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UPI at 10 Years: India's Digital Payments Revolution Now Faces the Challenge of Sustainability, Competition and Global Expansion:

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Recent Developments:

- During **FY2025–26**, UPI processed **24,161.69 crore transactions** worth approximately **?314 lakh crore**, with **703 banks** live on the platform by March 2026.
- UPI accounted for about **85% of India's digital-payment volume in FY2025–26**, while its share of global real-time payment volume was estimated at **49% in 2025**.
- The **March 2026** monthly record reached **2,264 crore transactions** worth **?29.53 lakh crore**, demonstrating the extraordinary scale of India's retail digital-payment infrastructure.
- In August 2026, amendments to the **Payments and Settlement Systems Act, 2007** created a legal pathway for a possible reintroduction of **Merchant Discount Rate (MDR)** on selected digital-payment transactions, although the detailed fee structure has not been finalised.
- The government has clarified that **person-to-person UPI payments will remain free**, while any future MDR is expected to focus on a limited category of merchant transactions rather than ordinary consumers and small merchants.

Evolution and Institutional Architecture of UPI:

Background and Genesis:

- Before UPI, India relied on multiple payment systems such as **NEFT, RTGS and IMPS**, creating a need for a more interoperable and user-friendly retail-payment architecture.
- The **RBI's 2012 Vision Document for Payment Systems** highlighted the low penetration of non-cash payments in India and identified the need for greater electronic-payment adoption.
- **NPCI**, established as the umbrella organisation for retail payment systems, developed UPI to provide a common interoperable interface connecting multiple bank accounts, payment applications and merchants.
- The UPI pilot began with **21 member banks** on **11 April 2016**, while UPI-enabled applications became increasingly available from August 2016.

How UPI Works:

- UPI enables users to link **multiple bank accounts** to a single application and initiate instant payments through a common interface.
- Its architecture involves **users, merchants, UPI applications, remitter banks, beneficiary banks and Payment Service Providers (PSPs)**.
- UPI supports **Person-to-Person (P2P)** and **Person-to-Merchant (P2M)** transactions through interoperable bank accounts.
- Payments can be initiated through **Virtual Payment Addresses (VPAs), QR codes, mobile applications and intent-based payments**, reducing dependence on physical cash and card infrastructure.

- **Two-factor authentication** and the use of virtual payment identifiers improve security by reducing the need to disclose sensitive bank-account information during ordinary transactions.

Factors Behind UPI's Rapid Expansion:

Interoperability and Low Transaction Friction:

- UPI allows customers to use a single interface across participating banks and payment applications, thereby reducing fragmentation in the digital-payment ecosystem.
- **QR-code payments**, instant settlement and mobile-based authentication made digital payments accessible even for small-value everyday transactions.
- The model substantially reduced the dependence on **Point-of-Sale terminals, cash handling and physical banking infrastructure**.

Zero-MDR Policy:

- **Merchant Discount Rate (MDR)** is a fee associated with processing digital payments and is generally distributed among participants in the payment ecosystem.
- Since **January 2020**, MDR was made zero for **RuPay Debit Card and BHIM-UPI transactions** through amendments involving Section 10A of the **Payments and Settlement Systems Act, 2007** and Section 269SU of the **Income-tax Act, 1961**.
- The zero-MDR framework lowered the cost of accepting digital payments and encouraged merchants, particularly small businesses, to adopt UPI.

Government Incentive Support:

- The Union Cabinet approved a **?1,500 crore incentive scheme for FY2024–25** to promote low-value BHIM-UPI P2M transactions among small merchants.
- Under the scheme, transactions up to **?2,000 involving small merchants** remained subject to zero MDR while qualifying transactions received an incentive of **0.15% of transaction value**.
- The incentive is paid to the **acquiring bank** and subsequently shared among relevant ecosystem participants, including issuer banks, PSP banks and TPAPs.
- The policy has therefore treated UPI as a form of **Digital Public Infrastructure (DPI)** whose adoption can generate wider economic and social benefits beyond direct transaction revenue.

