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Research Paper

From Financial Inclusion to Global Influence: UPI and India's Emerging Digital Economic Diplomacy

Mr. Prakash Chandra[1]*, Shraddha Srivastava[2], Mr. Manas Tripathi[3]

ABSTRACT

The Unified Payments Interface (UPI) is usually discussed as a domestic success in financial technology. That description is now too narrow. UPI has become part of India's external economic engagement through overseas merchant acceptance, links with foreign fast-payment systems, assistance for UPI-like sovereign platforms, and the wider promotion of digital public infrastructure (DPI). This chapter asks how a payment rail created to deepen financial inclusion acquired diplomatic value, and whether its international reach can reasonably be described as economic democratization. It uses a qualitative, interdisciplinary analysis of verified secondary evidence from the Reserve Bank of India, the National Payments Corporation of India, the World Bank, the International Monetary Fund, the Bank for International Settlements, G20 documents, and peer-reviewed research. The evidence shows a striking expansion in account ownership and low-value digital commerce, but it also reveals a persistent distance between formal access and effective capability. In 2024, 89.0 per cent of Indian adults had an account, while only 48.5 per cent had made or received a digital payment in the preceding year; women and the poorest adults also remained substantially less likely to own smartphones. The chapter therefore treats UPI's global influence as conditional rather than automatic. India's strongest diplomatic proposition is not the export of a fixed application. It is a partnership model built around interoperability, low-cost participation, institutional learning, and the receiving country's control over its own payment system. That influence will endure only if domestic inclusion, consumer protection, commercial viability, privacy, competition, and cross-border accountability advance together.

Keywords: *Unified Payments Interface, financial inclusion, digital public infrastructure, digital economic diplomacy, interoperability, informal commerce, India, Global South*

Consider a small produce seller at the edge of an Indian town. The seller may have acquired a basic bank account through a public inclusion programme, but an account alone does not make banking useful at six in the morning when customers arrive with small notes, suppliers expect immediate settlement, and the nearest branch is several kilometres away. A printed QR code changes the practical value of that account. It allows a customer to pay an exact amount, gives the merchant an immediate confirmation, and leaves

[1]Assistant Professor (Economics), Uttarakhand Open university
[2]Graduation Student (B.com), Dr. Ram Manohar Lohia Avadh University Faizabad
[3]Assistant Professor (Economics), Uttarakhand Open university
*Corresponding Author

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a record that can later support bookkeeping or a credit assessment. This is a composite analytical vignette, not a reported field case, but it captures the transition at the centre of this chapter: financial inclusion becomes economically meaningful when access can be converted into routine, trusted use.

India has made considerable progress on the access side of this transition. The Reserve Bank of India's Financial Inclusion Index rose to 70.0 for March 2026, from 67.0 a year earlier, with the central bank attributing the latest improvement mainly to greater usage.[1] By 25 February 2026, the Pradhan Mantri Jan Dhan Yojana (PMJDY) had opened 57.78 crore accounts holding ₹2.95 lakh crore in deposits; 55.8 per cent of the accounts belonged to women and 78.2 per cent were in rural and semi-urban areas.[2] Survey evidence tells a complementary story. The World Bank estimated that 89.0 per cent of Indian adults had an account in 2024, up from 35.2 per cent in 2011.[3] These figures document an extraordinary widening of formal access. They do not, by themselves, show that every account holder can independently use digital finance, evaluate risk, resolve a failed payment, or withstand an income shock.

UPI entered this institutional landscape in 2016 as an interoperable, real-time system for transfers between bank accounts. In FY 2016-17 it processed about 2 crore transactions worth ₹0.07 lakh crore. In FY 2025-26 it processed 24,161.69 crore transactions worth ₹314.23 lakh crore.[4], [5] The growth is not merely a large-number story. Person-to-merchant payments have come to dominate transaction volume, and most are small-ticket purchases. That pattern places UPI inside ordinary commerce rather than at the margins of banking. It also gives India an unusual form of international credibility: a payment architecture built in a lower-middle-income country has operated at population scale while accommodating banks, non-bank applications, small merchants, and public regulation.

