reporting will involve the economic activities of every firm, the upshot will be millions of new data points.

Datafication of Sustainable Finance

Financial markets will implement this groundbreaking regulatory approach as a datafication project. Once these data are generated, the development of new finance models, the detection of previously unknown correlations, and the evidence about the impact of this regulatory approach will take center stage.
Given the capacity of the Indian ecosystem to deliver datafied solutions, the sustainable finance datafication project is one where FinTech and RegTech innovation, learning from India's experience, will be highly welcome.

3. TechRisk Oversight and Management

Cybersecurity is currently posing wide-spread concerns globally. We understand cybersecurity as a feature with both internal and external elements, and as including rigid tech risk management that addresses technical malfunctions, and the impact of bad actors and normal human frailties on financial institutions.

TechRisk

Cybersecurity is one field where competition across financial institutions is less effective than cooperation. In this regard, it could be really helpful to expand the existing working groups on cybersecurity currently moderated by EU regulators to include Indian partners that are focusing on similar risks, in an effort to both increase overall cybersecurity and benefit EU-Indian commercial relations. There are few better ways to understand and come to appreciate each other better, across borders, than to work together on a common challenge.

4. Diversification through Automated Products

Digital Finance Platforms

The one great trend of EU finance is automatization. This has led to lower costs for conventional asset management products, including the global UCITS brand, a diversified retail investment product. Much of the technical delivery of automatization in the form of ETFs, index-based products and automated investment funds comes from Indian service providers and data processors. Yet, as far as we know, most of Indian society – contrary to its large competitors – is yet to benefit from the diversification these products offer in regional and sectoral terms. Some of these products could most usefully supplement more concentrated Indian products, and be characterized by high institutional stability and low currency risk and, due to intense competition, very low costs. We thus think a closer integration of the Indian and EU investment sectors could benefit both economies.

5. Crypto-asset Transaction Tracing

As a consequence of partial anonymity, crypto-assets have been used by criminals across the world. Yet this is ironic as the tamper resistant record created by blockchains running on distributed ledgers actually empowers regulators, with a better understanding of blockchain technology than has been mostly displayed to date, to screen and analyse crypto-assets and thereby better regulate transaction flows.

IV. Modes of Cooperation

1. Regulatory and Supervisory Equivalence

EU Regulation of Digital Currencies

Cooperation in the field of FinTech and RegTech under European law is easier where there is regulatory and supervisory equivalence. Equivalence means that the laws and regulations of India and the EU must have substantively the same objectives and content, and are supervised in substantively the same manner. An equivalence review is undertaken by the European Commission for all EU countries and results in an adequacy statement per sector and activity. For instance, in the fields of derivatives, asset management or banking, India and EU financial relations will be greatly facilitated when India is given an adequacy statement. Once equivalence is confirmed by the European Commission, the regulation and supervision in India will be treated as being of the same quality as in the EU, and cooperation between India and the EU will not require additional safeguards.

Note the equivalence assessment is a legal, not a political, test. Any jurisdiction that shows it has implemented the respective global standards, and supervises them rigorously, will qualify.

2. Data Protection

Beyond financial regulatory equivalence, data protection adequacy will also be crucial for smooth data flows. In this field the EU observes closely the development of Indian data protection laws. The EU's benchmark is, of course, the General Data Protection Regulation (GDPR) which serves as the state of the art for data protection for the benefit of individuals. From the perspective of the GDPR, some elements of the Aadhaar system may be seen as overly intrusive as they result in "glass individuals" where many service providers get access to the full data history of an individual. In that context, requiring consent from individuals as precondition for data processing only provides protection to individuals where these individuals have a true choice, i.e. where the denial of consent still allows for meaningful participation in social and economic life.

The EU is committed to defend their high standards as they represent fundamental human rights from an EU perspective. For instance, the EU has not granted to the US an equivalence assessment with regard to data protection standards in general, but only for U.S. commercial organisations participating in a bespoke data protection framework, the EU-US Data Privacy Framework, that secures EU's individual protection vis-à-vis US data controllers and processors. To facilitate cooperation, we can envision a EU-India Data Privacy framework which also takes into account the emerging data protection framework developed by the Indian Supreme Court.

3. AML/CTF Controls & State Sanctions

Economic cooperation will require substantial Anti-Money Laundering and Counter Terrorist Financing measures, executed by state and private actors. In this regard, to the extent that all transactions are processed through the Aadhar system and the various applications based on it, in theory it should be possible to track the identity of participants in transactions with total accuracy. Confounding elements in this regard may include stolen identities and identities of deceased persons used for illicit purposes.

In this regard, the EU approach to state sanctions could prove decisive. EU state sanctions treat public and private entities that serve to circumvent state sanctions against Russia, Iran and North Korea as bespoke incidents of money laundering. Financial institutions that engage with Russian, Iranian and North Korean entities can be subjected to transaction bans and prevented from participating with EU entities. We would expect that Indian institutions with close ties to Russia, or those that help others to manage such ties, will be put on the sanctions list and banned by the EU's administration. There is some recognition in EU circles that India is seeking to benefit from Russian-Western conflicts, by giving both sides what they want. It will be challenging for Indian financial institutions to enter into stable, close cooperation with EU institutions while also participating in the implementation of India's third way in a multipolar world order.

4. Business Continuity Management and Insolvency Protection

A crucial aspect for FinTech & RegTech cooperation is business continuity and insolvency protection. Contingency plans aiming at ensuring business continuity even in economically dire times or under conditions of technical malfunctions and stress is required under EU financial regulation and the EU's Digital Operational Resilience Act. For that reason, we expect EU partners to focus on business continuity.

Financialization of Crypto

The various crypto insolvencies of the Crypto winter, globally, show again the perils of unregulated financial services for their retail users. Given EU institutions need to secure insolvency protections across all parts of their value chain, thinking through how to assure asset segregation, and how to secure access to relevant data at all times, will be necessary for smooth cooperation.

5. Sustainability

Any cooperation in the field of financial services with EU entities will also require efforts by the service provider to optimize its sustainability footprint. Sustainability in the EU context is a broad church. Beyond climate change and green-house gas emissions, sustainability is understood to comprise good governance (including tax compliance), appreciation of workers' rights and safety, gender equality, social cohesion and inclusiveness, at large.

EU Sustainable Finance Framework

V. Conclusion

FinTech and RegTech today underpin financial innovation. India hosts some of the most advanced digital resources globally, and would thus be a good partner in many ways of the European Union, characterized as it is by high financial inclusion rates, high per capita income, and strong institutional resilience. The Indian services sector has much to offer by way of developing solutions for application in the EU, while India could benefit from the resilience and depth of the European financial services sector. Seizing such opportunities, however, may well require India to adopt regulatory benchmarks and data protection equivalent to the EU's. This could benefit India both by facilitating the future engagement of Indian business in the EU, and by propelling forward India's own sustainability agenda.

India and the European Union could develop close cooperation in many fields of FinTech and RegTech to the benefit of their respective economies. The current political climate creates challenges, however, and we hope these challenges will be overcome either on the political level or by pragmatic actions of the economic actors.

We hope these solutions are identified soon, because seizing future opportunities will require adjustments by everyone involved. With artificial intelligence and quantum computing on the rise, coding and data governance will become commodities and automatized as banking has been automatized and digitized in the last two decades. We expect the trend towards the permanent distribution of global operations to continue, with intelligence centers located in all financial centers for regulators to access using novel RegTech approaches. Under these circumstances, jurisdictions which have established the institutional and regulatory frameworks required for cooperation will be those in which solutions can be developed and from which they can be deployed. With no time to lose, now is the time to begin to work on the prerequisites for lasting EU-Indian cooperation in FinTech and RegTech.

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Emerging Areas of Fintech Cooperation and Policy Coordination Between India and G20 Countries

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India, the third-largest fintech economy in the world, has seen rapid advancements in its digital economic landscape, primarily driven by pioneering Digital Public Infrastructure (DPI) and Digital Public Goods (DPG) initiatives. To emerge as a fintech nation, the Government of India has launched many flagship schemes like the Digital India Mission and Make in India. A greater focus has been placed on building DPIs such as Aadhaar, e-KYC, Aadhaar-enabled payment, UPI, Bharat QR, DigiLocker, e-Sign, Account Aggregator, and the Open Network for Digital Commerce.

The three critical components of India Stack are the Identity Layer, Payment Layer, and Data Governance Layer. These initiatives, such as the Unified Payments Interface (UPI) and Aadhaar, have set the stage for global innovation and demonstrated significant success, providing a model for seamless, low-cost, real-time digital transactions. Under India's G20 presidency, there is a strong focus on promoting DPI and proposing a global fund to support similar efforts in other countries. This leadership positions India as crucial in fostering fintech cooperation among G20 nations.

By addressing key policy challenges and promoting a collaborative ecosystem, India can help shape the global fintech landscape. Critical areas of collaboration include cross-border payment systems, regulatory frameworks, data privacy, financial inclusion, and MSME trade finance. Through these efforts, India aims to create a unified, innovative, and secure global fintech environment that benefits all G20 nations, paving the way for a promising future in the fintech sector.

1. Cross-Border Payment Systems and Digital Currencies

India's UPI has achieved significant international success, facilitating real-time, low-cost payments in countries such as Singapore, Bhutan, and the UAE. This success not only demonstrates India's potential for

> **"Under India's G20 presidency, there is a strong focus on promoting DPI and proposing a global fund to support similar efforts in other countries. This leadership positions India as crucial in fostering fintech cooperation among G20 nations."**

global collaboration but also gives it a unique opportunity to lead the development of a standardized cross-border payment infrastructure. This effort could also explore the implementation of digital currencies, including Central Bank Digital Currencies (CBDCs), to enhance the efficiency and security of global transactions.

While retail CBDC adoption faces challenges, particularly in countries like India with established Digital Public Infrastructure (DPI), the Reserve Bank of India (RBI) is exploring offline modes of digital currencies to increase acceptance. Retail CBDC adoption is a common challenge observed in Nigeria and other nations.

Initiatives like Project Rialto and Project mBridge are addressing these challenges. Project Rialto, spearheaded by the Bank for International Settlements (BIS), aims to enhance cross-border payments using wholesale CBDCs (wCBDC) as a secure settlement asset.

Project mBridge focuses on developing a multi-CBDC platform using distributed ledger technology (DLT) for instant cross-border payments, involving central banks from Thailand, the UAE, China, and Hong Kong, with the recent addition of the Saudi Central Bank. These projects highlight the critical need for interoperability, regulatory compliance, and data privacy in the evolving digital finance landscape. By leading these efforts, India can significantly influence the development of secure and efficient cross-border payment systems and digital currencies.

India is also collaborating with several countries to bring more efficiency to national and cross-border payment systems. The RBI has been collaborating bilaterally with various countries to link India's Fast Payment System (FPS), i.e., UPI, with their respective FPSs for cross-border Person-to-Person (P2P) and Person-to-Merchant (P2M) payments.

Additionally, the RBI has joined Project Nexus, a multilateral international initiative, to enable instant cross-border retail payments by interlinking domestic FPSs, connecting four ASEAN countries (Malaysia, Philippines, Singapore, and Thailand) and India.

2. Regulatory Frameworks and Fintech Innovation

As fintech continues to evolve, establishing regulatory frameworks that foster innovation while ensuring consumer protection is crucial. India has led the way in this regard, creating a dynamic fintech landscape supported by progressive regulations. For instance, the UPI has enabled over 13 billion transactions monthly, a feat made possible by India's forward-thinking regulatory environment, including regulatory sandboxes.

By providing fintech companies with a controlled space to test new technologies and services under regulatory supervision, these sandboxes have played a significant role in promoting innovation without compromising safety. This demonstrates the importance of regulatory support in fostering fintech innovation..

a. Policy Challenges:

- **Regulatory Divergence:** Varying regulations across countries can hinder innovation and create obstacles for fintech firms, particularly concerning KYC and AML requirements. For example, a fintech company operating in multiple jurisdictions may face conflicting requirements for customer verification, which can lead to increased costs and operational inefficiencies. A unified regulatory approach can streamline processes and eliminate redundancies, enabling fintech companies to scale more efficiently across borders.

- **Consumer Protection:** Balancing innovation with consumer safety is complex. For example, India's Personal Data Protection Bill aims to protect user data while fostering technological growth. The challenge lies in creating regulations that protect consumers from fraud and data breaches without stifling innovation. Ensuring consumers are educated about their rights and that security measures are in place is essential to building trust in fintech services.

  India has been successful in this regard, through its regulatory sandboxes which has provided fintech companies with a controlled space to test new technologies and services under regulatory supervision, thus playing a significant role in promoting innovation without compromising safety.

b. India's Role and G20 Collaboration:

- **Develop Regulatory Sandboxes:** India's success with regulatory sandboxes, such as the RBI's initiatives, offers valuable lessons for other G20 nations. These sandboxes have facilitated the exploration of technologies like blockchain and AI, providing a model for global adoption. For instance, projects like the Digital Rupee have been tested within these sandboxes, showcasing India's ability to innovate within a regulated environment.

