

Reinventing BFSI services through cloud technology

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FROM THE FOUNDERS' DESK



Ashish Srivastava (L) and Anupam Gupta (R), Founders, Bharat Network Group (BNG)

Why AI matters in every transaction

Dear Prime Reader,

Banking and payments are no longer defined by legacy systems alone, they are being rewritten at the intersection of trust, intelligence, and innovation.

This edition of **The Banker Media** celebrates the leaders and institutions shaping India's payments landscape through AI-powered UPI 3.0. It is here that speed meets security, where real-time transactions are enhanced by predictive intelligence, and where inclusion becomes as important as innovation.

The voices in this issue represent the collective vision of banks, FinTech disruptors, and policymakers who are driving collaboration and building resilience into India's digital finance ecosystem.

At **The Banker Media**, we believe that this is more than a technological leap, it is a social transformation. Every secure transaction, every frictionless payment, and every AI-enabled safeguard contributes to building the foundation of a more confident and connected Bharat.

To those leading this change, your foresight is what makes progress possible.

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The AI-powered future of payments

Dear Reader,

Welcome to this special edition of **The Banker Media** Magazine, where we turn our focus to one of the most transformative forces shaping India's financial ecosystem today, the convergence of artificial intelligence and UPI 3.0.

This edition brings together voices from across the ecosystem, banks, FinTechs, regulators, and payment enablers, who are steering this transformation. Together, they unpack the role of RBI, NPCI, and policymakers in setting the frameworks for UPI 3.0, and highlight how collaboration between incumbents and disruptors is critical for building a resilient, interoperable, and globally benchmarked payments system.

At **The Banker Media** Magazine, our mission with this issue is to spark meaningful conversations that push the boundaries of innovation and encourage collaboration across the BFSI spectrum.

The AI-powered future of UPI 3.0 is not a distant possibility- it is here, and it is redefining how India and the world transact.

Aishwarya Saxena
Sr. Associate Editor
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“
UPI 3.0 is no longer just a transaction platform; with AI, it becomes a catalyst for financial inclusion, innovation and progress

Reinventing BFSI services through cloud technology

The shift to cloud has unlocked new possibilities for security, speed, and customer-first banking. For this feature, **Aishwarya Saxena** engages with **Tarandeep Singh, Chief Technology Officer, Credifin Limited, Nehal Gupta, Founder and MD, Accelerated Money For U, and Souparno Bagchi, COO, Balancehero India**, who share how their organisations are harnessing its potential

BANKING AND financial services are no longer confined to branches or desktops as the cloud has brought them into the palm of every customer's hand. From faster loan approvals to secure UPI transactions, it has become the silent engine powering agility and trust in the digital era.

Adding to this narrative, we bring the perspectives of Tarandeep Singh of

Credifin, Nehal Gupta of AMU, and Souparno Bagchi of Balancehero India, as they share how cloud adoption is redefining customer journeys and powering the next phase of digital finance

Enhancing omnichannel banking with the cloud

At Credifin, the cloud has become the backbone of a seamless omnichannel experience. By

integrating mobile, UPI, and digital platforms, the company ensures customers can engage effortlessly across touchpoints. In earlier years, workflows varied depending on whether customers used mobile, web, or visited a branch. That friction is now gone. From loan applications and KYC to tracking repayments or making EMIs, everything can be done in real time, primarily via UPI.



Artificial intelligence is tightly integrated into Credifin's cloud systems, analysing behavioural data such as repayment patterns, login activity, and transaction origins



For semi-urban and rural customers, this has been a game-changer. What once required branch visits can now be managed on a smartphone, saving time, building efficiency, and deepening trust in the digital ecosystem.

Measuring success and ROI

To track the effectiveness of its cloud investments, Credifin focuses on performance, adoption, and risk management.

Speed of transactions and reliability of services are key indicators, alongside the growing share of customers choosing mobile and UPI channels.

Equally important is scalability—the ability to perform consistently during peak loads. Fraud detection and risk controls are also central, with AI-driven monitoring protecting customers in real time. Together, these metrics prove that cloud

adoption is not just about faster systems but about creating measurable business and customer value.

Scaling faster in a competitive market

The shift to cloud has enabled Credifin to scale rapidly in the competitive BFSI ecosystem. A clear example is its electric vehicle financing vertical, where services for two-wheelers and e-rickshaws were rolled



out across multiple states simultaneously. Legacy systems would have slowed this down, but cloud-native infrastructure made it swift and efficient.

Today, Credifin operates in more than 200 locations across 14 states. This agility has supported growth in assets under management from Rs 10 crore in 2020 to over Rs 375 crore in 2025, proving that the cloud is a driver of both innovation and scale.

AI for smarter risk management

Artificial intelligence is tightly integrated into Credifin's cloud systems, analysing behavioural data such as repayment

patterns, login activity, and transaction origins. Any unusual behaviour immediately raises alerts, helping prevent fraud before it escalates.

AI also powers faster, more precise loan processing. Low-risk applications move through instantly, while high-risk ones are flagged for deeper scrutiny. The result is a customer journey that balances speed with safety, building both efficiency and confidence in the platform.

Building a cloud-first future

For financial institutions exploring cloud-first strategies,

Credifin advises a measured and secure approach. Begin with non-core systems to build internal confidence, then move toward mission-critical workloads. Embedding security, compliance, and data governance from the start is essential.

Equally critical is ensuring customers have a consistent experience across apps, websites, and branches. Fragmented journeys erode trust. And while technology is the enabler, the human element—communication, education, and empathetic support—remains the catalyst for adoption.

For Credifin, the formula for sustainable transformation is clear: robust technology, anchored in a customer-first approach.

Building seamless journeys across channels

At AMU, cloud adoption has become the foundation of seamless digital banking experiences. By unifying customer journeys across mobile, UPI, and web platforms, the organisation ensures that transactions flow in real time, no matter where they begin.

Scalability has been



a major advantage, helping manage rising digital volumes with ease. Advanced analytics further support faster loan approvals and personalised offerings, while APIs and fintech integrations drive accessibility for underserved customers. With cloud-based encryption, compliance tools, and strong data protection frameworks, AMU balances



For institutions embracing cloud-first models, AMU emphasises the importance of security, compliance, and trust from the very beginning

innovation with security. The result is secure, inclusive, and consistent digital experiences that fuel sustainable financial growth.

Measuring the impact of cloud investments

To measure the impact of its cloud strategy, AMU monitors a mix of operational, financial, and customer-focused KPIs. Reliability is a cornerstone, with

■ COVER STORY

uptime maintained at 99.9 per cent across platforms. Transaction speed and scalability are closely tracked, particularly during surges in UPI and mobile volumes.

On the financial side, reduced infrastructure and maintenance costs are key indicators of efficiency. For customers, digital adoption rates, loan approval turnaround times, and satisfaction scores form the primary benchmarks. At the same time, metrics such as prevented security incidents, successful API integrations, and reduced time-to-market validate both

performance gains and business value creation.

Scaling up in a dynamic BFSI market

Migrating to the cloud has enabled AMU to respond to market shifts with unmatched agility. Infrastructure scales effortlessly to handle surging UPI and mobile transactions without compromising performance.

The organisation has also accelerated time-to-market for new services. With cloud-native operations, fintech partnerships and API rollouts are deployed faster, supporting real-time credit assessments and even 24-hour loan

disbursements. Cost optimisation and strong business continuity further reinforce AMU's competitive edge, ensuring it can meet evolving customer expectations with speed and reliability.

Harnessing AI for security and risk control

AI plays a pivotal role in AMU's cloud infrastructure. Real-time machine learning models continuously analyse transaction data across mobile, UPI, and digital channels to detect anomalies and suspicious activities.

Risk models go beyond transactions,





evaluating borrower profiles and behavioural patterns to enhance credit scoring and enable proactive fraud prevention. Cloud-powered AI tools also streamline compliance, automate alerts, and reduce false positives. This integration of AI and cloud builds customer trust by safeguarding data, minimising risks, and ensuring secure digital journeys.

Guiding principles for cloud-first institutions

For institutions embracing cloud-first models, AMU emphasises the importance of security, compliance, and trust from the very beginning.



With the rapid adoption of AI and the increasing emphasis on responsible data management, the cloud now stands at the centre of the digital ecosystem

A clear cloud strategy aligned with regulatory frameworks, strong data localisation, and encryption standards

form the baseline.

Investments in identity management, AI-driven fraud detection, and disaster recovery capabilities are seen as essential. Just as important is transparency with customers—openly communicating how their data is protected to build confidence in digital channels.

Finally, AMU advocates a phased approach to migration. By starting small and scaling gradually, financial institutions can combine resilience and scalability with innovation, ensuring that growth never comes at the cost of trust or compliance.

The evolution of cloud in FinTech: From infrastructure to strategic mandate

FinTechs are, by design, cloud native. Their agility, scale, and speed of innovation have been shaped by what cloud makes possible. Yet, the role of cloud has changed dramatically over time, from being a supporting technology to becoming a central strategic lever for business.

Phase 1: Cloud as infrastructure - Cost, scale, and efficiency

In the early days, cloud adoption was largely about solving infrastructure challenges. It gave FinTechs the ability to manage core business functions with scalable, cost-effective technology.

Key priorities in this stage included:

- Cost efficiency
 - Scalability of infrastructure
 - Virtualisation and optimisation of the technology stack
- Here, cloud was mostly “tech for tech” — focused on uptime, elasticity, and efficient deployment.

Phase 2: Cloud as an ecosystem - Platforms and SaaS

As the ecosystem

matured, cloud evolved beyond infrastructure into a business enabler. The introduction of Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS) lowered barriers to advanced enterprise tools, enabled modular architectures, and accelerated product cycles.

This allowed FinTechs to build entire business solutions, from fraud detection to CRM analytics and underwriting engines, directly on the cloud.



In the early days, cloud adoption was largely about solving infrastructure challenges. It gave FinTechs the ability to manage core business functions with scalable, cost-effective technology

The KPIs also shifted towards business impact, such as:

- Faster time to market
- Product unit economics

- Customer acquisition costs
 - Business scalability
- Cloud was no longer limited to IT. It became part of boardroom discussions and central to business strategy.

Phase 3: Cloud ubiquity - SaaS maturity and end-to-end adoption

The maturity of SaaS solutions took adoption to the next level. Companies could now deploy cloud across the entire value chain, not just in core technology. Functions like sales, compliance, HR, finance, and customer support were all transformed.

The benefits included:

- Reduced onboarding and licensing costs
 - Shorter implementation cycles
 - Greater configurability and interoperability
- Cloud had effectively become synonymous with digital transformation.