The international phase of this story is often described too loosely. A country in which an Indian visitor can scan a UPI-compatible merchant QR code has not necessarily adopted UPI as its domestic payment system. A bilateral link for remittances is different again, because it connects two existing payment infrastructures. A central bank that commissions a UPI-like platform is entering a deeper relationship involving technology, standards, governance, and local sovereignty. Finally, an agreement to cooperate on India Stack or DPI may involve identity, documents, service delivery, or data exchange rather than payments. Treating all four arrangements as "UPI adoption" exaggerates diffusion and obscures the real channels through which influence is created.

This chapter therefore makes two linked arguments. First, UPI's diplomatic value rests on the domestic political economy of inclusion: public coordination established a common rail, regulated private firms compete at the interface, and interoperability reduces the penalty for choosing one application over another. The International Monetary Fund's transaction-level analysis finds that this interoperability supported adoption by preserving users' ability to transact across applications.[6] Second, global influence cannot be inferred from transaction volume alone. It emerges when foreign partners perceive the Indian experience as useful, adaptable, affordable, and consistent with their own control over data and monetary infrastructure. The result is better understood as digital economic diplomacy: the use of technological capability, institutional cooperation, payment connectivity, and development partnership to lower economic frictions while building durable relationships.

The analysis brings economics and commerce into the same frame. Economics explains transaction costs, network effects, public infrastructure, market structure, and the difference between access and welfare. Commerce shows what happens at the merchant counter: acceptance decisions, working-capital effects, customer demand, trust, records, refunds, promotions, and spending behaviour. Their intersection is where the language of democratization can be tested. UPI is democratizing to the extent that it expands people's practical freedom to transact and participate in markets without creating new forms of exclusion, dependency, or unmanageable risk.

LITERATURE REVIEW AND ANALYTICAL FRAMEWORK

The literature on India's digital financial architecture provides a strong account of institutional design. D'Silva, Filkova, Packer, and Tiwari describe the Indian approach as digital financial infrastructure supplied with the characteristics of a public good: a state-supported identity layer, expanded bank access, and a real-time payment platform on which private services can be built.[7] A later Bank for International Settlements study identifies open architecture, cross-application interoperability, user convenience, zero transaction cost for end users, private participation, and regulatory conditions as important elements of UPI's expansion.[8] This is neither a purely state-run payment service nor an unregulated private platform. It is a layered arrangement in which a common institutional rail supports competing customer interfaces.

That layered character matters because financial inclusion is wider than the opening of an account. In Amartya Sen's capability approach, resources are valuable insofar as people can convert them into substantive freedoms.[9] Applied to payments, a bank account is a resource; the capability lies in being able to receive income, control funds, make a payment, compare providers, understand a request for money, and obtain redress without dependence on another household member. Ozili similarly argues that digital finance can lower the cost and widen the reach of formal services, while warning that benefits depend on infrastructure, regulation, and users' ability to participate.[10] The Committee on Payments and Market Infrastructures and the World Bank place access points, product design, financial literacy, data protection, and responsible innovation within the same inclusion agenda.[11] These approaches direct attention to quality and agency, not only coverage.

The economics of UPI can also be read through the theory of two-sided platforms. Payment systems must attract payers and payees at the same time; each side becomes more willing to join as the other side grows. Rochet and Tirole's work on two-sided markets explain why pricing, governance, and interoperability influence participation on both sides of such a platform.[12] In India, a common QR and bank-account rail reduces the need for each merchant and consumer to join the same closed network. A street vendor can display a code without requiring every customer to use the vendor's preferred application. This architecture weakens one source of lock-in, although it does not eliminate concentration among the firms that provide the user interface.[13,14]