- **Standardize KYC/AML Regulations:** India's Aadhaar-based e-KYC system has simplified customer verification, helping onboard over 1.3 billion individuals into the formal financial system. India can collaborate with G20 countries to harmonize KYC and AML standards, easing cross-border transactions and reducing compliance costs. This harmonization could lead to a more integrated global financial system, reducing barriers to international fintech operations.

Leveraging India's experience, G20 nations can create a cohesive regulatory environment that promotes fintech innovation and consumer protection. This collaboration has the potential to significantly enhance financial inclusion, drive economic growth, and establish a secure global digital financial landscape. By working together, we can look forward to a future where fintech not only revolutionizes the financial sector but also ensures the safety and security of all stakeholders.

3. Data Privacy and Cybersecurity

As data becomes increasingly vital to fintech operations, robust data privacy and cybersecurity measures are crucial, especially in a large global market like India. The country's significant fintech ecosystem and massive consumer base make adopting the best data protection practices imperative. Several countries in the G20 bloc have established comprehensive data privacy regulations, such as the EU's General Data Protection Regulation (GDPR), the US's California Consumer Privacy Act (CCPA), Brazil's General Data Protection Law (LGPD), and Australia's Privacy Principles (APP). India is also advancing with its Data Protection Bill, establishing a robust legal framework to safeguard data.

India's focus on open banking and open finance, with an expanding digital surface area and fragmented customer data, necessitates a world-class, collaborative approach to data privacy and cybersecurity. This includes adhering to global standards and adapting to unique challenges faced by Indian fintechs and retailers. The emphasis on interoperability and secure data exchange is essential for fostering innovation and maintaining consumer trust.

a. Policy Challenges:

- **Data Localization:** Varying data storage and processing requirements across countries can create significant barriers for international fintech operations. For instance, India's data localization mandates, which require data to be stored within the country's borders, differ from the regulations in other economies.

  While these measures aim to protect national security and consumer data, they can also complicate cross-border data flows. Harmonizing these regulations globally is critical to facilitate seamless data transfer and operational efficiency for multinational fintech companies.

- **Cybersecurity Threats:** The increasing complexity and frequency of cyber threats present a significant challenge. For example, the rise in ransomware attacks and data breaches has put immense pressure on fintech companies to enhance their cybersecurity measures.

  Coordinated global responses are necessary to tackle these threats effectively. Indian fintechs must prioritize advanced threat detection and response strategies, ensuring they stay ahead of potential attacks while managing a complex regulatory landscape.

b. India's Role and G20 Collaboration:

- **Global Data Protection Frameworks:** India's advocacy for global standards that balance privacy with business needs is essential. Aligning its Data Protection Bill with regulations like General Data Protection Regulation (GDPR) can help establish a harmonized framework for cross-border data flows, ensuring consumer privacy is protected. This alignment is not just a matter of compliance but a strategic necessity in a data-driven world where consumer trust is crucial for the success of fintech operations.

  For instance, India's efforts to introduce a Personal Data Protection Bill reflect a commitment to global data protection norms, ensuring that businesses operating in India can seamlessly integrate with international markets.

- **Cybersecurity Cooperation:** India has the potential to lead global efforts in sharing best practices and coordinating responses to cybersecurity threats. By collaborating with G20 nations, India can help establish a unified cybersecurity approach, including international task forces and information-sharing platforms.

  This collaboration can be instrumental in mitigating the risks associated with the growing digital landscape, providing a secure environment for innovation in fintech. For example, India's involvement in global cybersecurity exercises and its partnership with international organizations can set a precedent for other emerging markets.

By building on these frameworks, India can contribute to establishing a cohesive global standard for data privacy and cybersecurity. This approach will protect consumers, foster trust, and support the growth and innovation of fintech operations worldwide.

As India's digital economy expands, a secure and interoperable global fintech ecosystem will be vital to its sustained development and integration into the international financial system.

4. Financial Inclusion and Digital Literacy

Fintech has the potential to significantly enhance financial inclusion by providing access to financial services for underserved populations. However, true financial inclusion extends beyond mere access; it involves equipping individuals with the knowledge to make informed financial decisions. A comprehensive approach integrating financial literacy is crucial for ensuring people understand the benefits and risks of financial products. India's proactive approach, led by the

RBI, emphasizes financial inclusion, consumer advocacy, and financial literacy. In partnership with G20 nations, India can play a pivotal role in advancing these efforts globally.

a. Policy Challenges:

- **Digital Divide:** A significant challenge worldwide is ensuring that all population segments can access digital financial services, regardless of location or socioeconomic status. For example, in India, while urban areas boast an internet penetration rate of over 67%, rural areas lag at approximately 31%.

  This disparity poses a significant barrier to digital financial inclusion, as many rural inhabitants lack access to the internet, preventing them from utilizing digital financial services like UPI. In contrast, developed countries may focus on ensuring that even those with access are educated about the full spectrum of available services.

- **Financial Literacy and Awareness:** Access to financial products alone is insufficient if consumers lack the knowledge to make informed decisions. For instance, a survey in India revealed that only 24% of the population is financially literate, despite the widespread adoption of digital payment platforms like UPI, which processed over 7 billion transactions in October 2021 alone.

  In Madhya Pradesh, while 61% of people use digital payment services, only 27% are financially literate, highlighting the critical need for comprehensive financial education. This gap underscores the importance of educating individuals on managing finances, understanding credit, and making informed financial choices.

b. India's Role and G20 Collaboration:

- **Promote Inclusive Fintech Solutions:** India has led in deploying inclusive fintech solutions. The UPI is a prime example, facilitating over 14 billion transactions worth approximately INR 10.2 trillion (around USD 135 billion) in March 2022 alone. UPI's success demonstrates how digital payment systems can be scaled to include vast population segments, including the unbanked.

  India's microfinance sector has also reached over 59 million clients, offering them access to credit and other financial services. The RBI's initiatives, like the "RBI Kehta Hai" campaign, have also played a pivotal role in educating consumers about safe banking practices, fraud prevention, and the importance of financial literacy.

- **Develop Digital Literacy Programs:** India, in collaboration with G20 countries, can develop comprehensive digital literacy initiatives. A notable recent example is the "Digital Literacy Week" launched by the Ministry of Electronics and Information Technology (MeitY) in 2023. This initiative aimed to educate citizens on safely using digital platforms, with a particular focus on digital financial services, cybersecurity, and personal finance management.

  Such programs are essential for reducing the risk of fraud and empowering individuals to make informed financial decisions. However, to achieve a broader impact, a leapfrog approach akin to the success of initiatives like the Jan Dhan Yojana and Aadhaar is needed. This approach should emphasize digital literacy from the grassroots level, including school education, and extend to fostering entrepreneurship, ensuring a more digitally inclusive society.

c. Redefining Financial Inclusion

The definition of financial inclusion must evolve to encompass access to financial products and the knowledge and confidence to use them wisely. This requires a policy framework that addresses the unique challenges of both developing and developed countries. In developing regions, the focus may be on expanding essential financial services and digital infrastructure, while in developed areas, the emphasis could be on enhancing financial literacy and understanding complex financial products.

G20 nations can create a more inclusive financial ecosystem by addressing access and education. India's diverse experiences and fintech innovations make it a critical player in this global effort. Through collaborative initiatives, India and G20 countries can ensure financial inclusion is accompanied by financial literacy, empowering individuals worldwide to make informed and beneficial financial decisions.

5. MSME & Trade Finance

Micro, Small, and Medium Enterprises (MSMEs) are vital to the economies of G20 countries, yet they often face challenges in accessing finance, especially for trade-related activities. Fintech innovations are helping bridge this gap by offering tailored products and services, such as supply chain finance, invoice discounting, and digital trade finance platforms. For example, initiatives like China's WeTrade platform and Singapore's Networked Trade Platform provide digital solutions for cross-border trade financing, including bill discounting and supply chain finance. These platforms enhance liquidity, offer more accessible credit, and reduce the time and cost of international trade transactions, making MSMEs more competitive.

a. Policy Challenges and Opportunities:

- **Regulatory Harmonization:** Beyond differing KYC and AML compliance requirements, another significant challenge is the inconsistent implementation of data privacy laws across G20 countries. For example, the EU's General Data Protection Regulation (GDPR) imposes strict data protection standards, while other regions may have less stringent regulations. This lack of harmonization can create complexities for fintech companies offering trade finance solutions, as they must navigate varying legal frameworks. Harmonizing these regulations, particularly around data privacy and digital signatures, can streamline processes, allowing fintech companies to operate more efficiently across borders. For instance, establishing common electronic invoicing and trade documentation standards can significantly reduce administrative burdens.

- **Cross-Border Payments:** Efficient cross-border payment systems are essential for supporting global trade. Platforms like the SWIFT GPI (Global Payments Innovation) and blockchain-based systems like Ripple have made cross-border payments faster, more transparent, and cost-effective. However, there is a need for a coordinated policy approach to ensure these systems are interoperable and comply with international standards. For instance, adopting common messaging standards like ISO 20022 can facilitate smoother transactions and integration across different payment networks. Encouraging the adoption of such digital payment solutions can further enhance the efficiency of global trade finance.

b. India's Role and G20 Collaboration:

India's thriving fintech sector positions it to lead initiatives in developing standardized frameworks for MSME and trade finance. India's experiences with innovative trade finance solutions, such as the Trade Receivables Discounting System (TReDS) and flow-based credits, serve as valuable examples for other G20 countries. TReDS, for instance, has facilitated over INR 75000 crore (approximately USD 9 billion) in transactions and is growing 80-100% yearly, providing MSMEs with a platform to access working capital by discounting trade receivables.

By sharing best practices and collaborating with G20 partners, India can help establish a cohesive global regulatory environment that supports MSME growth and facilitates international trade. India's proactive regulatory approach, including initiatives like the "RBI Kehta Hai" campaign, further exemplifies its commitment to consumer advocacy and financial literacy.

To unlock the full potential of MSME and trade finance, G20 countries should focus on creating policies that foster innovation and remove barriers to cross-border finance. This includes harmonizing regulations, improving cross-border payment systems, and promoting digital financial products tailored to MSMEs. By doing so, G20 nations can open up new business opportunities, promote economic growth, and strengthen global trade networks, as demonstrated by successful initiatives in countries like China, Singapore, and India.

Conclusion

Advancements in fintech and collaborative efforts among G20 countries present a unique opportunity to reshape the global financial landscape. India's digital public infrastructure leadership and innovative fintech solutions provide a blueprint for fostering a more inclusive, efficient, and secure financial ecosystem. By addressing key policy challenges such as cross-border payment systems, regulatory frameworks, data privacy, financial inclusion, and MSME trade finance, G20 nations can build a cohesive environment that promotes growth and innovation.

The journey towards a unified global fintech ecosystem is complex but essential. It requires harmonizing regulations, enhancing digital literacy, and ensuring robust cybersecurity measures. India's experience and initiatives, such as UPI, regulatory sandboxes, and digital literacy programs, offer valuable insights that can benefit all G20 countries.

By working together, we can create a financial world where innovation thrives, access to financial services is universal, and consumer protection is paramount. As we move forward, it's crucial to remember that "Fintech innovation is not just about technology; it's about creating opportunities for all, ensuring that no one is left behind in the digital age."

■

The Transformative Power of Emerging Technologies in Revolutionizing BFSI in India

Mr. Ashish Singhal
CEO – Indian Banks' Digital Infrastructure Company

Introductions

The banking, financial services, and insurance (BFSI) sector in India has long been the backbone of the country's economy, supporting both businesses and individuals through various financial products and services. Traditionally, this sector relied on manual processes and conventional methods, often leading to inefficiencies and customer dissatisfaction. However, the advent of emerging technologies has ushered in a new era of transformation, revolutionizing the way the BFSI sector operates. This narrative explores the journey of the BFSI sector in India as it embraces technologies such as Artificial Intelligence (AI) and Machine Learning (ML), Blockchain, Robotic Process Automation (RPA), and the Internet of Things (IoT).

The Advent of Artificial Intelligence and Machine Learning

The introduction of AI and ML marked a significant shift in the BFSI sector. Initially, these technologies faced skepticism, primarily due to concerns about data privacy and high implementation costs. However, their potential to revolutionize banking operations and enhance customer experiences soon became evident.

AI involves creating systems capable of performing tasks that typically require human intelligence, while ML enables these systems to learn from data and improve over time. In the BFSI sector, AI and ML first made their mark in fraud detection and customer service. Banks like HDFC and ICICI adopted AI chatbots to handle customer queries and complaints, significantly reducing response times and increasing customer satisfaction. These chatbots, always available, provided personalized recommendations, thereby improving customer engagement and loyalty.

Fraud detection and risk management also saw substantial improvements with AI and ML. By analyzing transactional behaviors, AI systems could identify deviations and flag potentially fraudulent activities. For instance, Axis Bank implemented AI to monitor transactions, allowing them to detect and prevent fraudulent activities effectively. This proactive approach not only safeguarded customers' funds but also enhanced the bank's reputation for security.

