

Trusted Innovation: Shaping the Future of Finance

(Keynote address delivered by Deputy Governor, Shri Shirish Chandra Murmu at the Global Fintech Fest (GFF) 2026, in Mumbai, on 11th September 2026)

Distinguished guests, fellow regulators and policymakers, leaders of financial institutions, members of the FinTech community, technology professionals, ladies and gentlemen. Namaskar and a very good afternoon to you all.

2. It gives me great pleasure to be with you at the Global FinTech Fest 2026. What began as a forum for an emerging industry — some 30,000 attendees in 2022 — now draws over 100,000 footfalls and more than 7,500 companies from over 100 countries. Increasingly, the conversations here are not merely about what technology can do, but about what it should do for finance and for society.

3. This year's theme — “Potential to Impact: Trusted, Connected, Global Systems for Inclusive Finance” — is particularly timely. We are entering a phase in which agentic AI, tokenisation and quantum computing could reshape important elements of the financial system. But the history of finance teaches a lesson, whose relevance can't be reduced by any amount of technological capability. Innovation creates possibilities. Technology creates scale. But trust creates adoption. Whether these technologies make finance more **trusted**, more **resilient** and more **inclusive** are the measures that matter. That is what I would like to speak about this afternoon.

I. Innovation and Trust: a complementary relationship

4. Trust is the bedrock of finance. A bank deposit, a payment instruction, a loan contract, a digital identity — each of these is shaped by trust. Technology changes how financial commitments are created and executed, but it does not replace the need for trust. Indeed, as finance becomes more digital, more instantaneous and more interconnected, trust becomes even more important.

5. Consider what lies beneath an ordinary transaction. A digital payment completed in seconds may involve many institutions, platforms, networks and security protocols. A loan taken on a mobile application may involve a lender, a Lending Service Provider,

data providers, credit information companies and algorithms. As the customer's experience becomes simpler, the underlying ecosystem becomes more complex.

6. The regulatory challenge is therefore not merely to preserve simplicity for the customer, but to ensure accountability across the ecosystem. This is the essence of trusted innovation. It does not mean innovation without risk, but innovation allowed to flourish while certain principles remain non-negotiable: financial stability, customer protection, security, transparency, accountability and fairness. Innovation and regulation are not adversaries. Regulation creates the confidence for innovation to scale, and responsible innovation gives regulators the confidence to allow space for experimentation.

II. India's digital financial journey: The story of Growth and Resilience

a. From Access to Scale

7. Let me illustrate with the story we have all watched unfold.

A street vendor in India — selling vegetables, flowers or tea — once depended almost entirely on cash. A customer without exact change might simply walk away. She had little means to record transactions, demonstrate business activity, or build a relationship with a formal financial institution.

Then came the QR code. A small printed square allowed a customer to scan, authenticate a payment and receive confirmation within seconds. She needed no card machine; the customer needed no change. This was more than convenience. It was economic participation.

8. But the QR code by itself did not create trust. The customer trusted that the money would reach its intended recipient because the system was connected to regulated banks and a nationally governed payment network. The vendor trusted the confirmation because settlement occurred through the banking system, and both trusted that common rules applied across institutions.

This illustrates a principle worth holding on to. Trusted innovation is rarely the achievement of a single company or invention. It emerges where open, interoperable infrastructure is combined with clear responsibilities, robust authentication, transparent rules and credible oversight.

9. India's experience illustrates the interaction between innovation, public infrastructure and regulation. With more than 14,000 entities growing at around 14 per cent CAGR, India is the world's third largest FinTech ecosystem, and the IMF has noted cumulative investment exceeding US\$ 40 billion over the past decade. What enabled it was bank-account penetration, digital identity, mobile connectivity and interoperable payment infrastructure. As of August 2026, more than 59 crore Pradhan Mantri Jan-Dhan Yojana accounts had been opened, and Aadhaar and mobile provide the identity and access layers on which digital finance now operates at population scale.