The commerce literature adds a necessary firm-level perspective. Research on unorganised retailers in an emerging market found that the adoption of digital payment technologies was associated with improved revenue performance, but that the gains were not identical across business models.[15] A retailer that extends substantial informal credit to regular customers, for example, may not translate digital acceptance into profitability as readily as a larger or more transaction-oriented shop. Earlier field research with small merchants in Jaipur showed that low adoption could persist even when a technology was technically available; customer

demand, perceived usefulness, information, and the local commercial setting all influenced acceptance.[16] The merchant is therefore not a passive endpoint. Adoption is a business decision involving expected sales, liquidity, reliability, settlement, record keeping, and the opportunity cost of handling cash.

Recent UPI studies reveal the same variation among consumers. Joshi's mixed-method study of bottom-of-the-pyramid users found that social influence, performance expectations, perceived security risk, knowledge, price value, facilitating conditions, and social benefits together explained a substantial share of adoption intention.[17] Haque, Abdul Azeez, and Akhtar, using primary data from rural Aligarh, found younger age, male gender, higher education, occupation, and income to be significant predictors of UPI use, whereas possession of a Jan Dhan account was not statistically significant in their model.[18] The finding is especially important for this chapter: an inclusion account may be necessary for bank-based digital payments, but it is not sufficient to produce active digital capability. Kiran and Sailaja likewise found that facilitating conditions, perceived usefulness, ease, social influence, promotional benefits, and trust shaped adoption and continuing use, with some effects varying by demographic characteristics.[19]

The behavioural literature complicates the welfare assessment further. A study of Indian UPI users by Dev, Gupta, and Kumar combined a survey with follow-up interviews and reported that a large majority of its respondents perceived an increase in spending after adopting UPI.[20] The sample does not support a national prevalence estimate, and self-reported change is not the same as an audited change in expenditure. Even so, the result fits a long-established body of consumer research. Soman showed that payment mechanisms can alter the recall and aversive experience of past payments, thereby affecting later spending.[21] Raghubir and Srivastava found that less tangible payment forms can feel less like legal tender and can weaken payment coupling.[22] Prelec and Loewenstein's analysis of the relationship between consumption and payment helps explain why the timing and visibility of a payment affect its psychological cost.[23] UPI's speed is therefore economically valuable but behaviourally non-neutral.

The existing literature is consequently rich but fragmented. Studies of inclusion tend to concentrate on domestic access and adoption. Consumer studies examine trust or spending but rarely connect interface design to foreign-policy credibility. Work on DPI diplomacy often celebrates international diffusion without separating merchant acceptance, payment-system linkage, infrastructure development, and policy cooperation. This chapter joins these strands through an access use capability influence framework. Access refers to an account, device, network, and payment endpoint. Use means repeated participation in transactions. Capability adds control, understanding, safety, and effective redress. Influence arises when credible domestic capability is translated into external connectivity, technical cooperation, or shared standards on terms a partner country values.

Research Design and Evidence

The chapter uses an interpretive research design based on triangulated secondary evidence. The data cut-off is 31 July 2026. Administrative statistics are drawn principally from the Reserve Bank of India, the Ministry of Finance, the Press Information Bureau, NPCI and NPCI International. Survey measures come from the World Bank's Global Findex 2025, which reports fieldwork conducted in 2024. Institutional and comparative claims use publications of the International Monetary Fund, the Bank for International Settlements, the G20, and the Monetary Authority of Singapore. Peer-reviewed research supplies evidence on

rural adoption, low-income users, merchants, platform design, and consumer behaviour. The two preliminary author contributions were used to identify themes, but every quantitative statement retained here was checked against an attributable source; the small unpublished student survey in the commerce draft is not treated as evidence.