Phase 4: AI and data responsibility - Cloud at the core

Two forces define the current era: artificial intelligence and data governance. At the centre of both lies the cloud.

AI democratization through cloud is possible because of:

- Availability of

cloud-native AI/ML tools

- Pay-per-use GPU infrastructure models
- Massive storage and compute capabilities

At the same time, responsible data management has become critical. Cloud platforms are now expected to:

- Ensure data localization and residency
- Enable compliance with global regulatory standards
- Provide enterprise-grade security and privacy controls
- Support auditable frameworks for ethical AI

This has expanded the KPIs for cloud from efficiency and performance to include compliance, governance, and resilience.

The next frontier: Multi-Cloud strategies

As cloud becomes mission-critical, businesses are

shifting from mere consumption to strategic orchestration. Multi-cloud adoption is no longer optional; it is a necessity.

It enables:

- Risk mitigation (avoiding vendor lock-in and geopolitical risks)
 - Cost optimisation through negotiated SLAs
 - Business continuity and redundancy
 - Access to best-of-breed tools across providers
 - Flexibility in M&A integration and sector diversification
- Rethinking cloud KPIs
Modern cloud strategies balance downside protection with upside maximisation.

Downside KPIs:

- Operational risk and contingency planning
- Cost efficiency and financial control
- Compliance and localization

- Interoperability of IP and software

Upside KPIs:

- Innovation and faster time-to-market
 - Agility and modular scaling
 - Access to advanced solutions
 - Strategic leverage in M&A and partnerships
- Summary

Summary

Cloud has become ubiquitous across FinTech and beyond, shaping not only technology but also the very core of business strategy. The metrics for success have expanded from purely operational concerns to encompass compliance, resilience, and ethics, reflecting the broader responsibilities of digital enterprises.

With the rapid adoption of AI and the increasing emphasis on responsible data management, the cloud now stands at the centre of the digital ecosystem. At the same time, multi-cloud strategies have emerged as essential for organisations seeking growth, innovation, and robust risk management. No longer just an enabler, the cloud has firmly established itself as the foundation of modern digital business strategy. ■



Building global confidence with localised payments

Sharing insights with **Aishwarya Saxena, Nitin Pulyani, Head of Product, Cashfree Payments**, details how Cashfree is combining partnerships, tokenisation, and AI-driven risk controls to reshape global payments

What trends are driving the next wave of innovation in cross-border payments, and how is Cashfree positioning itself to capitalise on them?

Cross-border e-commerce in India has moved firmly into the mainstream. Nearly half of Indian online shoppers have purchased from international sites in the past six months, spanning not just luxury, but categories like beauty, travel, global fashion, and wellness. This reflects the rise of young, globally aware

consumers who see international products as part of their aspirations and lifestyle.

At the same time, Indian brands are reaching global markets more than ever, whether it's fashion in the US, Ayurveda in Europe, or handicrafts in the Middle East. The flow is now two-way: Indians shopping globally, and Indian businesses selling globally. Looking ahead, the future of digital commerce is borderless.

At Cashfree Payments, we're building the rails to make this future real, where a shopper

in Jaipur can buy from Seoul or a seller in Surat can reach New York as effortlessly as a domestic transaction, powered by payments that are seamless, trusted, and compliant by design.

How do you see the interoperability between UPI, FinTechs, banks and global payment networks shaping the future of domestic and international transactions?

India's digital payments growth has been driven by strong collaboration between FinTechs,



**At Cashfree Payments,
we collaborate with
ecosystem partners
to bring industry
first innovations to
deliver great customer
experience**



banks, regulators, and payment networks, guided by an innovation-first, India-first mindset. At Cashfree Payments, we collaborate with ecosystem partners to bring industry first innovations to deliver great customer experience. One such innovation is device tokenisation, launched with Mastercard and Visa, which allows customers to use saved cards across multiple businesses, delivering a single-click, repeat-payment experience even for first-time users and boosting conversions by 5%.

Working with HDFC

Bank, we introduced issuer tokenisation, directly routing card transactions through the issuer to improve success rates and reliability, also reducing cost of payments for our merchants. We invest in payment infrastructure development as well with our partners. Our in-house acquiring switch provides direct connectivity to Visa and Mastercard, giving us full control over transaction routing and retries, optimising success rates and supporting international expansion for businesses.

Additionally, our in-house UPI switch, in partnership with NSDL Payments Bank, is built to process up to 12,000 transactions per second, ensuring seamless performance during peak sales or high-volume events. Those were just few of the many developments that we do, and we see ecosystem players as innovation partners and think that every fintech player should do that in order to help India shape not just domestic, but international payments as well.

Cross-border payments have traditionally been

This license has uniquely positioned us to bridge two critical flows: enabling Indian merchants to sell seamlessly to a global audience and allowing international merchants to reach Indian consumers without the traditional regulatory and operational friction

slow and expensive. What technological innovations has Cashfree introduced to address these pain points?

Cross-border payments have traditionally been slow and expensive, filled with regulatory complexity and low success rates. At Cashfree Payments, we've tackled this with an innovation-first and technology-led outlook, enabling us to become one of the first non-bank entities in India to secure and operationalise the RBI's PA-CB license for both imports and exports.

This license has uniquely positioned us to bridge two critical flows: enabling Indian merchants to sell seamlessly to a global audience and allowing international merchants to reach Indian consumers without the traditional regulatory and operational friction. By embedding

compliance into the very rails of payments, we are reimagining what a truly borderless e-commerce experience would look like.

What steps are you taking to support Indian SaaS companies and freelancers in receiving global payments more seamlessly?

For Indian SaaS companies and freelancers, looking to sell globally, cross-border payments have been a significant barrier. International customers often struggle with failed card payments, pricing in INR created confusion, and FX conversion costs only becoming visible after checkout. Imagine this: a customer in London adds a saree from an Indian brand worth Rs 10,000 to their cart. At checkout, the amount shows up in pounds, with the bank adding extra conversion charges and fluctuating

exchange rates pushing the cost higher than expected. Confused and frustrated, the customer abandons the cart often.

On top of that, navigating regulatory and tax compliance for remittances is a massive headache, particularly for small businesses in India. These hurdles aren't just operational, they directly impact the customer experience, leading to lost sales and broken trust. To address these challenges, at Cashfree, we built an International Payment Gateway (IPG) with a mission to empower Indian businesses to sell internationally as seamlessly as they would sell domestically.

Today, we support Indian businesses to sell across 170+ markets and in 140+ currencies, the widest currency conversion that any Indian fintech currently offers. At the heart of the IPG is our Pay Native feature, which allows international customers to see and pay in their local currency—pounds, dollars, euros, dirhams, and more while merchants receive settlements in rupees. With no hidden fees or unexpected charges, this transparency builds trust, reduces cart abandonment, and gives global shoppers

■ INTERVIEW

the confidence to purchase as naturally as they would in their local stores.

How are you scaling your payment gateway for international merchants to enable global businesses to sell in India?

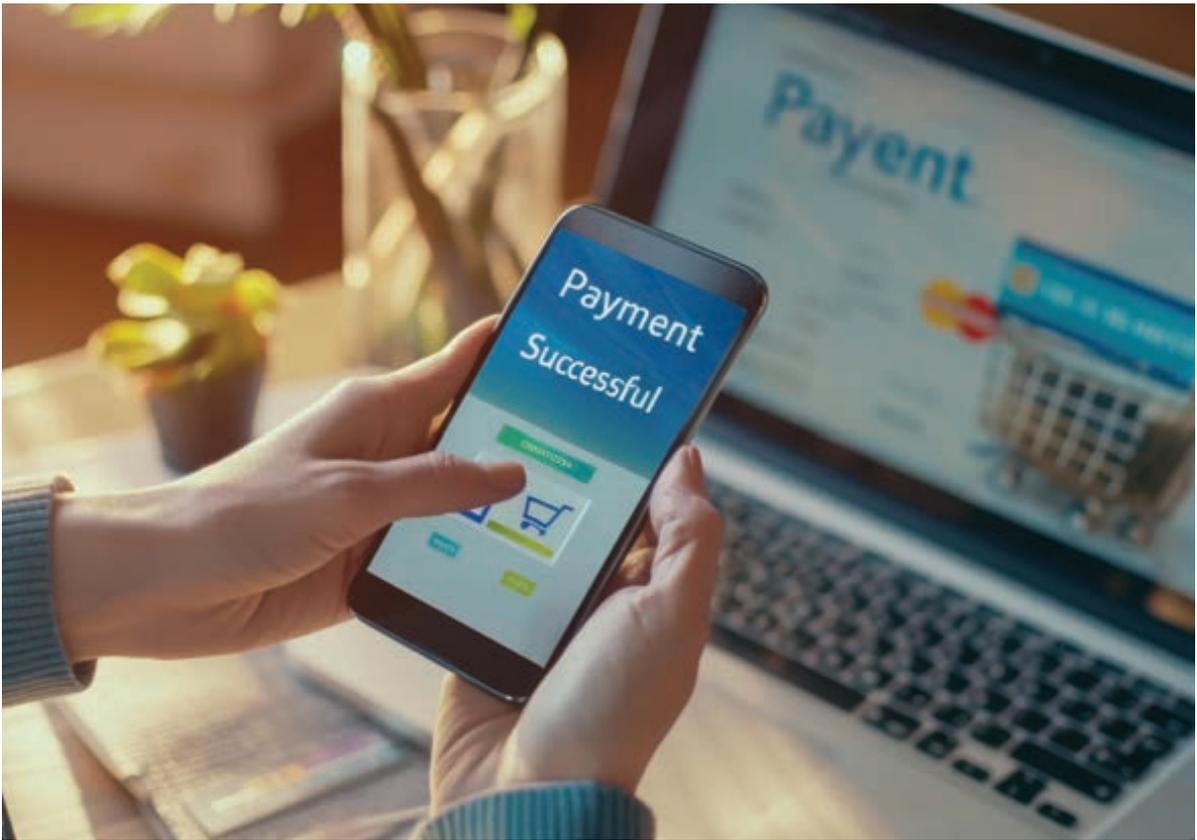
Global businesses struggle to sell into India, primarily because they can't support the payment methods Indian consumers actually use. Most international gateways don't integrate UPI, RuPay, or Indian net banking. Those that do, often require merchants to set up local entities, navigate compliance frameworks, endure high transaction failure rates and FX losses, making it

difficult to tap into India's rapidly growing digital consumer base. On the other hand, for Indian shoppers, the biggest hurdle while buying from an international site is that of not being able to pay the way they trust. The result: lost sales for international merchants and frustrated Indian consumers.