10. Mobile phones have effectively become payment acceptance devices. Small merchants accept payments without expensive infrastructure, governments transfer benefits directly, and digital trails are opening new possibilities in credit. Consequently, in last ten years, the volume of digital payment transactions rose more than 10 folds and the gap between those growth rates is instructive: volume has been driven by small-value retail payments, even as large-value systems still account for the bulk of value.

11. The achievement, however, is not merely the quantum of transactions. More fundamentally, India has built digital financial infrastructure on which further innovation can take place. The Reserve Bank's Digital Payments Index rose from a base of 100 in March 2018 to 516.76 in September 2025. The Financial Inclusion Index rose to 70.0 in March 2026 from 67.0 a year earlier — and, importantly, that improvement was driven largely by usage rather than access.

12. That distinction sets the agenda. The first stage of India's digital financial journey was about access, the second is about adoption and scale. The third must be about quality, resilience and trust — because expectations change when digital finance ceases to be an alternative and becomes essential infrastructure.

b. Payments: from convenience to critical infrastructure

13. UPI illustrates both the achievement and the responsibility that come with scale. In FY 2025-26, it processed about 24,162 crore transactions worth about ₹314 lakh crore — around 85 per cent of India's digital payment transactions by volume. India

today accounts for close to half of the world's real-time payment transactions, and by daily count UPI rivals the largest global card networks — though not on a like-for-like basis, since it also carries person-to-person transfers those networks do not process. This is an extraordinary achievement.

14. But success creates new responsibilities. When a payment system becomes integral to commerce and to daily life at this scale, an outage or a security incident has consequences far beyond the individual transaction. Scale changes the nature of risk. Four issues follow.

First, operational resilience. Payment systems operate 24x7x365, and institutions must design for stress, not only for normal operations. Redundancy, business continuity, incident response and recovery must be built into the architecture and its governance — and disruptions communicated to customers promptly and honestly.

Second, cyber resilience. Cybersecurity is no longer merely an IT issue; it is an enterprise-wide and increasingly ecosystem-wide risk, in which vulnerabilities in one participant can affect many others, and it must be built proactively rather than reconstructed after an incident. The exclusive “.bank.in” domain for banks is one measure intended to strengthen this foundation and help customers distinguish genuine banking websites from fraudulent ones.

Third, fraud prevention. Social engineering, account takeovers, mule accounts and technology-enabled scams show that security is about protecting both the transaction infrastructure and the customer's interaction with it — institutions must be able to distinguish an informed payment from one produced by manipulation. Fraud must increasingly be treated as an ecosystem problem, requiring cooperation across banks, payment system operators, FinTechs, telecom providers and law enforcement. The Reserve Bank is accordingly developing the Digital Payments Intelligence Platform through the Reserve Bank Innovation Hub, whose MuleHunter.AI initiative already uses AI and machine learning to identify mule accounts channelling the proceeds of fraud. We have also issued a Discussion Paper on curbing digital payment frauds, particularly authorised push payment frauds; the responses are under examination.

Fourth, customer protection. Speed reduces the time available to detect and reverse fraud or error. Customer awareness, effective grievance redressal, transaction monitoring and appropriate authentication remain non-negotiable. And when a genuine payment is blocked, how quickly the customer regains access to her money is as much a test of the system as the block itself.

15. The measure of success for a payment system, then, is not only the number of transactions it processes each second. It is the trust embedded in each of those transactions.

III. Inclusion: the test that matters most

16. This year's theme speaks of inclusive finance, and it is on that word that the next phase will be judged. Improvement in the Financial Inclusion Index now comes from usage rather than access. That is welcome — but it also means those who remain outside are, by definition, the hardest to reach.