> **"Fraud detection and risk management also saw substantial improvements with AI and ML where AI systems could flag potentially fraudulent activities by analyzing transactional behaviors."**

The credit scoring and loan processing landscape also underwent a transformation with AI and ML. Traditional credit rating systems often excluded individuals with low credit standings. However, AI and ML enabled banks to use alternative data sources, such as social media activity and utility bill payments, to assess creditworthiness. Innovative firms like CreditVidya leveraged AI to offer advanced credit scoring solutions, allowing banks to extend credit to a broader customer base

Blockchain - The Revolution in Secure Transactions

Blockchain technology, a decentralized digital ledger that records transactions securely and transparently across multiple computers, entered the BFSI sector with much promise. Its potential to enhance security and transparency was particularly appealing to financial institutions.

Initially, blockchain faced scalability issues and high

> **AI and ML enabled banks to use alternative data sources, such as social media activity and utility bill payments, to assess creditworthiness.**

implementation complexity. Despite these challenges, its benefits quickly outweighed the drawbacks. YES BANK was among the pioneers, launching a multi-nodal trade finance public blockchain solution. This initiative aimed to enhance the issuance of digital invoices and letters of credit, minimizing the risk of fraudulent activities and intermediaries while improving cross-border transaction efficiency.

Smart contracts, another ground-breaking application of blockchain, further revolutionized the BFSI sector. These self-executing contracts with the terms directly written into code eliminated the need for intermediaries, ensuring faster and more secure transactions. The National Stock Exchange of India (NSE) explored using blockchain and smart contracts for trade settlements, streamlining the process and reducing operational risks.

Robotic Process Automation - Streamlining Operations

Robotic Process Automation (RPA) emerged as a game-changer in the BFSI sector, automating repetitive tasks traditionally performed by humans. This technology aimed to streamline back-office operations, improve efficiency, and reduce costs.

IndusInd Bank was among the early adopters of RPA, using software robots to handle tasks such as data input, reconciliation, and report generation. The implementation of RPA significantly cut down operational costs and enhanced efficiency, allowing employees to focus on more strategic tasks.

Customer onboarding, a critical process often plagued by delays and inaccuracies, also benefited from RPA. By automating document verification and data entry, banks could onboard new customers faster and more accurately. This not only improved the customer experience but also ensured compliance with regulatory requirements, reducing the risk of legal issues.

Internet of Things - Connecting the Financial World

The Internet of Things (IoT) brought a new dimension to the BFSI sector, connecting physical devices to the internet to collect and exchange data. This technology enhanced customer insights and streamlined operations, particularly in areas like ATM maintenance.

IoT devices provided banks with valuable data on customer behaviour and preferences. This data allowed banks to offer personalized financial products and services, improving customer satisfaction and loyalty. For example, usage-based insurance (UBI) policies utilized real-time data from IoT devices in cars to calculate premiums, offering customers more accurate and fair pricing.

ATM maintenance and management also saw significant improvements with IoT. Sensors installed in ATMs enabled continuous monitoring of their health, allowing for preventive maintenance and reducing downtime. The State Bank of India implemented IoT to oversee its nationwide network of ATMs, ensuring they remained operational and minimizing customer inconvenience.

Conclusion

The journey of the BFSI sector in India through the adoption of emerging technologies has been transformative. AI and ML, blockchain, RPA, and IoT have collectively revolutionized banking operations, enhancing efficiency, security, and customer satisfaction.

As the sector continues to evolve, these technologies will remain integral to its development, driving continuous improvements and opening new possibilities. The BFSI sector in India stands as a testament to the power of innovation, demonstrating that embracing emerging technologies is essential for thriving in an increasingly digital world.

Call to Action:

As we look towards the future, it is imperative for stakeholders in the BFSI sector to embrace these emerging technologies. Indian Banks' Digital Infrastructure Company invites partners, innovators, and customers to join us in this digital transformation journey. Together, we can harness the power of technology to create a more secure, efficient, and customer-friendly financial ecosystem.

For further insights and collaboration opportunities, visit Indian Banks' Digital Infrastructure Company. Let's innovate, transform, and lead the way in the digital banking revolution.

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Unlocking the Potential of India's FinTech Sector: Emerging Technologies and Strategic Policy Recommendations

Mr. Mihir Gandhi
Partner and Leader
Payments Transformation

Over the last decade, FinTech in India has reshaped the financial services industry. The FinTech sector in India has experienced tremendous growth, with an adoption rate of 87% compared to the world average of 64%. It is expected to reach USD 200 billion in revenue by 2030.

Technological disruption is at the forefront of the FinTech sector. The growth and development of emerging technologies have fostered an ecosystem driving the advancement and expansion of start-ups. This has helped India position itself as a leader in this era of new-age technology

The growth is attributable to regulatory support, nurturing initiatives, and a conducive ecosystem created to promote new solutions in the financial services domain. Several frameworks have aided the development of the FinTech ecosystem in India. The key agenda for promoting FinTech by the regulatory authorities is to drive financial inclusion in India and bring the vast unbanked population under the banking umbrella.

Some of the emerging technologies shaping India's FinTech sector are discussed below, along with policy recommendations to promote technological innovation in this sector.

I. Embedded Finance

Embedded Finance (EmFi) is taking digital transformation in India to the next level, where customers can access a range of financial products as part of their digital transaction journey, with minimal to no interaction with the manufacturers/providers of the products. The most prevalent use cases of embedded finance in the financial services landscape in India include:

- Embedded payments (online payment options at points of consumption)

> **"Regulators may consider providing Account Aggregator data access to EMFi through centralized databases to facilitate easier credit access."**

- Embedded insurance (real-time bundling of insurance at points of consumption)
- Embedded investments (API-based integrations into investment and/or brokerage platforms)
- Embedded cards (cards-as-a-service offering)
- Embedded lending (BNPL at points of consumption)

A. How EmFi is Shaping the FinTech Sector:

- **New revenue streams:** By integrating financial services, businesses can diversify their revenue streams. For example, non-financial services businesses may capitalize on their current infrastructure, data, and customer base to offer financial services products, thereby increasing revenue through sourcing and distribution and enhancing customer experience and loyalty.
- **Partnerships and collaborations:** FinTech start-ups and established financial institutions can work together to offer cutting-edge and customized financial solutions. These partnerships promote an ecosystem that accelerates market growth, provides a better customer experience, and improves customer stickiness. Embedded finance products have greatly benefited from the proliferation of digital financial services and their increased consumption.

B. Key Regulatory Considerations/ Policy Recommendations:

- **Account Aggregators (AA) access:** Account Aggregators act as intermediaries between financial institutions and users who want to access financial data from these institutions while ensuring compliance with regulatory requirements. They are relevant as they provide data access and integration by securely fetching and integrating data from multiple financial sources into the EmFi platform.

  In the Indian context, only regulated entities from four financial sector regulators (RBI, SEBI, IRDAI, PFRDA) are allowed to access data from the AA network. This data is leveraged largely to make credit easily and formally accessible to customers. Regulators should consider providing such data access through centralized databases to EmFi players offering credit-like products.

- **Fraud and risk management:** To prevent fraud, money laundering, and cyberattacks, regulators may consider establishing relevant measures by implementing real-time monitoring and reporting mechanisms. Further, regulators may consider creating frameworks to evaluate unique risks associated with EmFi and manage those risks accordingly.

- **Interoperability and standards:** It is crucial to consider establishing interoperability and common regulatory standards across multiple industries to enable seamless integration of financial services into existing non-financial services offerings. To ensure a smooth and secure customer experience, regulators can play a role in fostering partnerships and establishing sector-wide standards while ensuring the viability and scalability of the business model.

> **"To ensure a smooth and secure customer experience, regulators can play a role in fostering partnerships and establishing sector-wide standards while ensuring the viability and scalability of the business model."**

II. Open Banking/Open Finance

Similar to EmFi, which focuses on integrating financial services directly into other platforms to enhance user experience and streamline processes, Open Banking/Finance primarily revolves around providing access to financial data and services through APIs to create new financial tools and services.

Open Banking refers to the exchange of data and services between financial institutions (like banks) and third-party providers (TPPs). It allows for easier access to transaction data through open APIs and is primarily focused on banking data.

Open Finance goes beyond banking data and covers your entire financial footprint. It includes data related to pensions, taxes, insurance, and other financial services and encompasses a wider range of financial services.

The policy recommendations for Open Banking/ Finance are similar in nature to those of EmFi.

III. Offline Payments

Offline payments refer to transactions that can be conducted without the need for real-time network connectivity. They become an important tool to service areas with little or no internet connectivity. This not only has the potential to increase the reach of digital payment services but also streamlines payment workflows by eliminating issues like transaction timeouts and patchy networks, especially during transit payments, in-flight payments, toll payments, etc.

A. How Offline Payments are Shaping the FinTech Sector:

Offline payments have been instrumental in shaping India's fintech sector by expanding access, enhancing infrastructure resilience, fostering innovation, and promoting financial inclusion across diverse demographics and geographical areas.

- **Accessibility and inclusion:** Offline payment methods like USSD (Unstructured Supplementary Service Data) and NFC (Near Field Communication) cater to reaching the unbanked and underbanked populations, many of whom may not have consistent access to the internet or digital networks, by enabling transactions without constant internet connectivity.

- **Bolstered digital payments infrastructure:** The development of offline payment solutions has bolstered India's digital payments infrastructure. Systems like the Unified Payments Interface (UPI) have incorporated offline modes, ensuring robustness and continuity of service even in areas with intermittent network coverage.

> **"The regulator may evaluate increasing the transaction limit to further increase the adoption of digital payments in areas with limited connectivity."**

- **Increased merchant acceptance:** Offline payment methods have increased merchant acceptance of digital payments. Merchants in remote or low-connectivity areas can accept payments through QR codes or NFC-enabled devices without relying solely on internet connectivity.

- **Improved innovation and competition:** FinTech companies are innovating to create more robust offline payment solutions, fostering competition and driving technological advancements in the sector, benefiting both consumers and businesses by improving the efficiency and security of transactions.

B. Policy Recommendations:

The Indian government has supported the adoption of offline payment technologies as part of its financial inclusion agenda. Initiatives like Bharat QR and Aadhaar-enabled Payment System (AEPS) promote the use of digital payments in rural and urban areas alike. Some policy recommendations include:

- **Increasing the current transaction limits:** As of July 2024, the transaction limit for offline payments is restricted to Rs. 2000. The regulator may evaluate increasing the transaction limit to further increase the adoption of digital payments in areas with limited connectivity.

- **Standardization of technology:** Establish clear standards and protocols for offline payment technologies such as NFC, QR codes, and USSD. This would ensure compatibility and ease of implementation across various stakeholders, including merchants and consumers.

- **Regulatory support:** Provide regulatory support to encourage innovation and investment in offline payment infrastructure. This includes clear guidelines on security standards, data privacy, and consumer protection to build trust among users.

- **Partnerships and collaboration:** Encourage partnerships between fintech companies, banks, telecom operators, and government agencies to jointly develop and deploy offline payment solutions. Collaborative efforts can leverage expertise and resources to address technical challenges and scale implementation.

- **Research and development:** Allocate funds for research and development in offline payment technologies to continuously innovate and improve the efficiency, security, and user experience of these solutions.

IV. CBDC Based on DLT

The Reserve Bank of India (RBI) has defined Central Bank Digital Currency (CBDC) as the legal tender issued by a central bank in digital form. It is the same as fiat currency and is exchangeable one-to-one with fiat currency. India's G20 2023 Roadmap broadly deals with factoring an international dimension into the CBDC design, which includes stocktaking and analysis of different CBDC designs, development of options for access or interlinking, and design, study, and dissemination.

A. How CBDC is Shaping the FinTech Sector:

- **Financial inclusion:** CBDC can boost financial inclusion by providing a digital currency that can be accessible to all, including those without a fully functional bank account or access to traditional banking services. FinTech companies can leverage this accessibility to reach new customer segments and offer them financial products tailored to their needs.

- **Enhanced efficiency in payments:** DLT-based CBDC can streamline payment processes by enabling faster and more efficient transactions. This efficiency is crucial in a country like India, where digital payments are rapidly growing but still face challenges related to speed and reliability. Furthermore, there is no compromise to security while enhancing efficiency.

- **Enhancing efficiency in financial markets:** CBDC can improve the efficiency of financial markets through Delivery vs Payment (DvP) by enabling real-time settlements and reducing counterparty risks. FinTech innovations such as decentralized finance (DeFi) platforms can utilize CBDC to create new financial products and services.

- **Supporting smart contracts and programmable money:** CBDC based on DLT can support programmable money through smart contracts. This enables automated, self-executing contracts that can be leveraged in various financial processes such as lending, insurance, and trade finance.

- **Cross-border transactions:** DLT-based CBDC can benefit India's international trade and remittances. This can reduce reliance on traditional correspondent banking and associated costs. Another major advantage is the continuous availability of a blockchain-based network that enables cross-border transactions to be initiated and settled at any time.

B. Policy Recommendations:

- **Digital infrastructure development:** Infrastructure facilitation will play a key role in CBDC/DLT innovation in India because of the high cost of setting up the physical hardware required to support the processing usage of DLT. Regulatory bodies should support the setup for this infrastructure to promote innovation in CBDC & DLT.