Cashfree Payments' Import Stack was purpose-built to change this. Built under the RBI's PA-CB framework, it is the first licensed solution that enables global merchants to collect INR payments through India's most preferred local payment methods, without needing to establish an Indian presence.

What powers this seamless experience is our robust stack that includes automated invoice verification, direct onboarding of foreign entities, zero-fee chargeback tools, a checkout experience tailored for Indian consumers and faster settlement in Indian currency. For Indian shoppers, this translates to a truly local checkout: familiar payment methods, no hidden fees, and full transparency. For merchants, it means instant access to one of the world's fastest-growing e-commerce markets, higher conversion rates, and the ability to scale confidently.





How is Cashfree integrating AI and machine learning into fraud detection and risk management for cross-border payments?

Cross-border transactions carry elevated risks, from fraud and regulatory breaches to sanctioned entity exposure. At Cashfree Payments, we address this with a multilayered risk management system that combines compliance checks with AI-driven intelligence. Every merchant and transaction is screened against global watchlists, ensuring high-risk

entities never enter the flow. Machine learning models monitor transactions in real time to detect anomalies like sudden spikes in volume, chargeback patterns, or invoice mismatches, allowing us to flag fraud before it impacts merchants or consumers.

A standout example of this innovation is invoice verification under the RBI's PA-CB framework. By applying OCR and machine learning, we have automated this mandatory step to the point where 98% of invoices are verified automatically

in under two minutes, a leap that drastically cuts processing times while strengthening compliance. By embedding AI, ML, and tokenization where they meaningfully reduce friction, our cross-border payment stack delivers proactive, context-aware risk control. For businesses, this means the confidence to scale globally without being burdened by manual risk checks, and for consumers, it means a trusted checkout experience where their data and money remain protected. ■

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KredX transforming credit access into universal digital service

Manish Kumar, Founder & CEO, KredX, discusses the future of invoice financing, digital compliance, and cross-border opportunities in his latest conversation with **Aishwarya Saxena**

How does KredX's model of supply chain finance complement or compete with traditional bank lending in India?

We don't compete with banks but collaborate with them. Our TReDS platform- Domestic Trade Exchange (DTX) functions like an exchange. We currently have 50+ banks on board, which allows MSMEs to access funds faster, more efficiently, and more transparently.

In a traditional setup, an MSME may approach

four or five banks, receive one or two offers, and accept a fixed rate. On TReDS, once an MSME uploads an invoice approved by the buyer, all participating banks can bid for it, similar to a stock exchange. This competitive bidding drives rates lower. For instance, if one bank offers 8 per cent, another may reduce it to 7.5 per cent, and yet another to 7 per cent. As a result, MSMEs get access to the cheapest capital in the market, and they're not tied to a single bank line

of credit for a year. Each invoice can attract the best available rate.

The process is fully transparent, with all banks, NBFCs, and factors participating under RBI regulations. For banks, the benefit is equally strong: there's no cost of acquisition, underwriting, or operations, costs that usually add up to 1-2 per cent. Since those expenses are eliminated, banks can pass the savings to MSMEs and build higher volumes effortlessly. That's why



TReDS today processes around Rs 30,000–35,000 crore every month.

What is KredX's USP compared to its competitors in the industry?

First, we're an RBI-regulated platform, and there's strong government push for adoption, companies with turnover above Rs



With KredX, an MSME can get funds within 24 hours, unlike the lengthy documentation process at traditional banks

250 crore are mandated to register on TReDS. This ensures compliance for buyers, sellers, and banks.

Second, unlike one-to-one banking relationships, KredX enables a many-to-many model, ensuring complete transparency and smoother operations. We directly settle funds between



banks, MSMEs, and buyers, making it more like a streamlined B2B payments system.

Third, speed is critical. Invoices are perishable, if payment is delayed, the opportunity is lost. With KredX, an MSME can get funds within 24 hours, unlike the lengthy documentation process at traditional banks.

Finally, we offer deep integration. Our system can connect with buyer ERPs and bank CMS platforms, enabling fully automated, touch-free disbursements at scale, say, Rs 20,000 crore, without a single analyst involved. This reduces costs dramatically while improving speed and

transparency.

What are the regulatory challenges for supply chain finance in India, and how does KredX ensure compliance?

KredX operates as an RBI-regulated platform, so compliance is central to what we do. We conduct full KYC checks for buyers, sellers, and financiers, along with mandatory screenings such as anti-money laundering and counter-terrorism financing. We're integrated with national databases like SARFAESI to ensure the same invoice

cannot be discounted multiple times.

I don't view compliance as a burden, it's simply the right way to build something sustainable and long-term. Supply chain finance is naturally complex because supply chains themselves are complicated. Payments are often delayed until the final product is sold to the end consumer, and disputes over quality, offsets, or credit notes can cause further delays. With multiple invoices, POs, GRNs, and reconciliations in play, the process can be messy.

That's where a

regulated platform like ours helps. By ensuring transparency and automating compliance, we remove friction from the system. Instead of suppliers chasing payments with seasonal or personal pressures, invoices can simply be discounted, and funds flow quickly. This reduces strain on businesses and smoothens the entire supply chain.

How does KredX integrate with UPI and India's new digital public infrastructure for payments?

Think of TReDS platform, Domestic Trade Exchange (DTX), as a UPI-like system for B2B payments. The concept is similar, but the scale is different. UPI is built for small, real-time retail payments, like buying tea. In supply chain finance, we're talking about invoices worth lakhs or even crores, which UPI isn't designed to handle.

KredX provides the ecosystem to make these large-value B2B payments smooth, transparent, and efficient, similar in spirit to UPI but tailored to businesses. Unlike consumer payments where gratification is instant, B2B transactions involve multiple stakeholders and

delayed consumption, which adds complexity.

Today, TReDS platforms collectively process around Rs 35,000 crore every month, and we're only just getting started. With continued adoption, the volumes could one day rival UPI itself in India's financial ecosystem.

KredX's GTX platform focuses on global trade. How are you tackling issues like currency volatility and sanctions compliance?

GTX is our supply chain finance platform dedicated to

We conduct full KYC checks for buyers, sellers, and financiers, along with mandatory screenings such as anti-money laundering and counter-terrorism financing

cross-border trade. The key difference from DTX (domestic trade exchange) is that GTX settles transactions directly in the invoice currency. So, if an invoice is raised in dollars, the payment is also made

in dollars, there's no conversion to INR. That means currency volatility isn't a platform concern; it's naturally managed between the exporter and importer.

The real benefit is speed. Traditionally, an exporter would raise a \$100,000 invoice and wait 90 days for payment, exposed to currency swings the entire time.

With GTX, they can raise an invoice today and receive the funds almost immediately. This eliminates the need for costly hedging, which could otherwise consume 4–5 per cent of the transaction value. In effect, exporters and importers are protected from volatility simply by accessing early payments through the platform.

How does KredX integrate with enterprise or corporate ERP/finance systems for BFSI clients to automate order-to-cash and payables processes?

Our strength lies in deep integration through our proprietary Cash Management System (CMS). It covers accounts payable and receivable, two-way and three-way matching (PO, invoice, GRN), reconciliation, and cash collections. CMS

■ INTERVIEW

integrates seamlessly with leading ERPs like SAP and Oracle, or virtually any global ERP, using APIs.

Once integrated, the entire data flow becomes touchless, no manual errors, no overhead, and complete automation. On the banking side, our APIs connect directly with bank CMS systems to exchange bidding information, UTRs, transaction details, and invoices in real time. This makes the whole process, from invoice discounting to settlement, fast, transparent, and error-free.

How does the KredX platform help financial institutions and banks expand into underserved segments like MSMEs?

Traditionally, MSMEs in Tier 2 or Tier 3 cities relied on local banks for working capital. These banks often demanded heavy collateral, homes, cars, or other assets and charged higher rates. Through KredX, MSMEs supplying to large buyers can access financing without collateral and at the lowest rates, simply by registering on the platform.

For banks, this opens massive opportunities. A small finance bank

focused only in the South can now discount invoices of MSME suppliers in Ludhiana, Jalandhar, or the Northeast, regions where they have no physical presence. Export clusters like Tirupur or Ludhiana also become accessible. Effectively, banks can reach every MSME supplier or exporter in India, regardless of geography, with zero cost of acquisition, zero cost of underwriting, and zero operational overhead.

MSMEs, in turn, gain access to all banks, NBFCs, and SFBs through a



single platform, even institutions they may never have heard of. It democratizes access to capital while helping financial institutions meet their lending requirements and expand their reach far beyond their branch networks.

With the integration of next-gen technologies in the BFSI sector, how is digital transformation helping or challenging KredX's growth?

Digital transformation is largely helping us. AI, for example, has been transformative—not only for customer support but also for coding. My team uses tools like Copilot extensively, which speeds up product development and reduces time-to-market. AI also allows us to serve more customers efficiently, automate manual processes, and lower acquisition costs.

Beyond AI, India's digital infrastructure has been critical. Systems like NACH for automated fund transfers, CKYC for faster onboarding, SARFAESI for charge creation, and Aadhaar verification have streamlined what used to be slow, document-heavy processes. Much of this now happens via APIs, making KYC, compliance, and fund

flows faster and more reliable.

Where do you see KredX growing in the next three to five years, and are there any services or solutions we can expect by the end of this year?

The biggest opportunities for us lie in both domestic and cross-border trade. With GST rationalisation and ongoing tariff wars, India is pushing deeper into exports while domestic consumption continues to rise. That creates massive potential for TReDS in B2B transactions and for GTX in global trade.

Once integrated, the entire data flow becomes touchless, no manual errors, no overhead, and complete automation. On the banking side, our APIs connect directly with bank CMS systems to exchange bidding information, UTRs, transaction details, and invoices in real time

For example, if exports shift from the US to Latin America, KredX can follow that shift and build network effects by attracting both exporters and new importers to our platform.

We often describe TReDS as a “B2B UPI.” Like UPI, it's becoming commoditised—banks, buyers, and sellers are all there. The real differentiator now is technology: how easy, seamless, and efficient the platform is. That's why we're doubling down on tech innovation. For instance, we're exploring integrations with GST systems so invoices on our platform can be GST-verified in real time. This helps buyers avoid risks like dealing with invoices where GST was charged but never deposited, blocking input credit.