17. Digital innovation can exclude unintentionally — those with limited connectivity, low digital literacy, disabilities, language constraints, or no smartphone. A genuinely inclusive ecosystem must support multiple modes of access rather than assume one. UPI23Pay extends UPI to feature-phone users; offline payments address connectivity constraints; the Aadhaar-enabled Payment System reaches assisted and rural environments. Voice, local-language and accessible design are not embellishments. They are the difference between a system that serves most of the country and one that serves all of it.

18. I would ask the industry to treat inclusion as a design requirement, not a later addition. A product built for the most capable user and adapted downwards rarely reaches the last mile. One built for the hardest case almost always serves everyone else.

IV. Advances in Financial technology: opportunities and challenges

a. Digital lending and credit in an algorithmic age

19. Digital lending can reduce the cost of originating, assessing and servicing small loans, and partnerships can help regulated lenders reach customers previously

uneconomical to serve. But technology should widen the frontier of formal credit, not merely make existing lending faster; better data must increasingly be directed towards borrowers the formal system has never served. Credit decisions affect households for years. The objective cannot simply be to make credit faster. It must also be to make credit better.

20. The Reserve Bank of India (Digital Lending) Directions, 2025 consolidated the framework around a straightforward principle: technology may change the channel through which credit is delivered, but it does not dilute the responsibility of the regulated lender. Borrowers must know who is lending to them, what the loan costs and what its terms are. Technology should widen customer choice rather than steer customers towards unsuitable products. Partnership models are valuable, but the regulated entity remains accountable for services delivered in its name. To put it plainly: technology can distribute a service, but it cannot distribute responsibility.

21. Data-driven finance must also be trust-driven finance. Consent should be genuine rather than assumed, collection proportionate to purpose, and security maintained throughout the credit lifecycle. If a customer authorises data sharing once, she should understand how it may later be used — and be able to withdraw that permission.

22. Increasingly, these decisions are shaped by algorithms. Well-designed models can identify creditworthy borrowers who might otherwise remain outside formal finance. But they carry new risks: data may embed historical bias, past relationships may not persist, a model may be economically inappropriate despite its statistical sophistication, and complex models may be hard to explain — not least to the customer whose application has been declined.

23. This raises a fundamental question: when an algorithm makes or materially influences a financial decision, who is accountable? The answer cannot be the algorithm. Responsibility rests with the regulated institution, and boards and senior management must understand the models they deploy, their limitations and the consequences of their use. As finance becomes more automated, human accountability must become stronger, not weaker.

b. From FinTech to the age of agentic AI

24. AI is already used for fraud detection, customer service, risk assessment and compliance. What is changing is the degree of autonomy. We are moving from systems that analyse and recommend, towards systems that plan and act — agents that interact with other systems, weigh alternatives and execute actions with limited human intervention.

25. The potential is substantial, but so are the questions. Who is responsible when an agent acts incorrectly? How do we ensure it acts in the customer's interest rather than the institution's? How do we prevent manipulation of the agent itself? How can institutions supervise systems operating at machine speed? And how does a customer know whether she is dealing with a human, a machine, or both? These are not arguments against agentic AI. They are arguments for responsible agentic AI.

26. The Reserve Bank has begun work on these questions. The FREE-AI Committee was constituted to develop a framework for the responsible and ethical enablement of AI in the financial sector, addressing algorithmic bias, explainability and data privacy; the draft guidance notes on Model Risk and Data Governance take this further. I would encourage the industry to engage seriously with that work, and meanwhile to experiment with care.

c. Quantum computing: preparing before the risk arrives

27. Quantum computing promises breakthroughs in optimisation and financial modelling. It can also challenge the cryptographic foundations on which today's financial system rests. This is not an immediate threat. But payment infrastructure has long technology cycles and deeply embedded cryptographic dependencies, and migration to new standards may take years. There is also the “harvest now, decrypt later” risk, under which encrypted information collected today becomes accessible as computing capability advances.

28. For India, where digital payments operate at extraordinary scale, quantum readiness must become part of our cyber resilience strategy rather than a separate exercise. The Reserve Bank has constituted an expert committee on a Quantum

Secure and Adaptive Financial Ecosystem to prepare our infrastructure for precisely this class of risk.