  For example, the Indian Banks' Digital Infrastructure Company (IBDIC) is one such consortium expanding its role into supporting CBDC-based infrastructure for banks and FinTech companies.

- **Data privacy and security framework:** A robust data privacy and security framework is crucial for CBDCs. To prevent double spending or identity theft, a reliable validation mechanism is essential.

  However, one of the primary concerns is maintaining users' privacy while allowing selective data use by authorized entities, such as end-user services and law enforcement agencies combating illegal activities. Therefore, regulatory bodies should ensure anonymity in CBDCs. This approach not only protects individual privacy but also strengthens the overall security of the digital currency ecosystem.

- **International cooperation:** The central bank may consider allowing foreign entities to hold accounts or/and transact in the domestic CBDC. It may require close consideration of technical scalability and throughput, security, and regulatory and compliance issues related to overseas accounts, domestic capital controls, capital flows, foreign exchange policies, and compliance.

- **Introduce newer use cases for unique features of CBDC:** As the landscape of digital currencies continues to evolve, policymakers and industry stakeholders must explore innovative use cases for retail CBDCs that set them apart from existing digital payment options and drive mass adoption. These recommendations underscore the transformative potential of CBDCs in modernizing financial systems and promoting economic inclusivity.

While multiple use cases can be built on top of the CBDC, a few prominent options are discussed below:

- **Programmable payments:** CBDCs can implement smart contracts, which are programs stored on a blockchain that run when predetermined conditions are met, allowing for automation. For example, pre-programmed CBDC could be issued for LPG subsidies as direct benefit transfers (DBT).

- **Offline payments:** CBDC transactions can also be done offline, serving as an additional option for transactions in case of no internet. It is useful to understand that technologies such as NFC could assist in proximity transactions, whereas, for non-proximity transactions, the possible technology could be telecom-based.

- **Cross-border remittances:** The central bank may evaluate allowing transactions to occur between domestic and foreign CBDCs, which could involve enhancing the compatibility of the CBDCs, interlinking them, or integrating them into a platform like mCBDC, NEXUS, or SWIFT.

  For this, technical interoperability is necessary in various ways, including common messaging and data standards, legal and regulatory compatibility, and integration through an interoperable link where CBDC infrastructures combine their functions.

Conclusion

Emerging technologies are shaping India's fintech sector, offering unprecedented opportunities for technological innovation and financial inclusion. As India continues to embrace advancements in technologies such as those discussed above, policymakers play a crucial role in fostering an enabling environment.

Policy recommendations include establishing robust regulatory frameworks that balance innovation with ease of use for consumers and security to ensure trust and resilience. India can harness the transformative power of emerging technologies to propel its fintech sector by nurturing collaboration between various stakeholders, providing incentives, and supporting research and development initiatives.

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India's Digital Public Infrastructure Powering Democratization of Financial Services

Mr. Thampy Koshy
Managing Director
ONDC

Financial inclusion encompasses many dimensions but beyond Banking and Payments, most financial services are under-represented in India. While the top 1% are well-served, the remaining 1.3 billion people are often digitally and financially underserved or unserved. Many financial services are either manual or, at best, "phygital" (physical and digital). The involvement of manpower increases unit costs, raising minimum ticket sizes that are unsuitable for most of the population. This limits access and also overlooks a substantial market opportunity. Additionally, the lack of standardized Application Programming Interfaces (APIs) and processes, complicates integration between suppliers and distributors. The reliance on bilateral deals and integrations drives up costs, particularly for smaller players, sustaining rigid, often inefficient practices.

Players achieving scale often struggle to adapt and create new products for underserved segments. UPI has showcased the transformative impact of digital access when entry barriers are lowered. It's time to inject some innovation into the system, especially in credit, investments, and insurance. India's Digital Public Infrastructure are addressing the challenge of democratizing financial services in the country. In this context, ONDC plays a crucial role by integrating other digital public goods like Aadhar (ID layer), UPI (payments layer), Account Aggregator (data layer), DigiLocker, and eNACH/eSign. Together, these components deliver sachetized financial products and services to underserved populations. Businesses leveraging these digital rails are poised to become tomorrow's leaders.

In essence, ONDC's role is to create markets for sellers and offer more choices for buyers by:

- Establishing networks to facilitate low-cost distribution of financial products and services.
- Driving network discipline to ensure an inclusive and fair marketplace.
- Creating a technology environment that fosters innovation through both competition and collaboration.

This approach will benefit consumers, by offering more cost-effective financial products. Over time, financial inclusion and access to credit will drive income generation, investment opportunities will foster wealth creation, and insurance availability will provide protection against economic shocks. The elegance of ONDC's framework lies in its ability to integrate financial services where transactions occur. Digital enablers serving customers or businesses can offer embedded financial services, creating new revenue streams and enhancing customer loyalty. For example, embedded credit can increase Gross Merchandise Value for e-commerce, benefiting both buyers and sellers. For creators of new and innovative financial products and services, ONDC unlocks low integration and operational costs, paving the way for new use cases and markets.

Early adopters have already demonstrated the potential by delivering basic unsecured loans to borrowers in under ten minutes through the ONDC network. Soon, we will be able to support use cases previously deemed unimaginable. For instance, an auto-rickshaw driver could rent an auto, purchase gas with an ONDC-powered loan, earn through ONDC-powered ride-hailing apps, and repay the loan on the same day while keeping the profits. Similarly, a housewife in Delhi could purchase a Kanjeevaram sari or Tanjore painting from the south. Sellers could buy marine (transit) insurance on the fly, ensuring goods are protected before reaching the customer—all facilitated by ONDC.

Imagine a villager in India investing in mutual funds with Rs. 100 sachets. By using services like Google, this villager could become a global shareholder, participate in India's growth, and build retirement savings.

We are optimistic that ONDC will shape a future where more opportunities are created for manufacturers, demand generators, and consumers alike.

■

India's Journey Towards Open Finance: The Role of Account Aggregators

Mr. BG Mahesh
CEO
Sahamati

Introduction to Open Finance: India's Distinctive Approach

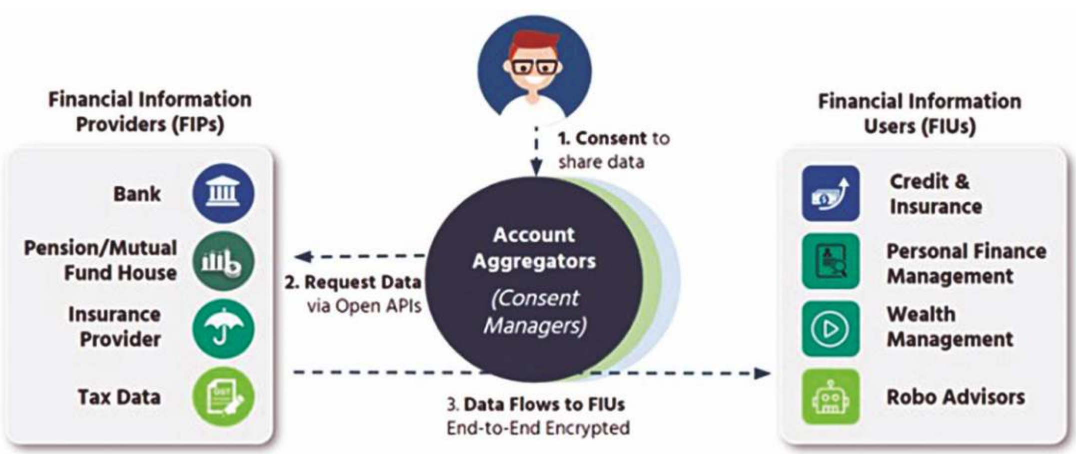
Open finance has emerged globally as one of the most powerful frameworks for giving customers and enterprises control over their data, enabling them to improve their access to financial services and overall financial well-being. Various reports suggest that more than 40 jurisdictions worldwide are implementing various forms of open finance, ranging from fundamental open banking (including open payments) to more diverse open finance and open data initiatives.

India's unique Digital Public Infrastructure (DPI)-led approach to building the India Stack, including its work on strengthening the data layer, has been studied by industry experts worldwide. The DPI approach involves using simple open tech standards and technology-driven solutions to build user-centric and scalable solutions that can potentially touch the lives of the masses.

With these principles set, the Reserve Bank of India (RBI) introduced regulations for specialized consent managers under the NBFC-AA license, with a charter to manage consent and enable end-to-end encrypted and consented data flows between Financial Information Providers (FIPs) and Financial Information Users (FIUs).

> **The AA framework facilitates easy access to financial products and services for everyone, empowering individuals and enhancing their financial well-being.**

India's approach to Open Finance is characterised by several key features: it employs a market-driven strategy, is limited to Regulated Entities (REs), and follows a "user-centric" model to foster a culture of trust and convenience in data sharing. Unbundling consent management from consumers of data as well as providers of data has been designed to ensure innovation, wide customer reach, limited conflict of interest, and facilitate



customers to track, review, and manage consents. The design has been borrowed from a similar successful implementation in UPI (Unified Payments Interface), with TPAPs (Third Party Application Providers) taking an important role in driving customer-centric adoption and usage of open payments.

The data protection landscape around the globe can be characterized as "custodian-centric," with data scattered across silos, resulting in fragmentation, inconsistencies, and significant barriers to seamless data sharing. This setup particularly disadvantages individuals and small businesses, who struggle to access and leverage their own data for financial planning or growth. As a result, they miss out on opportunities for better services and competitive advantages, highlighting the need for more user-centric data-sharing frameworks.

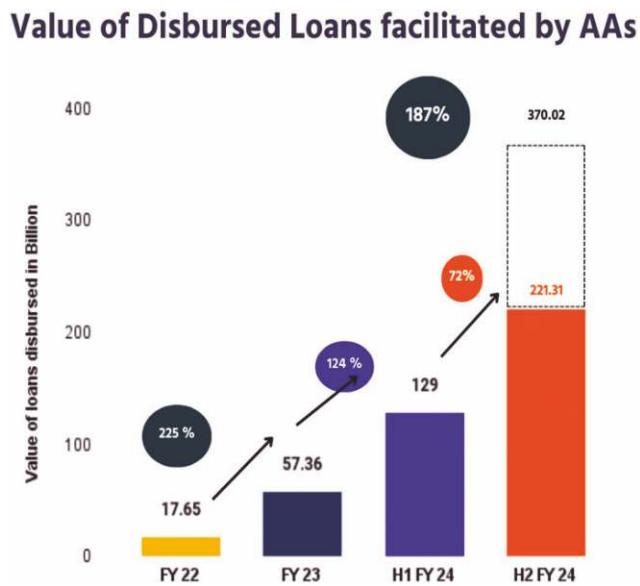
The AA framework facilitates easy access to financial products and services for everyone, empowering individuals and enhancing their financial well-being. It seeks to establish customers' agency over their financial data via a user-centric framework built on the explicit, informed consent of the customer. The ecosystem provides customers with a convenient, safe, and secure way to access, share, and control the use of their financial data across banking, investment, insurance, pension, and tax systems.

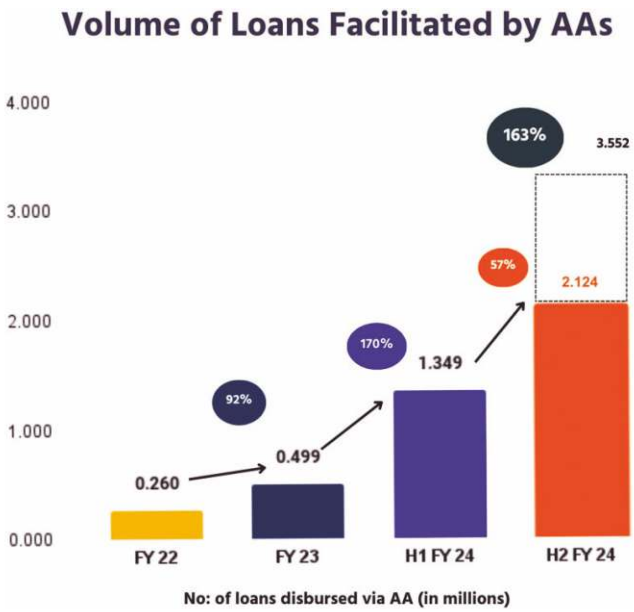
Journey So Far

The Account Aggregator (AA) ecosystem has shown consistent growth and value since its introduction in September 2021. As of 31st May 2024, the number of live **Financial Information Providers (FIPs) has reached 151,** ensuring supply-side readiness. Simultaneously, live **Financial Information Users (FIUs) implementing AAs have reached 440**, indicating a rising demand for using secure and consented

Account Aggregators: Initial Use Cases and Impact

Lending is one of the prominent use cases for AAs. Lending facilitated by AAs has rapidly expanded in both volume and value, particularly over the past year. For FY-24, the value of loans disbursed via AAs amounted to ₹350 billion (₹35,000 crores) disbursed to more than 3.47 million (₹34.7 lakhs). The momentum has picked up significantly in recent months, with approximately Rs 2000 crores worth of loans being disbursed monthly during H2-FY24.