COVID-19 and Digital Adoption:

- The COVID-19 pandemic accelerated digital-payment adoption because consumers and merchants increasingly preferred **contactless and cash-light transactions**.
- The pandemic therefore reinforced an already expanding UPI ecosystem and increased the frequency of small-value digital payments.

UPI and Financial Inclusion:

Democratization of Digital Payments:

- UPI has enabled street vendors, small retailers, transport operators and informal businesses to accept digital payments using **low-cost QR codes** rather than expensive card-payment infrastructure.
- Its high frequency of small-value transactions demonstrates its integration into **everyday consumption and retail commerce**.
- According to official FY2025–26 data, **86% of P2M transactions were below ?500**, highlighting the dominance of micro-payments in UPI usage.

Rural and Semi-Urban Expansion:

- Future domestic growth is expected to increasingly depend on **Tier-3 to Tier-6 cities, rural areas and underserved populations**.
- **UPI 123PAY** extends digital payments to feature-phone users, while **UPI Lite and UPI LiteX** address low-value and offline-payment requirements.
- Such innovations can reduce the **digital divide** by lowering dependence on smartphones, continuous internet connectivity and conventional banking infrastructure.

The MDR Debate and Sustainability Challenge:

Why the Zero-MDR Model Is Under Pressure:

- UPI's enormous transaction volume generates substantial costs related to **technology infrastructure, cybersecurity, banking systems, compliance and transaction processing**.
- Zero MDR removes a conventional revenue stream from the payment ecosystem even though payment providers continue to incur operating and infrastructure costs.
- Government incentives partially compensate ecosystem participants, but questions remain regarding whether **public subsidies alone can sustainably finance a rapidly expanding payment infrastructure**.

Case for Reintroducing MDR:

- Industry stakeholders argue that the initial zero-MDR model was useful for **rapid adoption**, but the mature ecosystem now requires a more sustainable revenue model.
- A selective MDR could be imposed on **high-value merchant transactions** while keeping ordinary P2P payments and small-merchant transactions free.
- One proposal discussed in the current policy debate involves MDR of around **0.3–0.5% on transactions above ?2,000 for eligible large merchants**, although no final fee structure has been established.
- High-value transactions can provide a potential revenue base because they account for a much larger share of transaction value than their share in transaction volume.

Arguments Against MDR:

- Reintroducing MDR could increase operating costs for merchants and potentially lead to **higher consumer prices** if merchants pass the cost on to customers.
- Additional charges could discourage digital-payment adoption among price-sensitive consumers and small businesses.
- The policy could weaken one of UPI's principal advantages, namely **simple and low-cost digital transactions**.
- Any poorly designed MDR could therefore undermine the very network effects that made UPI successful.

A Balanced Approach:

- A sustainable model should distinguish between **P2P transactions, small-value P2M transactions and high-value merchant transactions** rather than imposing a uniform charge.
- Small merchants and low-value transactions should continue to receive protection because they have the greatest significance for **financial inclusion and cash-to-digital transition**.
- Any MDR framework should be **transparent, capped, proportionate and competition-sensitive**, with adequate safeguards against cost pass-through to consumers.

Market Concentration and Competition:

Dominance of Major Third-Party Apps:

- The UPI ecosystem has experienced strong concentration among major **Third-Party Application Providers (TPAPs)**, particularly **PhonePe and Google Pay**.

- Such concentration creates concerns regarding **market power, systemic dependence and competitive neutrality** within a payment infrastructure that has become critical to the economy.
- The concentration problem is particularly important because UPI itself is interoperable, but user behaviour can remain concentrated around a small number of dominant applications.

30% Market-Share Cap:

- NPCI introduced a **30% market-share ceiling for individual TPAPs** to prevent excessive concentration in the UPI application ecosystem.
- Implementation of the cap has been repeatedly deferred because immediate enforcement could disrupt consumers and merchants dependent on dominant applications.
- The current extension runs until **December 2026**, making competition and market concentration an important regulatory issue for the next phase of UPI development.