29. Others have shown such preparation is feasible. Project Leap, an initiative of the BIS Innovation Hub with partner central banks, replaced traditional digital signatures with post-quantum cryptography in a liquidity transfer experiment, modifying numerous components for compatibility. Its lesson is about timing: this work takes longer than institutions expect and cannot be done alone.

30. The time has therefore come for Indian payment system providers and network operators to begin moving towards quantum-proofing our payment systems. Banks, payment operators, FinTechs, technology providers and standard-setters will need to move together, because quantum resilience is an ecosystem capability, not an institutional one. We must innovate not only for the future, but for the risks the future creates.

V. Regulation must evolve with the ecosystem

31. In a payments landscape that changes continuously, our approach has focused on strengthening governance standards, technology and security requirements, customer protection and operational resilience. As the ecosystem matures, regulatory expectations must become proportionate to the risks that different activities create.

Our principle is a simple one:

Similar activities creating similar risks should, wherever appropriate, face similar regulatory treatment.

At the same time, regulation should not eliminate the diversity that makes FinTech innovative. The objective is not to make every FinTech resemble a bank, but to ensure that where an entity performs a critical financial function, the risks arising from it are appropriately managed and, where necessary, regulated.

Balancing innovation with prudence:

32. I recognise that regulation may affect some short-term revenue models. But long-term profitability in financial services comes from trust, scale and compliance, and a

well-regulated environment attracts better capital. Compliance is an enabler of sustainable growth, not simply a constraint.

33. The regulation of Payment Aggregators illustrates this. These entities were earlier handling large volumes of customer funds without a clear framework; the guidelines introduced requirements around authorisation, governance, escrow and merchant due diligence, principally to protect customers. More broadly, the regulations of recent years have sought to make the ecosystem more transparent and stable, not to stifle innovation.

34. Regulation is more effective when informed by evidence, and innovation more sustainable when it understands the public interest. The Discussion Paper, the Regulatory Sandbox and structured consultation are not formalities; they are how we learn what a rule will do before it is written. We will continue to use them, and I would ask this industry to engage with us through them in a spirit of candour.

VI. Trust as India's competitive advantage

35. For FinTech companies, regulation is sometimes seen primarily as a compliance cost. But in finance, trust is an economic asset. A firm that demonstrates strong governance, sound cybersecurity, responsible data practices and genuine customer protection is a more attractive partner and better placed to scale — and as Indian FinTechs expand internationally, that can itself become a competitive advantage. The next generation of successful firms may distinguish themselves not only by how quickly they innovate, but by how responsibly. Compliance is not the price paid for innovation. It is the foundation on which innovation grows.

VII. Conclusion: shaping the future we want

36. Ladies and gentlemen, the question is no longer whether technology will transform finance. It already has. The more important question is what kind of financial system we want technology to create.

37. Let me return to where I began. The vendor with the printed QR code is now part of the formal financial system. The questions she faces next are harder ones. Will she be offered credit on terms she can understand? If an algorithm declines her

application, will anyone be able to tell her why? If her account is frozen by a fraud-detection system, how long before she can trade again? Those questions are the real content of trusted innovation, and how we answer them will matter more than any technology we deploy.

38. Our achievement is not simply that India has made payments digital. It is that India has made digital payments ordinary. The next task is to make them consistently trustworthy and to extend that same ordinariness to credit, savings and insurance.

39. This year's theme asks us to move from potential to impact. There is one bridge between the two, and it is trust. Potential without trust produces experimentation. Potential with trust produces impact. Let us therefore commit ourselves to an ecosystem in which innovation is bold but never careless, regulation enabling but never indifferent, and every new product begins and ends with a single question: can the customer trust it?

40. Thank you all for your patient hearing, and my very best wishes for this year's Global FinTech Fest.