Furthermore, there have been impactful improvements in the loan portfolio of customers as AAs have enabled lenders to extend credit more confidently by making data readily available and reliable. This increase in loan quantum is directly attributed to the improved quality and accessibility of customer financial data. The AA framework also enables lenders to monitor loan performance and identify potential defaults early, allowing for proactive risk management. This reduces overall portfolio risk and enhances loan book quality. The number of recurring consents has also significantly improved monitoring and collection.

Other than lending, Personal Finance Management (PFM) is also emerging as a significant use case of AAs where AAs streamline personal finance management by providing a comprehensive view of all financial data across savings, deposits, investments, and insurance, at one place. PFM providers have innovated tools for cash-flow analysis, budgeting expense planning, to empower individuals to manage their finances more effectively. PFM as a use case has experienced a sharp rise in FY24, with cumulative consents fulfilled reaching 6.9 million, up from 2.24 million cumulative consents registered in FY23.

AAs are set to revolutionise how individuals manage their digital footprints and use it as capital to access financial services at affordable costs in a seamless manner. Potential AA use cases such as a personal balance sheet would equip individuals with comprehensive access to their financial information, allowing them to assess their assets versus liabilities and better manage their finances.

While the initial uptake has been low for pension and insurance, several use cases are expected to emerge as we move forward. The AA Framework is expected to transition these sectors to take a more "data-centric" approach to their product offering and risk management processes. This shift will enable these industries to expand their services to underserved segments, including self-employed individuals, rural populations, and low-income customers, thereby significantly broadening access and inclusivity.

Beyond facilitating digital journeys and personal finance, the AA Framework is expected to support several innovative use cases that can significantly improve the access and last-mile delivery of financial services in India via several emerging models. A few of these could include cash flow-based lending via GST invoices and banking data for MSMEs to get small-ticket loans quickly and efficiently. Another is interoperable passbooks that would allow the rural population to access loans hassle-free through Banking correspondents (Bcs), this approach would also eliminate the need for consumers to visit branches and stand in long queues for basic banking services, such as updating passbooks.

Furthermore, Loan Service Providers (LSP) that act as an agent of FIU working on behalf of one or multiple lenders (REs) are expected to enable real-time finance at the point of sales or delivery. AAs can also be leveraged to monitor the efficacy and impact of government schemes, addressing major concerns for underserved populations and ensuring targeted delivery to those at

“As of 31st May 2024, the number of live Financial Information Providers (FIPs) has reached 151, ensuring supply-side readiness.

As per May 2024, there has been 79.96 Million cumulative successful consent-based data sharing, a notable upswing from 10.52 Million in May 2023.”

Beyond facilitating digital journeys and personal finance, the AA Framework is expected to support several innovative use cases that can significantly improve the access and last-mile delivery of financial services in India via several emerging models.

the bottom of the pyramid. These advancements will further enhance the efficiency of last-mile financial services delivery, ultimately empowering individuals with their "digital capital."

Way Forward

The development of the data layer through Account Aggregators represents a significant move towards the adoption of Open Finance in India. However, as we move forward, there are risks that can come up with the scale-up and have to be mitigated with an extremely strong governance-led implementation of the AA standards along with continuous evolution of the security standards and consumer protection guidelines.

Likewise, the widespread adoption of open finance should ideally be coupled with the implementation of robust data protection and privacy laws. To mitigate these risks India has already embarked on a journey by introducing the DPDP Act 2023. The legislation that aims to protect individuals' privacy and address these challenges head-on, setting a strong foundation for a secure digital future.

Another aspect of the AA framework that is key in scaling up the ecosystem in the years to come is the effective implementation of interoperability. AA has been built on federated interoperability, as per which there are multiple AAs for the consumer to choose from, each operating on standard technical standards, encryption norms and data schemas.

Federated interoperability provides complete choice to the customer to select their consent manager and mitigate the risk of a single point of failure for a sensitive, nationwide infrastructure for individuals' and enterprises' data. While technical interoperability has been achieved via technical standards, collaborative e orts between FIPs-AAs and FIUs-AAs will enable the ecosystem to implement efficient interoperability with respect to legal and commercial agreements, IT compliance and other shared techno-legal services.

Industry participants have already come together under the aegis of Sahamati to put together a self-regulatory, participatory layer of governance defining best practices and codes of conduct with consumer protection at its core. Sahamati, a Section 8 company, is working as an industry alliance for the AA Ecosystem to put in place all enablers for the healthy growth of the AA Ecosystem through advocacy, shared techno-legal services and building a layer of participatory governance in the AA Ecosystem

Today, India is at the forefront of the global adoption of Open Finance, paving the way for transformative changes in data-sharing practices worldwide. India's strategic advantage in open finance lies in its status as a data-rich nation, this unique position enables the country to leverage its vast data resources to pioneer new avenues for credit and financial services access, thereby significantly advancing financial inclusion nationwide.

Similar to initiatives such as RBI's "RBI Kehta hai" campaign, which urges customers to be vigilant and cautious about their banking activities while promoting financial literacy, heightened consumer awareness will be pivotal in scaling up the adoption of Account Aggregators. The Central Bank has already released the first set of consumer awareness campaigns around the AA

Framework. Educating consumers about the benefits of AAs in facilitating secure and efficient financial transactions and emphasising transparency in the financial ecosystem can foster greater trust and participation in the ecosystem.

To encapsulate, the AA framework has delivered great results in the first phase of roll-out and is poised for success, much like previous groundbreaking initiatives such as Aadhaar, UPI, and GST.

Sahamati is resolved to continue putting concerted efforts along with various stakeholders, including the policymakers, regulators, Sahamati, AAs, FIPs, FIUs and TSPs (Technology Service Providers) to put in place all required enablers that are required to unfold the impact of this framework in terms of its ability to improve the life of every individual in the country.

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Emerging Fintech Solutions Transforming Cross-Border Transactions

Ms. Upasna Batra
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In recent years, the landscape of cross-border payments has undergone significant transformations, driven by technological advancements, regulatory changes, and shifting consumer preferences.

This article examines the business and technology shifts in this space and how businesses need to meticulously orchestrate the multiple stakeholders involved in cross-border payments while offering enhanced customer experiences. It is now commonly accepted that customer-centric business models are the best growth strategies.

International payments are in a state of flux as new-age fintech companies are deconstructing traditional methods of sending and receiving money across borders. This article highlights key trends that are reshaping this space.

Emergence of Global Digital Payment Platforms

The emergence of digital payment platforms has been a key driver of change in the cross-border payments industry. These platforms have revolutionized the way individuals and businesses transfer money across borders by offering faster, cheaper, and more transparent services compared to traditional banks.

Global digital payment platforms connect multiple payment service providers, banks, and financial institutions, facilitating seamless and efficient cross-border transactions.

These platforms leverage advanced technologies and standardized protocols to ensure interoperability and reduce friction in cross-border payments. They not only enhance operational efficiencies but also enable real-time transaction monitoring and fraud detection, ensuring secure and seamless cross-border transactions.

A successful platform breaks down barriers, enabling effective understanding and collaboration—including cultural and regulatory nuances—facilitating global interactions.

Focus on User Experience

Enhancing the user experience is a top priority for cross-border payment providers. In a highly competitive market, offering a seamless and user-friendly experience can be a key differentiator. Payment providers are investing in intuitive interfaces, real-time transaction tracking, and personalized services to improve the overall user experience.

Moreover, transparency in fees and exchange rates is crucial for building trust with customers. Many digital payment platforms now provide upfront information about transaction costs and exchange rates, enabling users to make informed decisions. This focus on transparency and user experience is essential for attracting and retaining customers in the cross-border payments market.

The best-in-class payments platform supports its customers through relevant add-on features, such as refunds and chargeback risk management. It also provides excellent analytics platforms for reconciliation, MIS, and driving repeat customer purchases.

Expansion of Alternative Payment Methods (APMs)

The demand for alternative payment methods (APMs) is on the rise, driven by changing consumer preferences and the need for more flexible payment options. APMs include digital wallets, prepaid cards, e-wallets, and BNPL players, among others. These payment methods offer convenience, security, and accessibility, making them attractive alternatives to traditional payment methods.

APMs are particularly popular in regions with higher adoption of fintech products, such as parts of Asia, Africa, and Latin America. By supporting a wide range of APMs, payment service providers can cater to the diverse needs of their global customers, enhancing their reach and competitiveness in the cross-border payments market.

Emphasis on Security and Fraud Prevention

Security and fraud prevention remain critical concerns in the cross-border payments industry. With the increasing volume of cross-border transactions, the risk of fraud and cyberattacks has also risen. Payment providers are investing in robust security measures, including encryption, multi-factor authentication, and AI-based fraud detection systems.

Regulatory requirements, such as the General Data Protection Regulation (GDPR) in Europe, also mandate strict data protection and security standards. Compliance with these regulations is essential for payment providers to safeguard customer data and maintain trust in their services. As security threats continue to evolve, ongoing investment in advanced security technologies and practices will be crucial for the cross-border payments industry.

Integration of AI and Machine Learning

Artificial intelligence (AI) and machine learning (ML) are playing an increasingly important role in the cross-border payments industry. These technologies enable payment providers to analyse vast amounts of transaction data in real-time, identify patterns, and detect anomalies. This capability is particularly valuable for fraud prevention, risk management, and compliance monitoring.

AI and ML also enhance the customer experience by enabling personalized services and proactive support. For example, AI-powered chatbots can assist customers with their queries and provide real-time updates on transaction status. The integration of AI and ML into cross-border payment systems is expected to drive further innovation and efficiency in the industry.

Using natural language processing, the chat interface enhances engagement, eliminates the need for specific queries, and creates more intuitive experiences. People can seek clarification, ask questions, and receive real-time support, fostering deeper satisfaction.

Intelligent conversational interfaces represent a potential transformation that can use their knowledge of an individual to prioritize the most relevant products, services, and experiences. An AI companion can predict customers' preferences based on their past choices, making the customer experience more fluid.

Regulatory Developments

Regulatory changes play a crucial role in shaping the cross-border payments ecosystem. Governments and regulatory bodies worldwide are increasingly focusing on enhancing the transparency, security, and efficiency of cross-border transactions. In India, the RBI regulates all transactions involving foreign remittances under the FEMA Act, providing much-needed clarity with an aim to standardize regulations and promote competition in the payments industry.

These regulatory frameworks encourage the adoption of innovative technologies and business models, fostering a more inclusive and competitive cross-border payments market. However, navigating the complex regulatory landscape globally remains a challenge for payment service providers, requiring continuous adaptation and compliance efforts.

Fintech Collaboration with Banks

The collaboration between fintech companies and traditional banks is another notable trend in the cross-border payments industry. Fintech firms bring innovation and agility, while banks provide established infrastructure and regulatory compliance. By partnering with fintech companies, banks enhance their cross-border payment offerings and stay competitive in the evolving market.

These partnerships often result in the development of hybrid solutions that combine the strengths of both parties. For instance, some banks have integrated fintech solutions into their platforms, enabling customers to access faster and more cost-effective cross-border payment services. This trend is expected to continue as banks and fintech companies recognize the mutual benefits of collaboration.

Conclusion

The cross-border payments industry is undergoing a period of rapid transformation, driven by technological advancements, regulatory changes, and evolving consumer preferences. The rise of global digital payment platforms is reshaping the way cross-border transactions are conducted.

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Exploring the Growth of Cash Management Systems Amidst the Digital Payments Revolution

Mr. Ravi B. Goyal
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Emerging Paradigms in Digital Payment and Cash Management Systems in India and Overseas

The digital payments market is experiencing a rapid surge on a global scale, with the total transaction value projected to reach an astounding USD 19.89 trillion by 2026, up from USD 3.53 trillion in 2018. This represents a compound annual growth rate (CAGR) of 24.4% during the forecast period.

As a crucial component of the modern global financial ecosystem, the digital payments market is primarily driven by consumer transactions. It encompasses payments for goods and services traded online, mobile payments at point-of-sale (POS) via smartphone applications, and cross-border money transfers made over the internet, known as digital remittances.

> "The digital payments market is experiencing a rapid surge on a global scale, with the total transaction value projected to reach an astounding USD 19.89 trillion by 2026."

Structurally, the key vertical is segmented into three distinct categories: Digital Commerce, Mobile POS Payments, and Digital Remittances. Each of these segments plays a vital role in the overall ecosystem and contributes to the market's growth and expansion. Currently, digital commerce is the largest segment, with China leading globally, projected to reach a transaction value of USD 3.74 trillion in 2024.

Simultaneously, the global cash management systems market is also poised for significant growth between 2022 and 2031. Valued at USD 13.60 billion in 2021, the market is projected to expand at a CAGR of 11.9%, reaching USD 26.70 billion by 2027. North America, Europe, Asia-Pacific, South America, and the Middle East and Africa are key players in the cash management system market, each with unique strengths and opportunities.

India is rapidly adopting global best practices within the ATM and cash management sector to develop a more secure and robust infrastructure.