Similarly, on GTX, we're looking at digitising freight contracts and making global trade flows easier to match and manage. We do have some innovative products in the pipeline, but most of those will be launched next year. For now, the focus remains on strengthening technology, transparency, and usability across our platforms. ■

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BFSI fraud detection gets smarter with DSW UnifyAI

Highlighting the power of UnifyAI, **Sandeep Khuperkar, Founder and CEO, Data Science Wizards (DSW)** explains to **Aishwarya Saxena** how DSW is enabling scalable and responsible AI for BFSI enterprises

What is the founding vision behind Data Science Wizards, and how does it differentiate itself from other AI platform providers?

The founding vision of Data Science Wizards (DSW) has been to make AI adoption real, scalable, and responsible for enterprises. Over the years, AI deployments often stalled in ‘pilot mode,’ not because of lack of technology, but because enterprises lacked an infrastructure layer to embed AI into the core of their operations.

DSW’s UnifyAI was built to address this gap. It is not another AI tool; it is the OS for Enterprise AI — a platform that unifies the lifecycle of data, models, agents, governance, and deployment. This allows enterprises to move from isolated experiments to production-grade AI systems at speed and with confidence.

What differentiates us is:

- A unified lifecycle that connects data to deployment seamlessly.
- Enterprise-grade governance, ensuring

AI is usable even in highly regulated industries.

- Deployment flexibility without lock-in, across on-prem, hybrid, or cloud environments.

In essence, DSW UnifyAI helps enterprises treat AI not as an add-on, but as a foundational business capability.

How does DSW UnifyAI handle hybrid AI execution across cloud and on-premise environments?

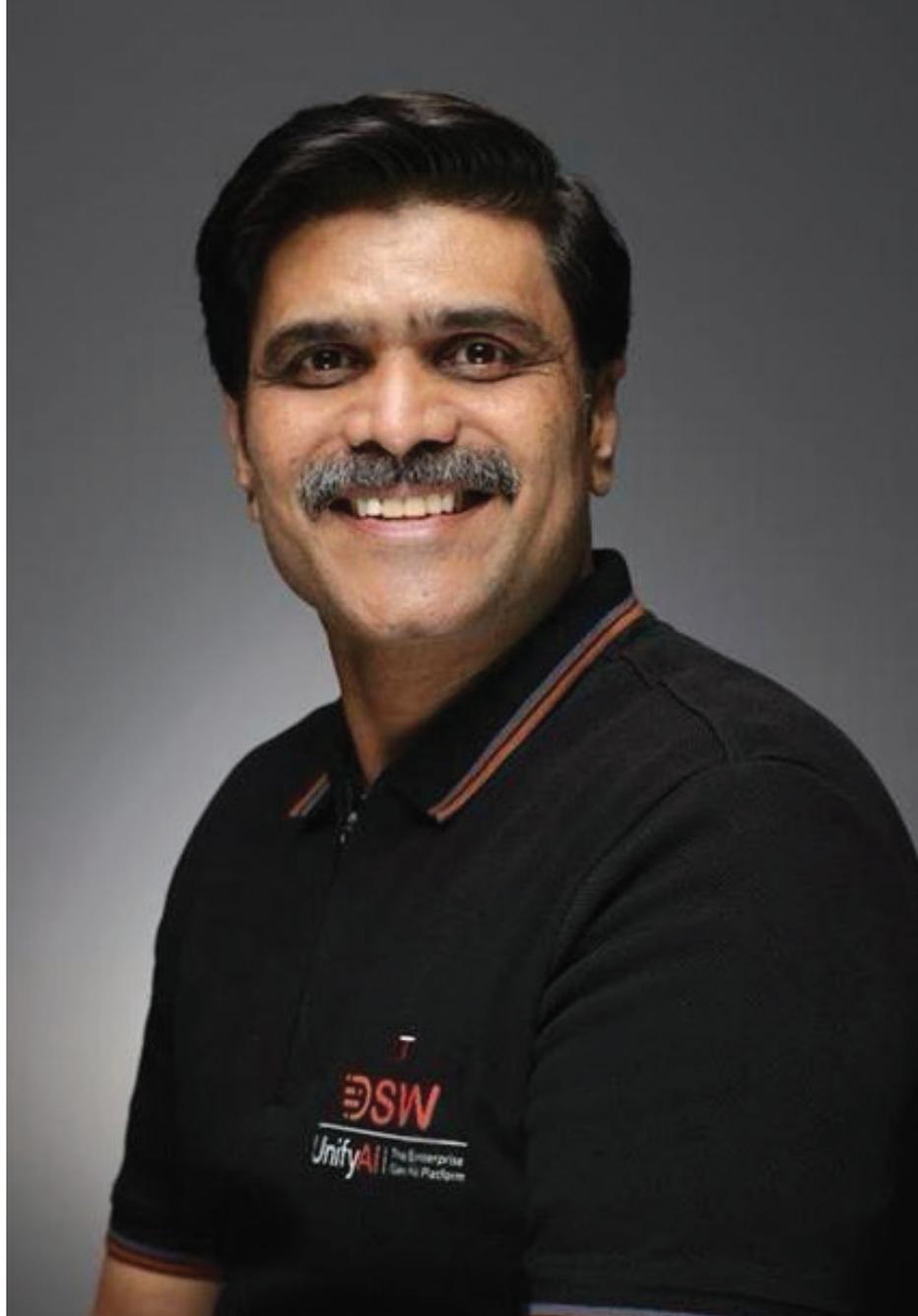
Hybrid execution is a foundational principle of DSW UnifyAI’s architecture. In BFSI

and other regulated industries, critical workloads cannot reside fully on public cloud due to compliance, data residency, and security requirements. At the same time, enterprises need the elasticity of cloud to scale compute-heavy workloads such as model training or GenAI use cases.

Key to this is a centralised control plane that provides governance, observability, and policy enforcement across all environments. Every model, workflow, and decision is traceable and explainable, ensuring enterprises can scale AI adoption responsibly while meeting regulatory expectations.

With this approach, organisations can keep sensitive workloads in-house, leverage cloud where scale is required, and operate with full flexibility — all without vendor lock-in.

What impact has insurAInce had on reducing claims fraud and improving persistency prediction in live deployments?



DSW UnifyAI helps enterprises treat AI not as an add-on, but as a foundational business capability

insurAInce, built on DSW UnifyAI, is our flagship vertical solution for insurers. It addresses two of the most critical business priorities in the industry:

Claims fraud detection:

By combining GenAI-driven document parsing with anomaly detection, insurAInce enables insurers to identify fraudulent



claims earlier and handle them at scale with greater efficiency. This not only reduces financial leakage but also accelerates claims resolution, strengthening customer trust.

Persistency prediction: Predictive models that leverage both structured policyholder data and unstructured sources like call transcripts generate early warning signals for lapses. This allows insurers to engage proactively with customers, improving retention and protecting long-term profitability.

What makes insurAlnce impactful is not just the sophistication of

its models, but the governance and explainability embedded in every workflow. With DSW UnifyAI as the backbone, insurers gain a system that scales predictably, learns continuously from ground-level feedback, and delivers insights they can trust in highly regulated environments.

For BFSI clients, how does your platform improve fraud detection accuracy while keeping false positives low?

Fraud detection is only valuable if accuracy is achieved without overburdening teams

with false positives. DSW UnifyAI improves this balance through a multi-layered strategy:

- Hybrid data models capture richer fraud signals by blending structured transactions with unstructured content like chats and documents.
- Adaptive feedback loops refine models continuously using investigator inputs, improving accuracy over time.
- Confidence scoring APIs quantify the reliability of predictions, enabling risk-based prioritization.
- Agentic AI orchestration

manages entire fraud investigation workflows, surfacing only cases requiring human judgment.

The result: BFSI clients achieve higher fraud detection rates while maintaining false positives, ensuring both compliance and customer trust.

What safeguards are in place to ensure explainability, transparency, and traceability in GenAI-powered workflows?

Trust is fundamental to AI adoption, and DSW UnifyAI addresses this through a governed GenAI framework that incorporates safeguards at every level. The platform features a Prompt Hub with versioning, ensuring that every prompt, model, and output remains fully auditable. Guardrails and policy enforcement are built into workflows to embed both regulatory and business rules seamlessly.

Additionally, explainability layers provide context and rationale for outputs, making AI decisions interpretable for users. Complementing this, traceability logs capture the complete decision journey, creating an end-to-end audit trail.

Together, these

measures ensure that GenAI in BFSI and other highly regulated industries does not operate as a 'black box,' but rather as a transparent, controlled system that enterprises can adopt with confidence.

How do you see the role of AI in reshaping risk management and fraud detection in the next 5 years?

The next five years will bring a fundamental transformation in the way risk and fraud are managed, with humans remaining an essential part of the loop. Three key trends are expected to shape this evolution:

- Agentic AI systems will autonomously

Together, these measures ensure that GenAI in BFSI and other highly regulated industries does not operate as a 'black box,' but rather as a transparent, controlled system that enterprises can adopt with confidence.

manage end-to-end workflows, from detection to resolution, thereby reducing dependence on manual intervention while ensuring human oversight remains integral.

- Real-time risk engines will emerge, powered by AI-native infrastructure, enabling dynamic risk scoring across portfolios and transactions with unprecedented speed and accuracy.
- Collaborative ecosystems will take shape, where banks, insurers, and regulators securely share AI-driven insights. This will strengthen fraud prevention efforts while safeguarding privacy and compliance.

Overall, risk management will shift from a reactive model to a proactive and predictive one. The enterprises that succeed will be those that embed AI as a core infrastructure layer rather than treating it as a siloed tool while maintaining a balance between automation and human judgment.■

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How AI-powered payments are shaping India's UPI 3.0 ecosystem

Ankush Sabharwal, Founder & CEO, CoRover & BharatGPT, explains how voice, AI, and UPI 3.0 are transforming payments into simple, human conversations

THE PAYMENTS

landscape in India has always been dynamic, but with UPI 3.0 it is undergoing a paradigm shift where AI, voice, conversational UX, and inclusion intersect to reshape how millions transact daily. CoRover, in collaboration with NPCI and IRCTC, is proud to be part of this transformation.

Sharing his perspective on how AI-powered payments are shaping the UPI 3.0 ecosystem, Ankush highlighted the

technical foundations, their impact, and the road ahead—particularly as voice-based payments in multiple languages are enabled across voice calls, mobile apps, feature phones, and web platforms

UPI 3.0: The next frontier

Since its launch in 2016, the Unified Payments Interface (UPI) has been continuously evolving. UPI 123Pay, AutoPay, RuPay credit linkage, UPI Lite, UPI Circle, Conversational

AI Payments and so on, reflect incremental enhancements. UPI 3.0, however, aims at more fundamental shifts not just making payments more features-rich, but more human, intuitive and accessible. One of these shifts is conversational voice payments, which turn transaction flows into dialogue rather than forms.