Banks and FinTechs:

- Traditional banks face intense competition from **FinTech companies and TPAPs** in the customer-facing payments layer.
- Banks continue to provide the underlying accounts and regulated payment infrastructure, while large technology platforms have developed strong consumer interfaces, merchant networks and transaction ecosystems.
- This creates a policy challenge involving the appropriate balance between **innovation, competition, consumer choice and regulatory oversight**.

Internationalisation of UPI:

UPI as India's Digital Public Infrastructure:

- UPI has increasingly become an instrument of **India's Digital Public Infrastructure diplomacy**, with other countries adopting or linking their payment systems with Indian infrastructure.
- Internationalisation can reduce dependence on expensive and slower traditional cross-border retail-payment mechanisms while strengthening India's technological and financial influence.

Cross-Border Payment Linkages:

- India has developed UPI-based payment linkages with several countries, including **Singapore, Nepal, Bhutan, Mauritius, Sri Lanka, the UAE and France**, while international acceptance continues to expand.
- In June 2026, **NPCI International Payments Limited (NIPL)** and Cambodia's **ACLEDA Bank** launched the first phase of UPI acceptance through Cambodia's **KHQR** system, enabling Indian travellers to make QR payments at more than **4.5 million Cambodian merchants**.
- India and Nepal also operationalised a direct linkage between **UPI and Nepal's National Payments Interface (NPI)** for instant P2P cross-border remittances in June 2026.
- The **UPI-PayNow linkage with Singapore** demonstrates how interoperable payment systems can facilitate faster and more efficient cross-border retail remittances.

UPI One World:

- **UPI One World** enables eligible foreign visitors to make UPI payments in India without requiring an Indian mobile number or domestic bank account.
- The service can be used across a large network of Indian QR codes and supports applications such as merchant payments, travel bookings, hotels, restaurants and transportation.
- In 2026, NPCI extended the service to international delegates from more than **40 countries**, strengthening UPI's role as a globally exportable payment technology.

Emerging Challenges:

Cybersecurity and Operational Resilience:

- The enormous scale of UPI makes **cybersecurity, fraud prevention, data protection and operational resilience** critical components of financial stability.
- A major disruption to UPI could affect millions of individuals and businesses because the platform has become deeply embedded in everyday economic activity.
- NPCI has continued issuing operational and security-related circulars, including measures concerning **safeguarding user information and system controls**.

Digital Divide:

- Smartphone ownership, internet access, digital literacy and language barriers can still restrict UPI adoption among some sections of the population.
- **Feature-phone payments, offline functionality and assisted digital-payment models** can help address these barriers.

Consumer Protection:

- Rising digital-payment adoption increases the importance of **fraud reporting, grievance redressal, transaction reversals and customer awareness**.
- UPI's in-app grievance mechanisms and regulatory oversight need to evolve alongside the increasing sophistication of digital fraud.

Financial Sustainability:

- The central policy challenge is to ensure that the payment ecosystem remains financially viable without transforming UPI into a costly platform for ordinary users.
- A sustainable ecosystem should distribute costs fairly among **merchants, payment providers, banks, technology platforms and the government**, according to the benefits received by each participant.

Significance for the Indian Economy:

- UPI reduces **transaction costs**, facilitates formalisation and expands access to digital financial services.
- Digital payment records can improve the ability of financial institutions to assess the economic activity and creditworthiness of small businesses.
- UPI supports the broader **Jan Dhan–Aadhaar–Mobile (JAM)** ecosystem by strengthening the digital layer through which financial services can reach citizens.
- Its interoperability promotes **competition among payment applications**, even though concentration among major TPAPs remains a concern.
- UPI strengthens India's position in **Digital Public Infrastructure**, alongside platforms such as **Aadhaar and DigiLocker**.
- International deployment of UPI can strengthen India's **fintech diplomacy, remittance infrastructure and technological influence**.