Emerging Facets of Digital Payments

The digital payments landscape is evolving at an unprecedented pace, marked by significant trends and a promising outlook. In 2022, global payments revenues displayed remarkable resilience, growing by 11% to surpass USD 2.2 trillion, an all-time high. This growth was geographically widespread, with North America, Latin America, and EMEA (Europe, the Middle East, and Africa) all experiencing double-digit increases.

However, the Asia-Pacific region, which accounts for nearly half of global payments revenues, saw a modest rise of 4%, primarily due to a decline in payment revenues in China. Excluding China, the region exhibited a robust growth rate of 25%.

Revenue dynamics have also shifted, with rising interest rates contributing significantly to revenue growth, particularly in the EMEA region. Here, the share of net interest income in total revenues rose dramatically, highlighting a departure from the historical dominance of fee-based growth. Commercial payments now constitute a majority of revenues globally, a trend especially pronounced in Asia-Pacific and EMEA, while consumer payments still lead in North America and Latin America.

Cross-border payments have also experienced robust growth, with transaction flows reaching approximately USD 150 trillion in 2022, driving cross-border revenues up by 17% to USD 240 billion. While B2B transactions dominate cross-border revenues, consumer-to-

> **"In India, instant payments' revenue growth may be limited despite the unprecedented growth of the Unified Payments Interface (UPI)."**

business (C2B) payments are expected to grow more rapidly, fueled by increased travel and e-commerce activities.

Looking ahead, the future of digital payments is set to be shaped by instant payments and digital wallets. Instant payments are expected to contribute significantly to revenue growth, particularly in regions like Brazil, where initiatives like the PIX instant-payments network are gaining traction.

Conversely, in India, instant payments' revenue growth may be limited despite the unprecedented growth of the Unified Payments Interface (UPI). Digital wallets are becoming increasingly popular, with substantial adoption in regions like Africa, driven by mobile-wallet infrastructure. Innovations in digital payment solutions are likely to continue, supported by regulatory encouragement and the drive towards a cashless economy, as seen in Nigeria and other emerging markets.

Overall, the payments industry is set for sustained growth, with projected revenue expansion of 6% to 8% annually over the next five years, supported by a continued decline in cash usage, the rise of instant payments, and the proliferation of digital wallets. This positions the industry for a dynamic and transformative future.

The Domestic Payments Landscape

In India, the digital payments landscape has experienced exponential growth, with transactions increasing 90-fold over the past 12 years, according to Reserve Bank of India Governor Shaktikanta Das. Mr. Das highlighted that India now accounts for 46% of all digital payments globally, with UPI transactions comprising 80% of digital payments within the country. From 1.62 billion digital payments in 2012-13, the figure has surged to 147.26 billion by February 2023-24.

Amid this rapid digitalization, the RBI has also amended its guidelines on Prepaid Payment Instruments (PPI), enabling both bank and non-bank issuers to provide PPIs for payments across various public transport systems. This move aims to enhance the convenience, speed, affordability, and safety of digital transactions for daily commuters while addressing rising concerns of online fraud and offering a more secure transaction experience.

Additionally, the Indian cash payment industry is evolving rapidly, driven by the burgeoning fintech culture and a shift towards service orientation. Key trends include the growth of Currency in Circulation (CIC) and the rise of the outsourcing model. The industry is witnessing the emergence of hybrid fee structures combining transaction-based and fixed fees, alongside innovations such as Cash Recycling Machines (CRMs), Digital Banking Units (DBUs), cassette swap services, doorstep banking, and dedicated cash van services (DCVs).

> **"India now accounts for 46% of all digital payments globally."**

These developments enhance the convenience, efficiency, and safety of cash management. New methods like UPI-enabled ATMs for cash withdrawals and deposits, as well as cash withdrawals through PPIs, are further revolutionizing the sector, making cash handling more streamlined, secure, and integrated with digital advancements.

Trends in Cash Management Systems

The robust expansion of the digital payments landscape has not dampened the growth of the cash ecosystem in India. The domestic cash management industry has experienced significant growth, driven by the rising currency in circulation, which more than doubled from INR 13.35 trillion in March 2017 to INR 35.15 trillion by the end of March 2024.

Several key services are essential for the efficient functioning of the cash management industry. ATM cash replenishment ensures that ATMs are consistently stocked with cash to meet customer demands and maintain operational efficiency. Cash-in-transit (CIT) services play a crucial role in safely transporting cash between locations, ensuring secure and reliable cash movement. The implementation of cassette swapping for ATM and CRM replenishments by leading banks, under the guidelines issued by the Ministry of Home Affairs (MHA), is expected to further strengthen security infrastructure and reduce overall pilferage.

Additionally, businesses benefit from cash pick-up services and doorstep banking, which offer the

"The Indian cash payment industry is evolving rapidly, driven by the burgeoning fintech culture and a shift towards service orientation."

convenience of having cash collected directly from their premises, facilitating smoother transactions and enhanced customer accessibility. Comprehensive line maintenance is required to ensure the smooth functioning of cash processing equipment and ATM infrastructure. Dedicated cash vans are provided to banks and financial institutions for the secure transportation of cash and other valuables as needed.

Finally, cash processing and vaulting services are vital for safeguarding cash assets through secure processing and storage solutions, maintaining the integrity and security of valuable assets.

These services collectively support the robust infrastructure needed for effective cash management in India, catering to growing demands and ensuring the secure handling of cash throughout the country.

Emerging Payment Trends

Within this dynamic payment landscape, an emerging trend is the rise of omnichannel payment platforms focused on providing convenience. While UPI continues to lead, platforms like Ongo are offering niche solutions to enhance overall payment experiences. For instance, their app-based open-loop contactless fueling solution provides transparency, mobility, and efficiency by automating the fueling process and allowing users to manage the fueling of multiple vehicles through the app.

They are also testing voice-controlled fueling on the same app. Additionally, the adoption of National Common Mobility Cards (NCMCs), an initiative of the Government of India, indicates a rise in PPI instruments. NCMCs enable users to travel on public transport like Metro, water ferries, and buses, pay for tolls and parking, and make purchases both online and in stores.

"The domestic cash management industry has experienced significant growth, driven by the rising currency in circulation, which more than doubled from INR 13.35 trillion in March 2017 to INR 35.15 trillion by the end of March 2024."

Similarly, other payment technologies like Central Bank Digital Currency (CBDC), sound-based payments, and NFC are also being pilot-tested in India.

As the ATM and cash management industry continues to evolve, innovation and strategic foresight remain essential in navigating the complexities of the modern financial landscape. Pioneering solutions such as open-loop prepaid cards and advanced digital payment platforms are setting new benchmarks for transaction security and efficiency.

The integration of technologies like AI and voice-controlled systems further exemplifies the industry's commitment to enhancing user convenience and safeguarding against fraud. By staying ahead of technological trends and addressing emerging challenges, the payment sector is well-positioned to drive the future of secure and efficient financial transactions.

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Insurtech can be a Potent Tool in Bridging the Insurance Gap in Rural India

Mr. Ankit Agrawal
Founder & CEO
InsuranceDekho

India is currently the fifth-largest economy in the world. Despite its steady economic progress, the insurance industry in India remains largely untapped, with a staggering 95% of the population yet to explore its benefits.

This gap underscores the immense opportunity that awaits within India's insurance sector. With an estimated 140 million people projected to join the middle class by 2030, the demand for insurance products and services is poised to grow exponentially, promising significant opportunities for insurers.

While the sector has been growing exponentially there are few inherent challenges that grip the sector-

- **Distribution-** Ensuring wide and efficient distribution of insurance products is a significant challenge. While we are tapping the urban areas, it is also important for Insurers to reach the heartland of India which requires developing robust networks that can reach both, urban and rural areas, utilizing both traditional agents and digital platforms to cater to diverse customer segments.

- **Awareness -** Many potential customers are unaware of the benefits and necessity of insurance. Raising awareness and educating the public about different insurance products, their importance, and how they work is crucial to increasing market penetration.

- **Trust-** Building and maintaining trust is vital in the insurance industry. Customers need to believe that insurers will honor their claims and provide support when needed. Negative experiences or perceptions can erode trust and deter people from purchasing insurance.

- **Product Complexity-** Insurance has always been perceived as a complex product with consumers having very little understanding of its benefits. Simplifying product descriptions, clearly communicating terms and conditions, and offering transparent policies can help customers make informed decisions and reduce confusion.

> **"Insurtech startups are spearheading a revolution, driving innovation across various aspects of the insurance sector, like product development, distribution, and risk management."**

- **Fulfillment -** Ensuring timely and efficient fulfillment of insurance policies and claims is critical. Customers expect quick processing and resolution of claims. Streamlining administrative processes and leveraging technology for faster claim handling can enhance customer satisfaction and loyalty.

Addressing these challenges efficiently has paved the way for the Insurtech sector, which synergizes traditional insurance with technology. Insurtech companies aim to bridge gaps, eliminate ambiguities, and enhance the customer experience through digitalization, transforming how insurance is provided and purchased.

How Insurtech is Reshaping Traditional Insurance Models

The insurance industry in India has witnessed a transformative journey over the past few years, driven by technological advancements, changing consumer expectations, and a supportive regulatory environment.

The government's emphasis on digitalization and technology adoption has spurred innovation within the insurtech industry, significantly enhancing its growth prospects.

- **Increase Market Reach:** Insurtech is democratizing access to insurance by breaking down barriers and reaching previously underserved segments of the population. Through digital distribution channels and innovative microinsurance solutions, insurers are now penetrating new markets, offering affordable coverage to a broader customer base, including rural and low-income sections of the population. Insurtech companies are contributing to greater financial inclusion and resilience, promoting socio-economic development and stability.

- **Redefining the Customer Experience:** Insurtech emerges as a potent force redefining the customer experience with increased engagement thereby building deeper relationships and fostering brand loyalty. Leveraging the power of mobile apps, online portals, and digital communication channels, insurers can deliver personalized recommendations, real-time updates, and interactive experiences tailored to each customer's unique needs.

  By harnessing data analytics, Insurtech companies can better analyse a customer needs and offer customised plans at competitive prices which further maximises customer satisfaction.

- **Drive Innovation:** Insurtech startups are spearheading a revolution, driving innovation across various aspects of the insurance sector, like product development, distribution, and risk management. Advanced analytics, artificial intelligence, and machine learning algorithms empower insurers to assess risks with accuracy, price policies meticulously, and detect fraudulent activities proactively. Moreover, the integration of cutting-edge technologies such as blockchain and the Internet of Things (IoT) is paving the way for groundbreaking insurance products and services.

  Going forward, insurtech platforms are poised to transcend their role as mere insurance providers, evolving into comprehensive digital ecosystems offering a plethora of services, from health consultations to asset management. Additionally, as data analytics continues to advance, insurtech companies will be able to offer hyper-personalized policies based on user behavior, health metrics, and financial status.

> **“Advanced analytics, AI and ML algorithms empower insurers to assess risks with accuracy, price policies meticulously, and detect fraudulent activities proactively. Moreover, the integration of cutting-edge technologies such as blockchain and the Internet of Things (IoT) is paving the way for groundbreaking insurance products and services.”**

Emerging Trends in the InsurTech Sector

In recent years, we have witnessed the rise of dedicated insurtech startups, bringing innovative, tech-driven solutions to the forefront offering better tailor-made products to consumers thereby enhancing their overall experience. With a focus on AI, data analytics, and user-centric experiences, these tech-integrated solutions are revolutionizing the industry.

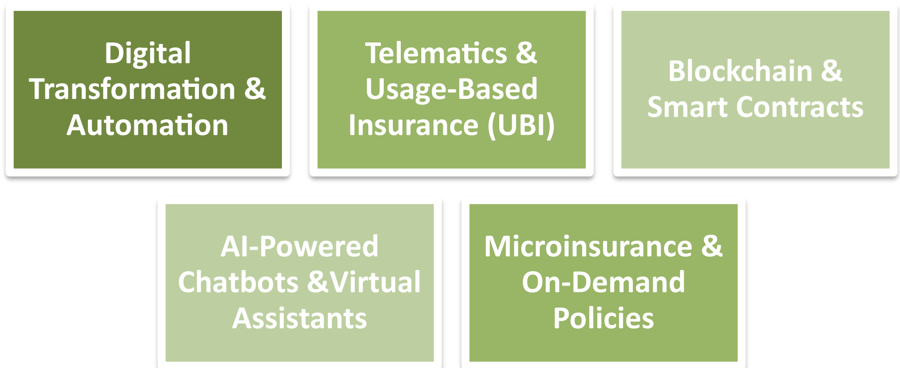
- **Digital Transformation and Automation:** Insurtech companies are harnessing the transformative power of digital technologies to streamline insurance processes and improve efficiency. Automation of underwriting processes, claims management, and customer service is enhancing efficiency and reducing turnaround times. AI and machine learning are enabling more accurate risk assessment and personalized policy recommendations, which improve customer satisfaction and retention.

  By embracing digitalization, insurtech companies are challenging the paperwork and administrative burdens, paving the way for a future where efficiency and convenience reign supreme.