Conversational Voice Payments: What, How, Why

In August 2024, CoRover,



NPCI and IRCTC unveiled “Conversational Voice Payments” at the Global Fintech Fest, a breakthrough feature that enables users to complete UPI transactions either through voice commands or by typing their UPI ID or mobile number. Users can simply speak in their preferred language, such as Hindi, English, Gujarati and more, via a voice interface available on phone, app or web, with the AI system powered by CoRover’s BharatGPT processing the voice

input seamlessly. If a mobile number is provided, the system automatically fetches the corresponding UPI ID and, through payment gateway APIs, initiates a UPI payment request via the user’s default UPI app. The solution also offers flexibility, allowing users to update their mobile number or UPI ID within a prescribed transaction time limit to rectify errors or make adjustments as needed. Integrated with AskDISHA, IRCTC’s AI virtual assistant, this innovation transforms

everyday interactions such as “Book me a train ticket” or “I want to pay for my ticket” into simple voice driven commands making voice the new user interface.

Multilingual, Multidevice: Inclusivity by design

A core pillar of this initiative is inclusion. India is extremely diverse linguistically: hundreds of languages, dialectal variations, uneven digital literacy. To truly democratize payments, we need systems that respect that diversity.



Conversational voice payments support multiple Indian languages and various input modes not just smartphones but feature phones, voice calls, and potentially web interfaces as well

Conversational voice payments support multiple Indian languages (not just English or Hindi) and various input modes not just smartphones but feature phones, voice calls, and potentially web interfaces as well.

NPCI's "Hello UPI" product overview outlines that Hello UPI will be enabled over telecom calls, UPI apps, and IoT devices. This means users on feature phones without full graphical UIs can still make UPI payments via voice or via DTMF or voice prompts. So,

our goal is not just convenience for tech-savvy users, but true accessibility.

Technical challenges & safeguards

Bringing this vision alive

requires solving some non-trivial challenges:

- 1. Voice recognition and natural language understanding (NLU)** across many languages and dialects. Accents, background noise, and ambient conditions matter. BharatGPT has been built and trained to recognise and interpret voice commands accurately in Hindi, Gujarati and more.
- 2. Security and authentication:** UPI demands robust

verification (PIN, two-factor, etc.). Even when voice is used, the final confirmation (e.g. UPI PIN or another secure flow) must remain. The voice system must not bypass security; rather, it should integrate with existing secure protocols. From our launch, the system retrieves UPI ID but still requires confirmation via the UPI app.

3. APIs and system integration:

The voice-based system requires tight coupling with payment gateway APIs, NPCI's backend, default UPI apps, and also front ends like

AskDISHA. Handling API failures, latency, fallback flows (e.g. typing instead of speaking) is critical. From the launch, the system retrieves the UPI ID when given a mobile number and triggers a payment request via the existing UPI app that keeps compatibility high.

4. Regulatory compliance and fraud prevention:

Identity verification, audit trails, logging, dispute resolution must all comply with RBI / NPCI norms. All components must be safe, explainable to some extent, robust to adversarial inputs.

Impact: What these changes mean in numbers

While conversational voice payments are recent, the data around UPI's growth provides context for the scale of opportunity. UPI transaction volumes have grown exponentially over the years and, as of 2025, there are hundreds of millions of users, with UPI handling trillions of rupees worth of transactions monthly (specific recent numbers are proprietary to NPCI), which can be checked in the NPCI's website.

Feature phone users, estimated around 400 million, represent a population



■ VIEWPOINT

segment that was underserved by app-based payments, and voice-based payments are now bringing them into the fold. Multilingual adoption supporting Hindi, Marathi, Gujarati, and other Indian languages further increase reach across Tier 2 and Tier 3/4 cities, where local languages dominate. Early feedback from pilot deployments indicates higher success and satisfaction rates when users can speak in their own language; in fact, at CoRover, internal metrics show error rates drop substantially when the voice interface matches the user's preferred language, compared to forcing English or typed input. For IRCTC, the integration with AskDISHA means that millions of railway booking transactions may now be voice initiated. Considering that IRCTC handles tens of millions of bookings annually, even a small shift of users toward voice transactions can significantly reduce friction, improve booking rates, lower drop-offs, and increase revenue, particularly in less connected areas.

Why AI-powered payments are key to UPI 3.0's success

1. Accessibility: Voice

opens up for those with low literacy, visual impairment, or even just discomfort with typing or reading long UPI IDs or digital forms.

2. Speed & Convenience:

Talking is faster than

Finally, as AI gets more deeply embedded into the payments ecosystem, privacy, explainability, and regulation will take center stage, with increasing demands for transparency, user consent, data protection, and auditing all of which must be integral to every design

typing, especially on small keyboards or in mobile apps. For many micro-transactions, the friction of typing deters usage; voice removes that.

3. Human-Centric

UX: Conversational flows (voice + natural

language prompts) make interaction more intuitive. This matters especially as banking/fintech touches everyday life travel bookings, bill payments, groceries, etc.

4. Scale & Inclusivity:

India's UPI ecosystem has to keep scaling, but scaling must correspond with inclusion. Voice payments allow feature phone users, regional language speakers, and rural users to join the formal digital payments economy.

5. Economics:

Lower support costs, fewer help desk calls, fewer failed transactions, higher conversion all of which improve bottom lines for banks, payment gateways, merchants.

Looking ahead: What's next for UPI + Voice + AI

As we move forward into UPI 3.0, there are a few trajectories that will shape how this landscape evolves. One of the most critical will be expanded language support, with the addition of many more Indian languages and dialects, including regional ones, while simultaneously improving dialect robust speech recognition.

Another important direction is web and IoT integration, where voice payments will no longer be limited to apps and calls but will also extend to web platforms, smart devices, kiosks, and even voice activated payments on supported devices like smart speakers and wearables. For feature phones or low connectivity zones, offline voice based flows will be essential, leveraging a combination of voice, DTMF and IVR (Telephony AI) hybrids that require minimal or no internet. In parallel, contextual experiences will evolve, enabling users to initiate entire flows through simple commands for example, saying “I want to pay rent” or “I want two return tickets to Delhi,” after which the system carries the context, books, populates, and confirms seamlessly. We will soon have personalised and proactive payments suggestions/ reminders, like, do you want to pay for your broadband now, you may get a 10% discount if you pay today. Enhanced Conversational analytics for the banks; app providers and the users. At the same time, ensuring a better UX fallback will be key:



when voice inputs fail due to noise, accent, or technical glitches, users should be able to fall back to typing or manual confirmation with minimal friction. Finally, as AI gets more deeply embedded into the payments ecosystem, privacy, explainability, and regulation will take center stage, with increasing demands for transparency, user consent, data protection, and auditing all of which must be integral to every design.

Conclusion

India's UPI journey from its modest beginnings to a trillions rupee ecosystem has always been about inclusion, innovation, interoperability.

AI-powered payments, particularly conversational voice systems, are not just another feature. They represent a fundamental shift toward making payments more human and more accessible. For CoRover.ai, this is not a technological fantasy but a tangible reality: voice payments in many Indian languages, executing via UPI flows, across phones, feature phones, web, all with security, speed, and delight. As UPI 3.0 rolls out, we are entering an era where “speak, don't type” becomes more than a slogan, it becomes standard. And that changes everything. Speaking is natural! ■

Turning every UPI transaction into a credit opportunity

In a recent interaction with **Aishwarya Saxena, Gorav Gupta, Co-Founder & Director, DigiMoney Finance** outlines how UPI 3.0 is blurring the line between payments and lending while enabling financial inclusion

With banks dominating UPI, what opportunities do NBFCs have to differentiate through AI-driven financial services?

Banks, by their nature, will always have the first-mover advantage with UPI because it is, fundamentally, a bank-to-bank transfer system. However, this is also where the opportunity lies for us as NBFCs. Our differentiation isn't just about facilitating payments; it's about what we do with the vast transaction data that UPI generates.

Also, NBFCs

cannot compete with banks purely on transaction volumes. The opportunity lies in personalised, AI-driven financial services:

- **Alternative Data:** Using device signals, UPI intent data, and behavioral analytics to underwrite thin-file customers.
- **Contextual Micro-Loans:** Embedding instant credit at checkout, bill payments, and merchant apps.
- **Dynamic Pricing & Nudges:** Offering flexible EMI, savings-linked loans, and

bundled insurance products.

■ **Customer Experience:**

Faster underwriting and omni-channel service delivery.

This way, NBFCs transform UPI payments data into customer engagement funnels rather than chasing volumes.

Do you believe UPI 3.0 will transform NBFCs from lending-first institutions to payment-enabled credit ecosystems?

Absolutely. UPI 3.0 is a paradigm shift. The ability to offer credit lines



“
Our
differentiation
isn't just about
facilitating
payments; it's
about what we
do with the vast
transaction
data that UPI
generates

on UPI is a revolutionary step. For years, UPI has been a debit network, moving money users already have. With UPI 3.0, it becomes a credit network. This fundamentally blurs the line between lending and payments.

This is a massive opportunity for NBFCs. Instead of being "lending-first" institutions that onboard customers for a single product, we can now become payment-enabled credit ecosystems. We can offer pre-approved credit right at the point of a UPI transaction. A user can buy something and choose to pay with their credit line, all within the same seamless UPI flow. This will allow us to drive greater customer engagement and loyalty, as we're no longer just

a lender but a daily financial partner. It moves us from a reactive "apply-and-wait" model to a proactive, instant-credit-in-hand model.

This means credit becomes a seamless, integrated part of a consumer's daily life. Instead of applying for a separate loan, a customer can instantly use their approved

credit line to make a UPI payment for a purchase. This shift turns every UPI transaction into a potential point of credit disbursement. NBFCs can use AI to analyse real-time UPI transaction data and offer dynamic credit limits, personalised interest rates, and automated repayment schedules. This creates a powerful credit-on-demand model, fostering a continuous and deeply integrated relationship with the customer, well beyond a one-time loan.

How are you ensuring fairness in AI-driven lending decisions and avoiding algorithmic bias against new-to-credit borrowers?

Ensuring fairness is our ethical and business imperative. We approach this from two key



angles: data and model governance. First, we are committed to using a diverse set of alternative data sources to assess creditworthiness. Traditional credit scores often disadvantage new-to-credit borrowers because they simply lack a formal credit history. Our AI models are trained on a broader spectrum of data, including utility payments, mobile phone usage, and digital transaction history, which provides a more holistic and accurate view of a borrower's financial behavior.