Way Forward:

Sustainable and Inclusive Pricing:

- India should adopt a **targeted MDR framework** that protects P2P transactions, small merchants and low-value payments while allowing reasonable charges on selected high-value merchant transactions.
- Any MDR should remain **transparent, capped and proportionate to transaction value and merchant capacity**.

Strengthening Competition:

- The implementation of the **30% TPAP market-share ceiling** should be calibrated to prevent market disruption while promoting a more diversified ecosystem.
- Greater participation by banks, domestic FinTechs and smaller TPAPs can reduce concentration risks.

Improving Rural Access:

- Expansion of **UPI 123PAY, UPI Lite, UPI LiteX and offline payment capabilities** should continue to reduce digital exclusion.
- Regional-language interfaces and stronger digital-literacy programmes can further expand adoption.

Enhancing Cybersecurity:

- India should strengthen **real-time fraud detection, authentication, cyber resilience, data protection and consumer grievance mechanisms**.
- Payment-system operators should maintain high system availability because UPI has become a critical component of the national economic infrastructure.

Expanding International Linkages:

- India should prioritise interoperability with countries having substantial **Indian diaspora populations, tourism flows and remittance corridors**.
- Cross-border UPI linkages should be integrated with broader efforts to reduce the cost and settlement time of international retail payments.

Value Addition for UPSC:

Key Terms:

- **UPI:** Unified Payments Interface, an interoperable instant-payment system developed by NPCI.
- **NPCI:** National Payments Corporation of India, the umbrella organisation for India's retail-payment systems.
- **MDR:** Merchant Discount Rate, a fee associated with processing merchant digital payments.
- **P2P:** Person-to-Person payment between individuals.
- **P2M:** Person-to-Merchant payment for purchasing goods or services.
- **TPAP:** Third-Party Application Provider, a non-bank application provider participating in the UPI ecosystem through a PSP bank.
- **DPI:** Digital Public Infrastructure, interoperable digital systems that enable large-scale delivery of public and private services.

Important Data for Prelims and Mains:

- **UPI pilot launch:** 11 April 2016.
- **Banks at launch:** 21.
- **Banks live on UPI by March 2026:** 703.
- **FY2025–26 transaction volume:** 24,161.69 crore.
- **FY2025–26 transaction value:** approximately ?314 lakh crore.
- **Peak monthly volume:** 2,264 crore transactions in March 2026.
- **UPI share of India's digital-payment volume:** 85% in FY2025–26.
- **UPI share of global real-time payment volume:** 49% in 2025.
- **P2M transactions below ?500:** 86% in FY2025–26.
- **Low-value BHIM-UPI incentive:** 0.15% for eligible transactions up to ?2,000 involving small merchants under the FY2024–25 scheme.

Kamaraj IAS Academy
Plot A P.127, AF block, 6 th street, 11th Main Rd, Shanthi Colony, Anna Nagar, Chennai, Tamil Nadu 600040
Phone: **044 4353 9988 / 98403 94477** / Whatsapp : **09710729833**

- **UPI TPAP market-share ceiling:** 30%, with implementation extended to December 2026.

UPSC Mains Linkages:

- **GS Paper II:** Governance, e-governance, financial inclusion, digital public infrastructure and regulatory institutions.
- **GS Paper III:** Indian economy, FinTech, digital payments, financial-sector development, cybersecurity and technological innovation.
- **Essay:** Digital transformation, inclusive growth, technology-led development and India’s emergence as a digital-power centre.
- **Prelims:** NPCI, UPI architecture, MDR, P2P/P2M, UPI 123PAY, UPI Lite, TPAP and cross-border payment linkages.

Possible Mains Question:

“UPI has transformed India’s retail-payment ecosystem, but its future depends on balancing affordability, competition and financial sustainability.” Discuss.