- **Telematics and Usage-Based Insurance (UBI):** Telematics technology, which tracks driving behavior and vehicle usage, is gaining traction in motor insurance. Usage-based insurance models, such as pay-as-you-drive and pay-how-you-drive, offer personalized premiums based on actual driving habits. This not only benefits customers with fairer pricing but also encourages safer driving practices.

- **Blockchain and Smart Contracts:** Blockchain technology is introducing transparency, security, and efficiency to insurance operations. Smart

Emerging Trends in InsurTech



contracts enable automated policy execution and claims settlement, reducing fraud and administrative costs. By providing an immutable record of transactions, blockchain ensures trust and accountability in the insurance ecosystem.

- **AI-Powered Chatbots and Virtual Assistants:** AI-powered chatbots and virtual assistants are enhancing customer engagement by providing instant support and personalized recommendations. These tools are available 24/7, offering policy information, processing claims, and answering queries, thereby improving customer experience and operational efficiency.

- **Microinsurance and On-Demand Policies:** Microinsurance products and on-demand policies are addressing the needs of underinsured and underserved populations. These flexible and affordable insurance solutions cater to specific risks and durations, making insurance accessible to a broader audience, including low-income groups and gig economy workers.

Outlook for the InsurTech Sector

The InsurTech sector in India is poised for significant growth, driven by the increasing penetration of digital technologies and the evolving needs of consumers. The focus will shift towards creating customer-centric products and services. InsurTech companies will leverage data analytics to understand customer preferences and behaviors, enabling the design of personalized and value-added offerings and emerging technologies such as AI, blockchain, and IoT will continue to drive innovation in the sector.

A supportive regulatory framework will be crucial for the growth of the InsurTech sector. Regulators need to strike a balance between encouraging innovation and ensuring consumer protection. Simplified procedures and clear guidelines will encourage startups to develop and launch cutting-edge offerings.

Government and industry stakeholders should invest in financial literacy and awareness programs to educate consumers about the benefits of insurance. Informed consumers are more likely to adopt insurance products and make better financial decisions. Providing tax incentives and grants for research and development in the InsurTech sector can spur innovation. Encouraging investments in technology and infrastructure will enable startups to develop advanced solutions and scale their operations.

Way Forward:

InsurTech companies will play a pivotal role in promoting financial inclusion by making insurance products more accessible and affordable. Leveraging digital platforms and mobile technologies, they can reach remote and underserved areas, providing essential coverage to a larger population.

The InsurTech sector in India is undergoing a transformative phase, driven by technological advancements and evolving consumer needs. By embracing emerging trends and fostering a supportive regulatory environment, we can unlock the full potential of this dynamic industry. As we move forward, collaboration, innovation, and a customer-centric approach will be key to shaping the future of insurance in India.

At InsuranceDekho, we are committed to leveraging technology to make insurance accessible and affordable for all. By staying at the forefront of industry trends and advocating for conducive policies, we aim to drive growth and create a positive impact on the insurance landscape in India.

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Expanding into Rural Markets and Data Protection: The New Frontiers for the Fintech Industry

Mr. Jaideep Pawar
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GRAMePAY

In recent years, India has experienced a significant transformation in digital payments, driven by technological advancements, government initiatives, and evolving consumer behaviors. This shift extends beyond urban areas to rural regions, improving financial inclusion. As India nears a new digital revolution, it's crucial to explore emerging trends in digital payments and financial inclusion, particularly focusing on rural areas, cybersecurity, new use cases, and the implications of the Digital Personal Data Protection Act, 2023.

1. The Expansion of Digital Payments in Rural India

1.1 Current Scenario

Digital payments have become increasingly prevalent in rural India, thanks to the proliferation of smartphones, internet connectivity, and government initiatives like the Pradhan Mantri Jan Dhan Yojana (PMJDY). The introduction of the UPI has further simplified transactions, making them accessible to a broader audience. As of 2023, UPI transactions have surpassed traditional banking methods in volume, illustrating the trust and convenience associated with digital payments.

1.2 Next Steps for Rural Inclusion

- **Infrastructure Development:** Enhancing digital infrastructure in rural areas to facilitate digital transactions by expanding broadband connectivity, ensuring a reliable electricity supply, and establishing more banking correspondents remains a priority.

- **Financial Literacy:** Increasing financial literacy is essential to empower rural populations to use digital payments effectively. Targeted campaigns and educational programs can help bridge the knowledge gap and build confidence in digital transactions.

- **Localized Solutions:** Developing solutions tailored to the specific needs of rural users, such as voice-based interfaces and vernacular language support, can drive deeper penetration of digital payments.

- **Government Initiatives:** Continued support from the government through subsidies, incentives, and policy can accelerate the adoption of digital payments in rural India. Collaborations with fintech companies can also foster innovation in payment solutions.

2. Enhancing Cybersecurity in Digital Payments

2.1 Current Challenges

The rapid growth of digital payments has inevitably attracted cyber threats such as phishing, malware attacks, and identity theft which undermines user trust. Ensuring the security of digital transactions is paramount to sustaining the momentum of digital payments.

2.2 Strengthening Cybersecurity

- **Advanced Authentication Mechanisms:** Implementing multi-factor authentication (MFA), biometric authentication, such as fingerprint and facial recognition can significantly enhance security by adding an extra layer of verification.

- **AI and Machine Learning:** Leveraging AI and machine learning for real-time fraud detection and prevention can help identify suspicious activities and mitigate risks swiftly. These technologies can analyze transaction patterns and flag anomalies that may indicate fraudulent behavior.

- **User Awareness:** Educating users about cyber threats and safe practices is crucial. Awareness campaigns can inform users about the importance of using secure passwords, recognizing phishing attempts, and regularly monitoring their accounts.

- **Regulatory Measures:** Regulatory bodies should enforce stringent security standards for digital payment platforms through regular audits, compliance checks, and penalties for non-compliance.

3. New Use Cases for Financial Inclusion

3.1 Digital Lending and Credit

Digital lending platforms are revolutionizing access to credit, for individuals and small businesses in underserved areas. By leveraging alternative data sources and AI-driven credit scoring, these platforms can assess creditworthiness and offer loans to those previously excluded from formal financial systems.

3.2 Microinsurance

Tailored microinsurance products are also gaining traction. Digital platforms can facilitate the distribution and management of these insurance products, providing a safety net for vulnerable communities.

3.3 Remittances and Cross-Border Payments

The advent of digital wallets and blockchain technology is transforming remittances and cross-border payments. These innovations offer faster, cheaper, and more transparent methods for sending money across borders, benefiting migrant workers and their families.

3.4 Agricultural Finance

Digital platforms are emerging as pivotal tools in providing financial services to farmers. From crop insurance to agricultural loans and market access, these platforms can empower farmers with the financial resources they need to enhance productivity and income.

4. The Digital Personal Data Protection Act, 2023

4.1 Overview

As digital transactions become ubiquitous, the Digital Personal Data Protection Act, 2023, is a landmark piece of legislation aimed at safeguarding personal data and privacy in India to maintain user trust and confidence in digital payment systems.

4.2 Key Provisions

- **Data Consent:** The Act mandates explicit consent from individuals before their data is collected, ensuring transparency and control over personal information.

- **Data Minimization:** Service providers are required to collect only the data necessary for specific purposes, minimizing the risk of data misuse.

- **Data Security:** The Act enforces stringent data security measures, compelling organizations to implement robust data protection protocols.

- **User Rights:** Individuals have the right to access, correct, and delete their data, empowering them to manage their personal information.

- **Penalties for Non-Compliance:** The Act imposes hefty penalties for data breaches and non-compliance, incentivizing organizations to prioritize data protection.

4.3 Impact on Digital Payments

- **Enhanced Trust:** By safeguarding personal data, the Act can enhance user trust in digital payment systems, encouraging more people to adopt digital transactions.

- **Operational Changes:** Digital payment providers will need to revamp their data handling practices to comply with the new regulations. This may involve significant investments in technology and staff training.

- **Innovation in Privacy Solutions:** The Act could spur innovation in privacy-enhancing technologies, such as encryption and anonymization, driving the development of secure payment solutions.

- **Global Alignment:** Aligning with international data protection standards can facilitate cross-border digital transactions, promoting financial inclusion on a global scale.

5. Conclusion

India's digital payments and financial inclusion are rapidly evolving. Expansion into rural areas, advancements in cybersecurity, new use cases, and the Digital Personal Data Protection Act, 2023, are shaping this future. To fully leverage these trends, a collaborative effort from the government, private sector, and civil society is crucial. Addressing challenges and seizing opportunities will help India build a more inclusive and secure digital economy. Keeping the user at the center of these initiatives is essential to ensure digital payments are accessible, convenient, safe, and trustworthy.

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Streamlining Fintech Policy to Promote Ease of Doing Business

CA Manali Ganediwal
Partner
MSGM and Associates

India is one of the leading countries in digitising its retail payment system. The share of digital transactions in total retail payments has grown from a mere 1.3% in 2005-06 to 90.9% in 2023-24 (RBI Report on Currency & Finance FY24). Payment aggregators (PA) and payment gateways (PG) are intermediaries that play a critical role in driving digitisation in the payment sector as they facilitate payments between merchants, e-commerce platforms and customers.

RBI, in its March 2020 guidelines, defined PAs as those intermediaries who receive payments from customers, pool and transfer them on to the merchants after a time period. On the other hand, PGs are defined as technology infrastructure providers who facilitate processing of online payments without any involvement in handling of funds.

The regulation of online payment intermediaries has evolved overtime. Initially, digital payment intermediaries were regulated under the RBI Intermediary Guidelines 2009 and subsequently, RBI implemented the Guidelines on Payment Aggregators and Payment Gateways on March 17, 2020.

On April 16, 2024, the RBI issued Draft Directions on the Regulation of Payment Aggregators (PAs) ('Draft PA Directions') to bring Offline PAs i.e. PAs operating at physical points of sale within the ambit of its regulation.

We would like to make the following suggestions with regards to this draft directions:
As per the RBI draft on Payment Aggregators (PAs) guidelines, paragraph 4.2 (a), the amendment requires a PA to undertake Contact Point Verification (CPV) even for small merchants who have a turnover of less than INR 5 lakhs per annum. This requirement is likely to prove onerous for PAs catering to small merchants, given the heightened compliance requirements. It will also increase the onboarding timeline due to CPV requirements. Furthermore, this will impact the ease of

> **“Payment aggregators (PA) and payment gateways (PG) are intermediaries that play a critical role in driving digitisation in the payment sector as they facilitate payments between merchants, e-commerce platforms and customers.”**

doing business for small merchants. Conducting CPV in this manner will significantly increase technical and logistical costs.

Recommended KYC norms for various merchant categories are as follows:

- **Small Merchants –** As stated, CPV is a highly time-consuming and capital-intensive activity. PAs can undertake Bank Account Verification (including Penny Drop Verification) for a small merchant along with the minimum KYC documents in accordance with the Master Direction - KYC Guidelines, such as the merchant’s proof of address and proof of identity.

- **Medium Merchants –** For Medium Category Merchants as defined by RBI under the Draft Circular, we recommend that PAs can undertake Bank Account Verification (including Penny Drop Verification) along with an Officially Valid Document (OVD) as recommended under the guidelines. KYC document collection will be in accordance with the Master Direction - KYC Guidelines.

- **Large Merchants –** Considering the Gross Processing Volume (GPV), on which basis the Large Merchants shall be categorized and the risk involved, CPV or Assisted Video-Customer Identification Process (V-CIP) should be mandatorily undertaken by the PAs either themselves or through an agent along with Bank Account Verification (including Penny Drop Verification) and an OVD as recommended under the guidelines.

It may not be possible for a PA to ascertain the business turnover of a merchant, particularly MSMEs and GST-unregistered merchants, other than by primarily relying on the representation of the merchant. Therefore, RBI can consider allowing PAs to leverage the GPV as a metric for merchant categorization by the relevant PA into small or medium.

> **“Since CPV is time consuming, for small merchants, PAs can undertake Bank Account Verification with the minimum KYC documents in accordance with the Master Direction.”**

As per draft PA guidelines (Reserve Bank of India - Master Directions), paragraph 3.2, the proposed deletion of Paragraph 8.9.1.2 (b) of the RBI circular dated March 17, 2020, which permits debit to escrow account for “payment to any other account on specific directions from the merchant,” will adversely impact merchants, customers, and existing PAs that have been relying on this provision to enable use cases involving disbursements to third parties from the escrow account. There are government and regulatory requirements that also form part of such use cases, which are explained in detail below.

There are existing use cases where payments are made to accounts/parties on specific direction of the merchants, considering merchants collect amounts from customers as part of a single transaction, and the consolidated amounts are apportioned at the PA Escrow account stage itself to solve the reconciliation and revenue recognition challenges for the merchants onboarded by the PA.

Few sector-wise examples of such use cases are:

- **Education sector:** Students are required to process payments to various service providers onboarded by the institute, including transportation facility providers, accommodation, mess service providers, and extracurricular service providers.

The PA, with a single payment instruction from the merchant and with the help of API technology, apportions the payments collected from the users/students and distributes them to different accounts/parties in real-time, with reconciliation in terms of the services being provided by such registered vendors/parties.