Second, we employ a robust Explainable AI (XAI) framework. We do not use "black box" models. Every lending decision has a transparent audit trail, allowing us to understand why a loan was approved or rejected. This helps us to actively monitor for and mitigate any potential

biases that may creep into the algorithm. We conduct regular audits and back-testing of our models to ensure they are consistently fair and non-discriminatory. Our goal is to expand financial inclusion, and that starts with an ethical and transparent lending process.

AI must expand access, not exclude it. Our safeguards include:

- **Fairness Constraints:** Monitoring models for disparate impact and bias.
- **Explainable AI:** Giving customers clear reasons for approval or rejection.
- **Alternative Data:** Utility bills, transaction histories, and device patterns to support new-to-credit borrowers.
- **Human Oversight:** Manual review for edge cases.

- **Regulatory Alignment:** Strict adherence to the Digital Personal Data Protection Act (DPDP) on consent, minimal data usage, and auditability.

These measures build both fairness and trust.

With loan frauds rising, how are NBFCs using AI to detect synthetic identities and fraudulent UPI-linked applications?

Loan fraud is a significant and evolving challenge. The rise of synthetic identities—where fraudsters combine real and fake information to create a new identity—is particularly concerning. We're combatting this with a multi-layered AI approach.

Fraudsters are using advanced techniques, including synthetic IDs and deepfakes. AI-based detection relies on:

- **Device & Behavioral Fingerprints:**

Spotting anomalies in keystrokes, geolocation, or transaction velocity.

- **Graph Analytics:** Mapping hidden connections between suspicious accounts.
- **Real-Time Anomaly Detection:** Blocking transactions with unusual repayment or UPI linking patterns.
- **Adaptive Models:** Continuously retraining fraud-detection systems as patterns evolve.

This layered approach balances fraud control with smooth customer onboarding.

How is your organisation ensuring compliance with the Digital Personal Data Protection Act (DPDP) when integrating AI?

Compliance with the DPDP Act is paramount. The very foundation of our AI integration is built on the principles of consent and data minimisation. We have implemented a consent management framework that is granular, specific, and easily revocable. Users are given clear, plain-language notices explaining what data we are collecting, why we are collecting it, and how it will be used by our AI models. We are ensuring compliance by:

- **Purpose Limitation and Data Minimisation:** We only collect and process personal data for a specific, lawful purpose for which we have obtained explicit consent. Our AI models are designed to use the minimum amount of data required to make a decision, a principle known as "data minimisation." We do not retain data for longer than is necessary.
- **Explicit and Unambiguous Consent:** Before processing any personal data for an AI application, we provide clear and concise notice to the data principal (the user). This notice explains exactly what data we are collecting, why we need it, and how it will be used. Consent is obtained through a clear, affirmative action and can be easily withdrawn by the user.

We see DPDP not as a hurdle, but as a framework to build long-term digital trust.

Do you believe cross-border UPI + AI-powered microfinance can open new markets for NBFCs?

Yes, this is a major

frontier. Cross-border UPI linkages, such as those with Singapore's PayNow, are just the beginning. The real revolution will be when we combine this with AI-powered microfinance. This can open up huge new markets for us, particularly in remittance corridors.

Imagine a migrant worker who sends money back home. Our AI can analyze their transactional behavior in India, their savings patterns, and their remittances via UPI. Based on this data, we can offer micro-credit to their family back in their home country, with repayments structured to align with the remittance schedule.

This transforms a simple payment transaction into a financial service. It allows NBFCs to provide a financial lifeline to the unbanked and underbanked populations in neighboring countries, all powered by the robust infrastructure of UPI and the intelligence of AI. It's a powerful combination that turns payments into a gateway for financial inclusion on a global scale. ■

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Customer trust sets banks apart in AI-powered UPI

Gajanan Raut, Technology Leader, PSU Bank, in dialogue with **Aishwarya Saxena**, outlines how traditional banks remain central to UPI's growth and AI integration

What role do you see traditional banks playing in shaping the future of real-time, AI-driven payments in India?

Traditional banks in India are pivotal in shaping the future of real-time, AI-driven payments, particularly through their integration with the Unified Payments Interface (UPI). As of 2025, UPI processes over 20 billion transactions monthly, worth Rs 25 trillion, driven by its interoperability and real-time capabilities.

Major contributions are maintaining the foundational

infrastructure for stability and scalability and serving as the custodians of public trust due to decades of regulatory oversight and customer relationships. Their deep understanding of risk management and compliance is crucial for the secure and responsible deployment of new AI-driven payment solutions.

Banks provide foundational infrastructure for UPI, managing accounts, ensuring regulatory compliance, and maintaining trust through robust security protocols. They act

as payer and payee Payment Service Providers (PSPs), handling authentication and settlement processes critical for seamless transactions.

Banks are also leveraging AI to enhance payment systems. For instance, AI-driven fraud detection systems analyse transaction patterns in real-time, reducing fraud rates by up to 30%. Additionally, banks are investing in AI-powered chatbots and virtual assistants to streamline customer interactions, such as guiding users through UPI setup or

resolving disputes. These efforts align with the Reserve Bank of India's (RBI) push for digital transformation, with banks adopting machine learning for predictive analytics to optimize transaction flows.

However, banks face competition from Fintechs, which dominate with user-friendly interfaces and larger marketing budgets. Banks counter this by focusing on trust, regulatory adherence, and their extensive customer base—over 550 banks are integrated into UPI, covering 80% of India's banking population. Their role will evolve into hybrid models, collaborating with FinTechs to integrate AI innovations while maintaining core banking functions like credit provision and risk management.

With the increase in UPI adoption, what frameworks are being implemented to maintain transaction trust at scale?

UPI's exponential growth—500 million



Banks provide foundational infrastructure for UPI, managing accounts, ensuring regulatory compliance, and maintaining trust through robust security protocols

active users by 2025—demands robust frameworks to ensure transaction trust. NPCI enforces many transaction trust frameworks. The core is the centralised, interoperable architecture of UPI, which provides a single, uniform standard for all participants. Security is enhanced through the use of a Virtual Payment Address (VPA), which keeps sensitive bank details private, and a unique



UPI PIN for two-factor authentication. On the back end, AI and machine learning are being used for real-time fraud detection, analysing transaction patterns to flag anomalous behaviour. The dispute resolution framework also provides a clear and efficient process for resolving transaction issues.

The RBI's regulatory oversight ensures compliance with Anti-Money Laundering (AML) and Know Your Customer (KYC) protocols, mandating real-time monitoring to curb illicit activities. NPCI's fraud awareness campaigns educate users on social

engineering risks, which account for 60% of UPI fraud incidents.

NPCI implements continuous reconciliation processes and infrastructure upgrades to address technical declines. These frameworks collectively ensure trust at scale, supporting UPI's dominance in 86% of India's digital transaction volume.

Are Indian banks prepared to handle interoperability challenges as UPI 3.0 expands internationally?

UPI 3.0, expected to roll out by 2026, aims to enhance international interoperability,

building on existing linkages, which processes 3,000 cross-border transactions monthly. Indian banks are moderately prepared but face challenges. Major banks have enabled UPI for non-resident Indians in 10 countries, leveraging existing infrastructure for cross-border remittances. However, smaller banks lag due to limited technological investment and expertise.

Interoperability challenges include aligning with diverse global protocols, APIs, and security standards. Scalability issues, such as handling increased transaction volumes,

demand significant software and network upgrades.

Banks' preparedness hinges on collaboration with NPCI's international arm (NIPL) and FinTechs, which facilitate technical integrations.

With FinTechs dominating the innovation space, what unique advantages do banks bring to AI-powered UPI adoption?

While FinTechs are innovative, traditional banks have key advantages in the AI-driven payments world. Their biggest strength is their vast amount of historical customer data, which is essential for AI to create personalised financial services like customized credit lines. Banks also have the public's trust and regulatory support to handle sensitive data responsibly. These factors, along with their ability to manage large transactions and offer a full range of financial services, give them a powerful advantage.

This financial depth, combined with AI analytics for credit scoring, positions banks as critical players in expanding UPI's utility.

Do you believe AI-driven UPI ecosystems will make banking "invisible" for

customers, shifting focus entirely to experiences rather than institutions?

AI-driven UPI is making banking feel "invisible" by moving the focus from banks to simple, voice-based interactions. While FinTechs handle the user-facing apps, banks are becoming the silent, trusted backend. However, banks won't disappear entirely; they will remain essential for complex services like loans, as well as for ensuring trust and security. The core idea is that the automated,

Fourth, integration with emerging tech like blockchain could enable decentralised, transparent transactions, though regulatory hurdles remain.

everyday tasks will be handled seamlessly, while the critical, important decisions will still involve the traditional banking institution.

How do you see UPI 3.0 evolving over the next five years with AI

integration?

Over the next five years, UPI 3.0 is poised to evolve significantly with AI integration. First, AI will enhance personalisation, using predictive analytics to tailor payment suggestions, like auto-paying recurring bills, increasing user retention by 20%.

Second, UPI 3.0 will expand cross-border capabilities, with NPCI targeting interoperability with 20+ countries by 2030, reducing remittance costs by 30%.

Third, AI-driven security will advance, with biometric authentication (e.g., voice or facial recognition) reducing fraud rates by 40%.

Fourth, integration with emerging tech like blockchain could enable decentralised, transparent transactions, though regulatory hurdles remain.

Finally, UPI 3.0 may merge with the digital rupee (e-Rupee), creating a hybrid system for retail and large transactions, with AI optimizing settlement efficiency. By 2031, UPI is expected to handle 50 billion monthly transactions, driving India's \$1 trillion digital economy vision. ■

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FynX Capital redefines MSME loan eligibility in India

Abhay Goswami, CBO, FynX Capital shares insights with **Aishwarya Saxena** on bridging India's MSME financing gap through tech-enabled solutions

What are the eligibility criteria for MSMEs to avail FynX Capital's loans and how do you accommodate businesses that don't meet traditional bank lending criteria?

The eligibility criteria for MSMEs is mostly standard across lenders in today's time, given access to valuable data points being readily available such as Bureau Scores (to understand repayment track), GSTR data (to understand sales, circular transactions and concentration risk), banking (to understand repayment ability and

cash flow patterns), etc. However, at FynX Capital, we tend to focus more on understanding each borrower's business, its growth opportunities and bring in empathy to the process, to avoid making lending decisions based on traditional or standardised banking criteria.

Our core focus is in line with the Indian Government's push for the Indian manufacturing ecosystem, while also catering to participants directly involved in the supply chain ecosystem of these Indian

manufacturers, be it suppliers, super stockists, or distributors.

What is FynX's approach to non-performing asset management in the MSME loan segment? What are historical default rates?

At FynX Capital, we address overdue accounts before coming to NPAs. Overdue accounts, especially in the Unsecured lending space also need to be managed empathetically. MSMEs are typically not business owners who can afford to intentionally default,



We tend to focus more on understanding each borrower's business, its growth opportunities and bring in empathy to the process, to avoid making lending decisions based on traditional or standardised banking criteria



as such businesses are run by middle class families, whose survival depends on the particular business. We understand that MSMEs might face sudden cash crunches due to external factors. Being in a tech enabled environment allows us to pre-empt business slowdowns and accordingly manage our communications with our borrowers.

The streamlined

Insolvency Resolution Guidelines and the Prudential Framework for Resolution of Stressed Assets, along with Early Warning System triggers backed by tech, allows us to actively monitor borrower behaviours and their businesses. I believe that India's overall MSME NPAs have come down significantly from 11% in FY20 to 3.59% in FY25, however lenders need

to actively pre-empt future NPA possibilities across products. For FynX Capital, we've built-in risk models to actively account for future NPAs across all of our retail and MSME lending products, but a time span of 3-5 years will show us what modifications might be required to keep improving the efficacy of these models.

■ INTERVIEW

How does FynX Capital manage data privacy, and comply with any data protection regulations in India, especially with emerging DPDP norms?

Data privacy and DPDP norms are one of the key pillars of the financial lending ecosystem that FynX Capital adheres to, by obtaining informed consent from borrowers from the very start, having efficient data security measures, having multi-layer access rights on our platform, so as to ensure data access to respective departments, only limited up to their

respective job roles, while also following data minimisation, in order to collect data only as per minimum requirements for credit risk or operational purposes. Since our LOS and LMS systems powered by BillMart are completely digital, we're able to manage the Data Protection aspect in a far more seamless manner.

What is your strategy to reach smaller MSMEs in Tier-2 or Tier-3 cities and what challenges do you face there?

Accessibility to borrowers can

sometimes be a challenge in Tier-2 and Tier-3 locations, however, we've created lending models wherein we have strong presence on the ground through our BC partners or direct access through the Anchor Sales representatives under Channel Finance programs. We're trying to address the gaps in existing channel finance programs and the reluctance of traditional lenders to offer such limits in Tier-2 / Tier-3 locations. Other challenges in such locations include digital data sharing or process understanding. We're grateful to have



strong partners and SCF Anchors, who help us disseminate the process knowledge across the Tier-2 and Tier-3 locations.

FynX Capital states that they 'look beyond collateral' by evaluating things like income stability, repayment history etc. Which of these non-collateral metrics have shown strongest predictive power for default?

At FynX Capital, we look at every metric for its unique ability to display a particular behaviour. We've noticed consistent low bank balances of MSMEs and avoided the risk of defaults, or over-dependence on an inconsistently paying buyer leading to cash flow mismatches. These data points are typically drawn from GSTR and Bank Statement analyses, however, have shown to give consistently strong predictive results, as these factors have long stood true towards showing cash flow stability of a borrower, while considering lending decisions beyond the typical collateral security.

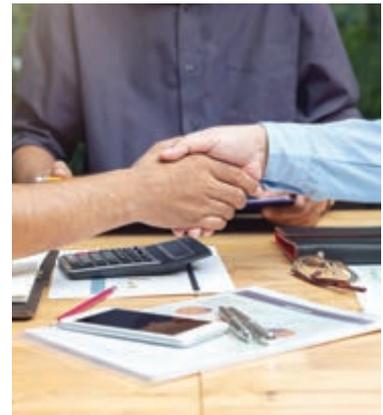
In certain retail lending products of ours, data points such as number of hours worked historically, on a monthly basis, helps us

MSME financing market size of India is close to Rs. 35 – 40 lakh crores as per most reports, while the total market demand of debt amongst MSMEs is more than 2X the same. While the MSME financing addressable gap is identified to be around Rs. 50 lakh crores, that leaves a clear unaddressed gap of 25% or higher

identify eligibility of a gig worker or an off-payroll employee.

How large is the addressable market in MSME finance for FynX Capital, and what share do you aim to capture in, say, 3-5 years?

MSME financing market size of India is close to Rs. 35 – 40 lakh crores as per most reports, while the total market demand of debt amongst MSMEs is more than 2X the same. While the MSME financing addressable gap is identified to



be around Rs. 50 lakh crores, that leaves a clear unaddressed gap of 25% or higher.

With the recent management change, business model shift and a new core team in place, if FynX Capital aims to capture 0.05% of the addressable market, we'd have catered to a significant portion of the MSME financing market in India. Over the coming months and years, our goal shall be to remain agile and adaptable to the market conditions and our offerings to this MSME ecosystem, with a clear focus on the Government's push for 'Make in India' and our offerings geared towards these MSMEs, especially manufacturers and their related supply chains, while having alternative retail products like the one that we currently have, to cater to the inaccessible gig worker economy of India.■

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How BFSI sector can leverage cloud infrastructure to scale faster and serve smarter

Kaushik Chatterjee, Founder and CEO, lendingplate, highlights how cloud has become the cornerstone of India's financial transformation, powering agility, personalisation, and trust in the digital era

INDIA'S FINANCIAL sector is at an inflection point. Rapid digitisation, rising customer expectations, and regulatory shifts are reshaping how banking, financial services, and insurance (BFSI) players operate. What was once an industry defined by brick-and-mortar branches and legacy IT systems is today being challenged by digital-first consumers who demand instant,

personalised, and secure services. At the same time, institutions are under pressure to innovate responsibly while ensuring compliance and managing costs. In this environment, cloud infrastructure has emerged as the single most transformative force enabling BFSI organisations to not just survive disruption, but to scale faster and serve smarter.

Scaling without friction For decades, scaling operations in BFSI meant building expensive data centers and rigid IT frameworks. These setups were difficult to expand quickly, leaving institutions vulnerable during high-demand periods such as festive seasons, IPO rushes, or spikes in insurance claims. Cloud technology has upended this model. By offering elastic

scalability it allows banks, insurers, and non-banking financial companies (NBFCs) to expand or reduce computing power on demand. This agility ensures that millions of digital transactions or loan applications can be processed simultaneously without compromising on speed or reliability.

Serving smarter with data and AI

Scale alone does not win customer loyalty. Today's consumers expect financial institutions to understand their needs in real time. This is where the combination of cloud, data analytics, and artificial intelligence proves transformative. By consolidating diverse data sets on the cloud, institutions gain the ability to analyse credit patterns, spending behaviour, and risk profiles with unprecedented accuracy. The result is personalised services from tailored loan products to customized insurance offerings. Cloud-powered AI models further enable



Institutions that adopt cloud today are not just modernising their IT setups; they are building the architecture of their future

faster decision-making, while chatbots and digital assistants hosted on the cloud provide round-the-clock engagement. In short, the cloud empowers financial institutions to serve not just faster, but smarter.

Security and compliance on the cloud

Security remains a



With advanced encryption, multi-factor authentication, and continuous monitoring, cloud providers deliver robust safeguards. Importantly, regulatory compliance is now built into cloud frameworks

primary concern for the sector. Financial data is among the most sensitive information in the digital economy, and any breach can erode trust instantly. Ironically,

the cloud, once viewed with skepticism, now provides higher standards of protection than most on-premise systems. With advanced encryption, multi-factor authentication, and continuous monitoring, cloud providers deliver robust safeguards. Importantly, regulatory compliance is now built into cloud frameworks. In India, where data localization and guidelines demand strict adherence, cloud providers are operating region-specific data centers to ensure compliance. For BFSI institutions, this means the ability to innovate freely while remaining

aligned with regulatory guardrails.

Cloud economics and the innovation advantage

The economic argument for cloud adoption is equally compelling. Moving away from heavy capital expenditure on physical servers and infrastructure, BFSI players can now shift to an operational expenditure model, paying only for what they use. This not only reduces costs but also accelerates innovation. Institutions can pilot new products, test digital platforms, or integrate fintech APIs without large upfront investments. Smaller NBFCs can compete effectively with larger



incumbents, while established banks can experiment with cutting-edge offerings without fear of sunk costs. Cloud has effectively democratized innovation across the financial landscape.

Powering financial ecosystems of the future

Perhaps its most significant contribution lies in enabling collaboration. The future of finance is not confined within the walls of a single institution but in the ecosystems being built across banks, NBFCs, FinTechs, and third-party service providers. Open banking and embedded finance rely on secure API integrations, and cloud infrastructure makes this seamless. Imagine

a customer applying for a loan, purchasing insurance, investing in mutual funds, and making payments, all from a single digital interface powered by interconnected players. Cloud is the invisible engine that powers such ecosystems, delivering both convenience for consumers and new revenue streams for providers.

The road ahead

As we look ahead, the BFSI sector's reliance on cloud will only deepen. Emerging technologies such as generative AI, blockchain-based smart contracts, and IoT-enabled insurance products will require a cloud foundation to scale effectively. Institutions that adopt cloud today are not just

modernising their IT setups; they are building the architecture of their future. The winners in this transformation will be those who can balance speed with responsibility, scalability with compliance, and personalization with trust.

Cloud as the cornerstone of BFSI

Cloud is not about moving servers out of physical branches; it is about reimagining the very business models of finance. For the BFSI sector, it represents the opportunity to scale faster, serve smarter, and stay ahead in an increasingly digital economy. Those who embrace it fully will be best positioned to shape the future of financial services in India. ■

The role of banks, FinTech and payment enablers in enhancing speed, security and accessibility

Purvi Bhavsar, Co-Founder & Managing Director, Pahal Financial Services, highlights how accessibility, speed, and security must converge to ensure true digital financial inclusion for India's underserved rural and female customers

One cannot discuss the role of banks, FinTech and payment enablers in improving the digital financial landscape without first addressing the needs of their customers.

So, what do clients truly want from digital financial services in today's complex and rapidly evolving environment, especially the underserved rural and female customers?

The answer is rather straightforward: like their urban counterparts, these customers too want to participate in the digital economy through empowering solutions that are simple and affordable.

It's particularly vital to cater to the underserved demographics, as rural India is home to over 65% of the country's population of 1.4 billion people, with women

comprising ~50% of the total. The goal of becoming a 'Viksit Bharat' by 2047 is unattainable without ensuring the digital financial inclusion of these segments. Therefore, it's critical that all actors in the financial services sector (banks, NBFCs, FinTechs, and aggregators) do their part to bring them into the fold.