Moreover, there are institutions/merchants that work on a franchise/royalty model where the amounts collected from the students/users are distributed into separate accounts of the institute and the franchisee distributor or franchise owner. Examples of such models with embedded services include:

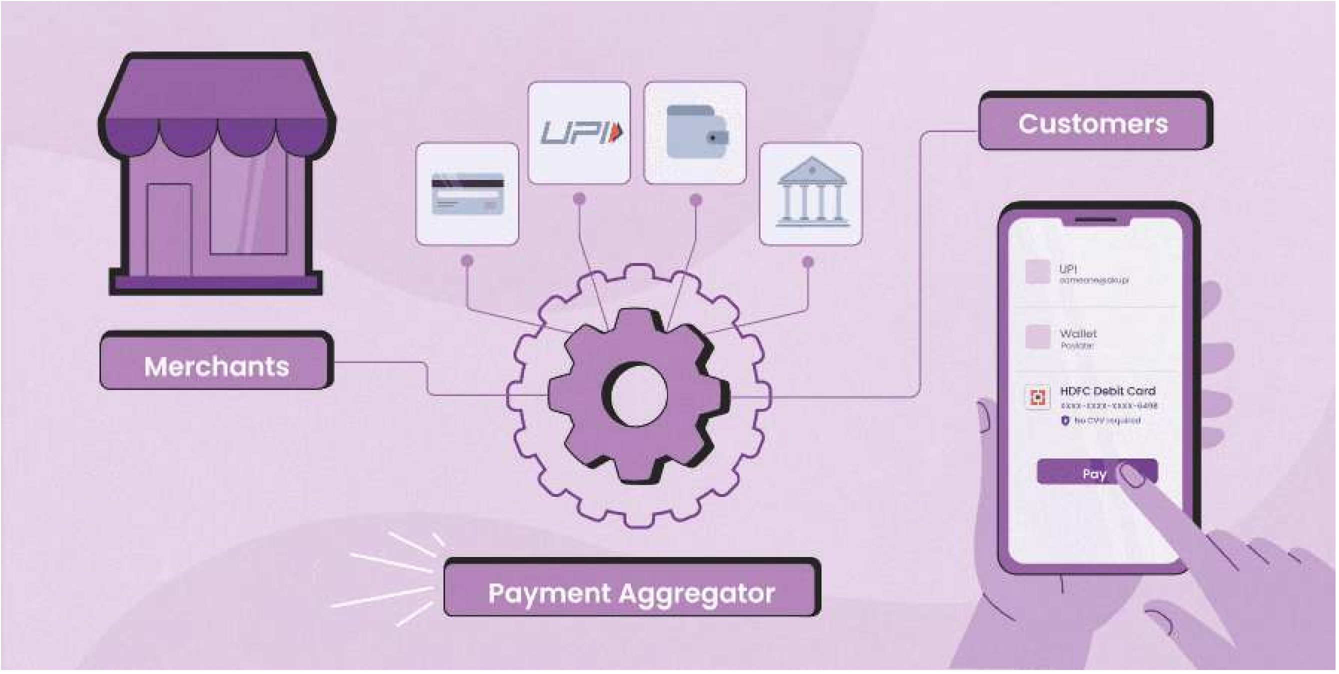
- **College affiliation with University model:** Part of the fees collected from students includes tuition fees, which is revenue for the college, and exam fees, which is revenue for the university. Therefore, the same needs to be settled in separate accounts directly into the university exam fees account and the college tuition fees account.

- **School Head Office and franchise model:** Educational institutions that have obtained franchises from established brands require part of students' or customers' payments to be settled in the School’s HO account and another part of the payment into the franchise owner's or franchise distributor’s account.

- **Real estate sector:** Both where RERA guidelines are applicable and not applicable, the customer booking the unit, apartment, or flat in the project needs the amount transferred towards booking in the particular Tower of the developer/builder's accounts.

  Split payments into the designated RERA escrow accounts are one requirement, with the added functionality of part of the payment or single payment towards multiple products, including the project escrow account, residential welfare association, housing society, and co-operatives where the customer has booked the apartment.

- **Tour & Travels sector:** Travel agents provide embedded services such as insurance to customers booking through them. These travel agents require PAs to create split payments and transfer the amount to the respective accounts of the embedded services service providers through a single transaction.



In the case of an escrow account, the PA holds the payment for the benefit and utilization by the merchant. Ideally, the merchant, being the beneficial owner, should possess discretion over the utilization and distribution of such funds in terms of the business activity performed by the merchant.

Merchants rely on banks and PAs for technology and APIs, which assist in the real-time processing of their revenue or collection to their registered vendors, suppliers, and service providers, along with automated reconciliation reports, enhancing maximum efficiency and avoiding underutilization of working capital funds.

There are other use cases where payments are made to accounts/parties based on specific instructions from the merchant, such as marketplaces or platforms that rely on their PAs to settle funds to the platforms'/marketplaces' businesses. Such marketplaces or platforms lack the necessary infrastructure (systems, processes, and controls) to handle such fund transfers independently.

Prohibiting PAs from executing such payments will adversely impact the operations of such marketplaces and platforms. We request the RBI to kindly consider not implementing the proposed deletion of the clause in PA/PG Guidelines, which allows for debits to the escrow account.

It is advisable that the bank account verification of third parties engaged by the merchants for providing embedded services to the merchants' customers shall be conducted by the PAs for which the merchant has instructed the PA to initiate splits.

One of the most critical use cases for the said clause is the recollection of loan payments for credit offered through digital means. The said clause allows customizable repayment schedules, as per the convenience of the borrower. Such repayment models have been made possible through the use of PAs, wherein debits are allowed and payment to any other account with explicit consent from the merchant.

However, the deletion of such a provision will eliminate the said model and impact credit availability to such borrowers. Furthermore, the RBI's 'FAQ on Digital Lending Guidelines' envisages PAs to be a part of the fund flow for disbursals and repayments.

Further clarity is required from RBI on fund aggregation by e-commerce entities, which was earlier covered as part of nodal account guidelines of November 24, 2009. PA escrow guidelines are silent on fund settlements by e-commerce entities.

There is one online hotel and ticketing platform, which is not able to send money to the merchants, as their AD Bank was asking for the PAN details of its customers. In the absence of clear guidelines on e-commerce fund aggregation, both AD Banks, PAs, and the e-commerce industry face regulatory challenges, non-uniform processes across sectors, and non-settlement to the ultimate merchant in a definitive timeline.

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Indian Fintechs and their tryst with Regulations

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It has been over decade now that FinTech has been recognised as a specific segment of financial services dominantly aided by technology. Until recently, the Reserve Bank of India (RBI) has regulated FinTechs vicariously through supervision of regulated entities like banks and non-banking financial companies. RBI's philosophy of regulations mainly emanated from ability of the FinTechs to either be involved in the fund flow or control fund flow for the underlying financial services. Where the services provided by the FinTech were limited to technology interface or customer sourcing such as, payment gateways and loan service providers, RBI usually refrained from any form of direct regulation of such entities. This approach of the RBI has undergone a major shift in the last few years on account of nuanced form of services being provided by FinTechs and the inter-play with personal information of retail customers.

Lending

The digital lending ecosystem saw a spurt during the pandemic in India and has since maintained steady growth. To curtail the rampant frauds and malpractices that marred the digital lending space, the RBI issued the Guidelines on Digital Lending on 2 September 2022 (Guidelines on Digital Lending). The guidelines prescribed specific roles and responsibilities to be undertaken by the regulated lending institutions, and the conduct requirements of the lending service providers and digital lending apps that need to be ensured by the regulated lending institutions. With the Guidelines on Default Loss Guarantee issued by the RBI on 8 June 2023, first loss default guarantee arrangements i.e. guaranteeing up to 5% of the underlying loan portfolio have now also been permitted.

The linking of credit line facilities to prepaid payment instruments enabled FinTechs to route credit lines into prepaid cards issued to customers which they could use for making retail purchases. The RBI prohibited loading of prepaid cards using credit lines in June 2022, thereby putting a halt to the business model in entirety. However, in subsequent months, the RBI enabled linking of Rupay credit cards on UPI, and further in September 2023, enabled linking of bank sanctioned credit lines on UPI.

FinTech SRO

The RBI on 30 May 2024 introduced the 'Framework for Self-Regulatory Organisation(s) by establishing industry-led bodies referred to as self-regulatory organisations, specifically tailored for the FinTech sector (SRO-FT). The SRO-FT is envisioned to act as a liaison between the regulator and the industry players, which would result in more effective policy formulation.

Super Apps and Data Regulation

The Digital Personal Data Protection Act 2023 was enacted as a mother legislation governing access, utilisation, management and sharing of personal data obtained through digital media. While the applicability of the Act to FinTechs will mostly be an activity based assessment, the growing concept of "super apps" for providing a host of financial services under one mobile/ website based applications will come under direct scrutiny. Further, a cross-sectoral assessment of the data regulations will also become imperative.

Future outlook

As noted above, the FinTech regulatory landscape in India is still evolving and arguably, has only lately entered a consolidation phase. The regulators, while proactive, are often seen to be catching up with the industry with post-facto regulations. The catch up takes place once a model poses considerable risks to the customers or the economy at large. Such regulatory actions have caused industry-wide impacts and disruptions as well. Therefore, FinTechs and regulated entities inevitably must adopt a rather prudent approach while devising their models and products to build sustainable solutions in the current regulatory landscape.

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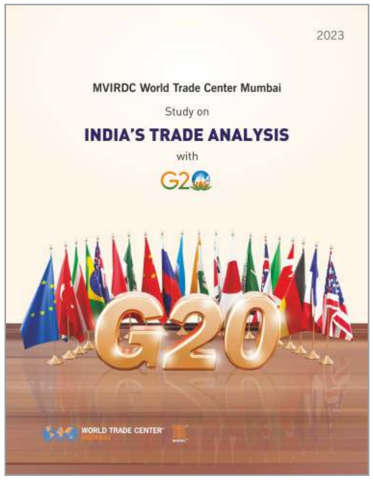

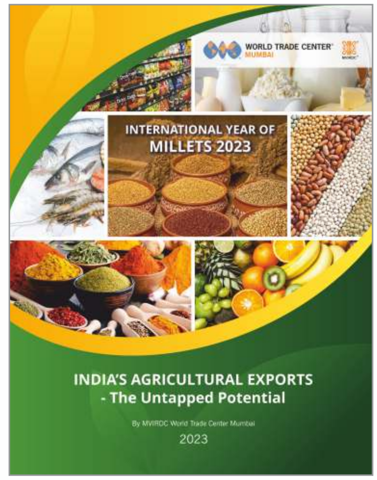

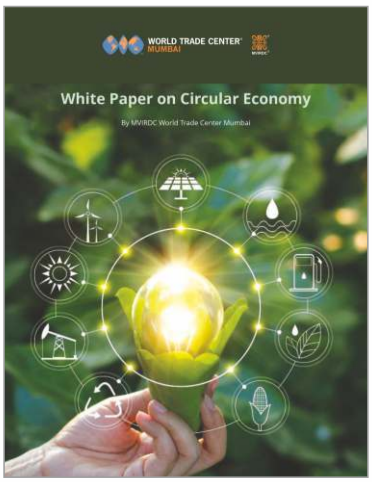

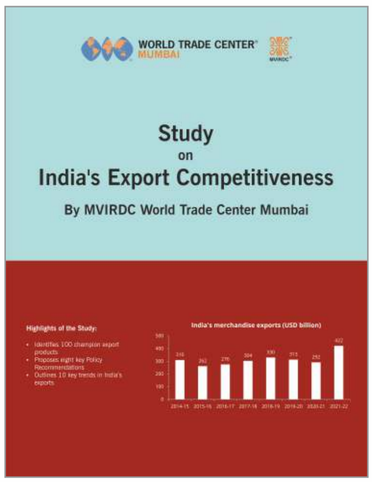

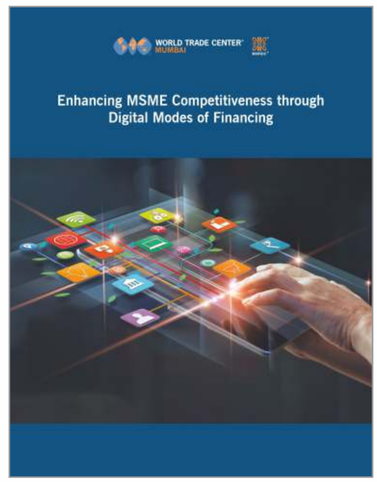

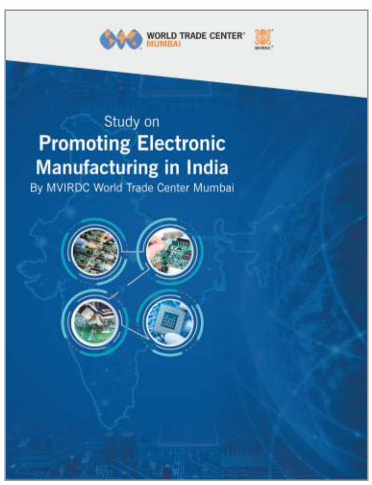

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