The objective of



achieving digital financial inclusion can be fulfilled if we focus on the following three key elements:

Accessibility

Historically, the leading cause of financial exclusion in the country's remote corners was that access was limited to brick-and-mortar bank structures. Being a banker myself, I'm extremely well-versed in the challenges involved in setting up and running a branch - the primary one being the significant costs involved (infrastructure, manpower, and daily operations).

However, the advent of the internet, coupled with smartphones, has replaced the

need for traditional, infrastructure-intensive bank branches with cost-effective digital channels, customer service points (CSPs), and other technologies. This, in turn, has led to an increase in the accessibility of basic financial services like banking, insurance, loans, and pensions at a minimal cost, especially in remote, rural areas.

Thanks to new technology, sending money anywhere, in addition to small-value cash withdrawals/deposits, has become much more accessible and affordable. Customers can now also use various digital channels either in DIY mode, assisted

mode or through CSP vendors. AI and ML can also be leveraged to providing accessible and personalised support to customers.

Today, India's Financial Inclusion Index (FI-Index) stand at 67, a surge from 53.9 in 2021, reflecting substantial progress in extending banking services across the nation. Bank account ownership has risen to 89%, largely driven by government initiatives like Pradhan Mantri Jan Dhan Yojana (PMJDY). The number of payment transactions and domestic money transfers has also increased significantly, with Unified Payment Systems (UPI) having over 35 crore active



At Pahal, we've launched PahalPe, a mobile application that provides seamless access to personal loans with rapid approvals and a comprehensive range of services

members. Additionally, India has an 87% FinTech adoption rate compared to 67% globally.

However, formal credit access continues to present a challenge. Fintechs can help bridge gaps on this front further through alternative data and embedded financial models. At Pahal, we've launched PahalPe, a mobile application that provides seamless access to personal loans with rapid approvals and a comprehensive range of services. It's designed to empower individuals, particularly in rural and semi-urban regions, to manage their financial health efficiently and effortlessly.



When it comes to championing last-mile connectivity, payment enablers should continue to support merchants and consumers to transact without traditional banking dependencies.

Speed

Since its launch in 2016, UPI has

revolutionised retail payments in India, enabling instant peer-to-peer and merchant transactions. In FY 2024-25 alone, UPI achieved a landmark with 18,587 crore transactions amounting to 261 lakh crores.

Financial services actors should continue to focus on reducing

transactional lag and increasing real-time efficiency. Innovations such as AI-driven chatbots and virtual assistants help improve the TAT of customer support services by providing personalised, real-time assistance.

FinTech platforms can leverage AI and cloud infrastructure to automate onboarding, credit scoring, and disbursements, reducing turnaround time from days to minutes. At Pahal, we've successfully brought down the number of days needed for loan disbursement from 15 to 2-3 by integrating new technology. We've also introduced Pahal Sangini, a dedicated customer mobile application designed

to provide users with real-time access to their loan information and facilitate fast, seamless payment through UPI via the BBPS channel.

Additionally, payment enablers like mobile wallets and QR-based systems should continue to streamline microtransactions, especially in underserved geographies.

Security

One of the most important pillars of the financial services industry is customer trust, which is often linked with transaction security. Financial institutions must remain custodians of said trust, investing in robust cybersecurity frameworks and regulatory compliance.

Today, with the increasing threat of cyber-attacks on data privacy and security, collaborative protocols such as tokenisation, biometric authentication, and two-factor verification are quickly becoming industry standards. Additionally, FinTechs can deploy advanced technologies like blockchain for tamper-proof records and AI for fraud detection and automation of compliance processes.

However, it's equally important to establish ethics frameworks for AI deployment in financial systems to eliminate biases, especially in credit scoring and underwriting.

The digital financial landscape has evolved rapidly in the past decade due to innovative technology coupled with the widespread efforts of the government and private actors to drive financial inclusion. However, efforts still need to be made to overcome challenges like infrastructure barriers, low digital literacy and awareness, data security concerns, and regulatory and policy issues.

We must continue to work to achieve our goals and transform our country into a truly Viksit Bharat by 2047. ■



From taps to talks: UPI's voice-first future

Manoj Batra, Head Product & Process, Government Business Group, Bandhan Bank tells **Aishwarya Saxena** how banks are leveraging generative AI to create advanced digital sandboxes for UPI 3.0

How are banks exploring the use of generative AI to simulate and test UPI 3.0 payment flows before deployment?

Generative AI can enable banks to create sophisticated digital sandboxes that replicate large-scale UPI 3.0

payment environments before going live. These AI-driven testbeds can simulate thousands of concurrent transactions, model diverse user behaviours, and stress-test systems for latency, reliability, API vulnerabilities, and fraud scenarios. This will allow banks to fine-tune real-time risk scoring engines and validate new features in advance, ensuring smooth rollouts with minimal disruption.

compromising speed?

The central challenge lies in embedding dynamic AI models without undermining UPI's hallmark speed and stability. Banks must deliver ultra-low latency, often below 50 ms per transaction while supporting transaction volumes that can exceed 100,000 per second. Integrating AI into legacy systems, maintaining strong encryption, and ensuring seamless interoperability all add complexity.

Moreover, fraud detection models must remain explainable to

What are the biggest backend challenges in embedding AI into UPI 3.0 without

AI-Driven Testing Cycle





Banks can harness generative AI, edge AI, and advanced ML to reimagine UPI 3.0, driving innovation in payment flows, fraud prevention, regulatory compliance, and conversational interfaces



regulators, with minimal false positives, and agile enough to respond to new fraud patterns. Techniques like SHAP values for explainability and continuous hyperparameter tuning frameworks such as Optuna are increasingly used to balance predictive accuracy with compliance and operational resilience.

With deepfake payment scams on the

rise, how are banks using AI to detect synthetic identities and voice fraud?

Banks are deploying layered AI defenses to counter deepfake-driven fraud. This includes advanced voiceprint and facial biometric analysis, liveness detection, and document forgery recognition.

Machine learning models continuously monitor device usage, transaction patterns, and behavioural biometrics such as keystroke dynamics and voice cadence, to uncover synthetic identities or manipulated interactions.

For instance, Android's biometric APIs



can distinguish bots from humans based on typing intervals, while geolocation velocity checks flag suspicious activity when travel speeds exceed plausible thresholds. Some platforms are also piloting voice authentication as an additional security factor, combining convenience with strong fraud protection.

What role will edge AI play in improving UPI 3.0 performance in regions with low network connectivity?

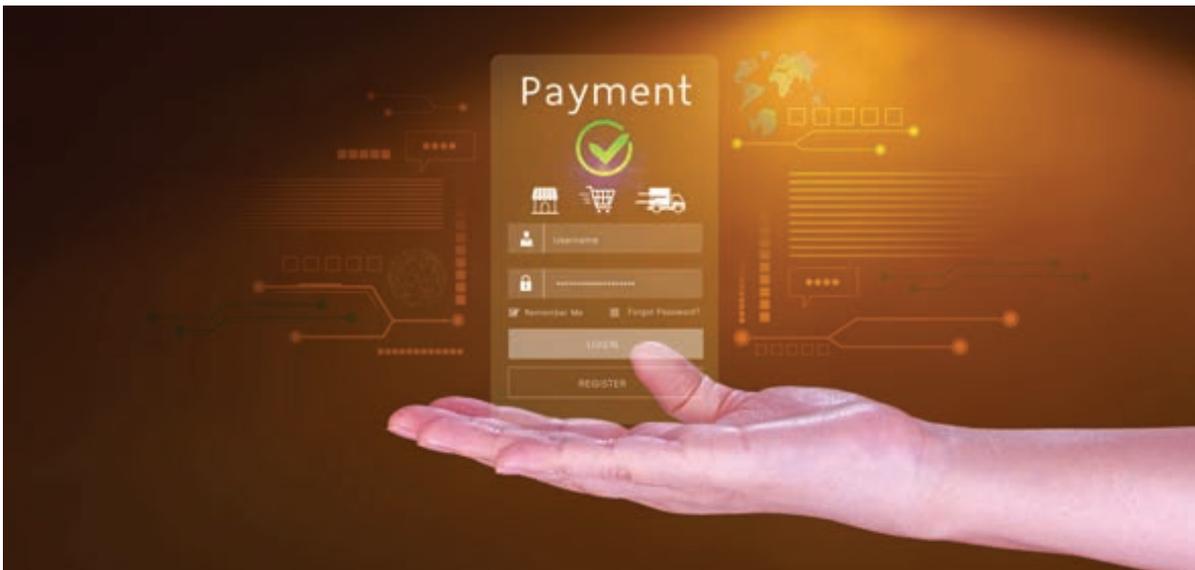
Edge AI has the potential to transform payment accessibility in low-connectivity

regions by processing transactions locally on devices. AI models embedded in smartphones, wearables, or IoT endpoints can pre-authorise payments, process voice commands, and validate transactions without relying on continuous internet access. Offline mechanisms such as NFC or SMS-based payments allow users to transact via signed QR codes or mandates, with synchronisation occurring once connectivity is restored. Apps like BHIM already support offline

flows, making financial inclusion more practical and reliable in rural and remote areas.

How are banks ensuring compliance with the Digital Personal Data Protection Act (DPDP) when using AI for UPI analytics?

Compliance with the DPDP Act requires AI models to be designed around principles of consent, transparency, and data minimisation. Banks are instituting rigorous consent management frameworks, anonymising or masking sensitive data used for AI training, and adopting



explainable AI to justify automated decisions. AI-powered compliance tools are also deployed to continuously monitor for potential data violations and ensure that user consent preferences are honoured across systems. This proactive approach balances innovation in payments analytics with stringent data protection obligations.

Do you see AI-enabled conversational payments (voice-first UPI) becoming mainstream in the next five years?

Absolutely. Conversational payments, where users can initiate and authenticate UPI transactions using natural voice commands, are on track to become mainstream within the next five years. Banks

and FinTechs are already piloting solutions like “Hello! UPI,” which enables on-device voice-led transactions across multiple languages, making digital payments accessible even to non-tech-savvy, rural, or senior populations.

WhatsApp Pay’s contextual payment prompts, coupled with

AI-powered compliance tools are also deployed to continuously monitor for potential data violations and ensure that user consent preferences are honoured across systems.

UPI 3.0’s biometric capabilities, further demonstrate how voice-first experiences are breaking barriers of language and literacy. This evolution will significantly broaden financial inclusion while making digital payments more intuitive.

Banks can harness generative AI, edge AI, and advanced machine learning to reimagine UPI 3.0, driving innovation in payment flows, fraud prevention, regulatory compliance, and conversational interfaces. The challenge lies in balancing speed, transparency, and security, but the opportunities for creating a more inclusive and resilient digital payments ecosystem are immense. ■

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