The method is descriptive and analytical rather than causal. Rapid growth in UPI transactions coincided with rising financial inclusion, expanding mobile connectivity, public incentives, pandemic-era changes, merchant demand, and broader digitisation. The available aggregate series cannot isolate UPI's independent effect on poverty, gross domestic product, tax compliance, or women's autonomy. The chapter therefore uses terms such as "supports," "enables," or "is consistent with" when a mechanism is plausible but causation has not been identified. It also treats international announcements as evidence of institutional reach, not proof that a foreign system has achieved inclusion outcomes.

The evidence has further comparability limits. Administrative counts include accounts, users, QR codes, and transactions, each with a different unit and possibility of multiple registrations. Findex estimates refer to people aged fifteen and above; for India, its 2024 sample excluded the north-eastern states, remote islands, and Jammu and Kashmir, together representing less than ten per cent of the population. Cross-border initiatives are at different stages, from live merchant acceptance to agreements for systems still under development. The analysis addresses these limits by dating each statistic, separating survey from administrative evidence, and classifying foreign engagements by function.

Table 1. Selected indicators of financial access, digital use, and commercial depth in India

Dimension	Indicator and date	Verified value	Interpretation
Formal access	Adults with an account, 2011 / 2021 / 2024	35.2% / 77.5% / 89.0%	Access expanded rapidly over thirteen years.
Active use	Adults making or receiving a digital payment, 2021 / 2024	34.9% / 48.5%	Use improved, but remained far below account ownership.
Merchant use	Adults making a digital merchant payment, 2021 / 2024	11.9% / 18.3%	Consumer-side digital retail participation remained uneven.
Device capability	Personal smartphone ownership, 2024	All adults 42.0%; women 31.8%; poorest 40% 25.0%	Device inequality constrains independent use.
Inclusion infrastructure	PMJDY accounts, 25 February 2026	57.78 crore; 55.8% women; 78.2% rural/semi-urban	The basic-account layer has broad social reach.
Composite inclusion	RBI FI-Index, March 2026	70	Latest improvement was led mainly by usage.
UPI scale	FY 2025–26	24,161.69 crore transactions; ₹314.23 lakh crore	UPI is embedded in mass retail and transfers.
User reach	UPI users, June 2026	55.49 crore onboarded users	Administrative reach is very large, but is not a unique-adult estimate.
Merchant footprint	FY 2024–25	56.86 crore QR codes across about 6.5 crore merchants	Low-cost acceptance has spread widely.
Transaction character	H1 2025 / FY 2025–26	P2M 63% of volume; 86% of P2M payments below ₹500	Everyday, small-ticket commerce drives volume.

Sources: *World Bank Global Findex; RBI; Ministry of Finance, Government of India.1, 2, 3, 4, 5, 13*
Note. The rows use different populations, units, and reporting periods and should not be added or interpreted as a single time series.

From Bank Access to a Usable Payments Economy

India's inclusion architecture developed in layers. PMJDY widened basic bank access; Aadhaar provided a widely used authentication and identity layer; mobile connectivity created a channel through which a person could reach an account; and Direct Benefit Transfer made formal accounts relevant to the receipt of public money. UPI did not replace those elements. It increased the transactional usefulness of an account after it had been opened. The distinction is important because digital payment cannot solve the absence of a bank relationship, while a dormant account cannot deliver the day-to-day value of digital participation.

The same source estimated that only 48.5 per cent of adults had made or received a digital payment in the previous year, although 89.0 per cent had an account. Only 18.3 per cent reported making a digital merchant payment.3 These survey figures should not be read as a contradiction of UPI's very large administrative volume. A smaller group of frequent users can generate billions of transactions, while many account holders transact rarely or rely on cash. The two measures describe different aspects of the system: transaction counts show intensity; representative surveys show the breadth of individual participation.

UPI's economic significance begins with a reduction in the fixed and variable frictions of small payments. A merchant does not need card-reading hardware to accept a QR payment. A buyer does not need the merchant's account number or the same application. Exact payment removes the problem of change, and near-real-time confirmation reduces uncertainty at the counter. These are modest gains in an individual transaction but meaningful ones when repeated across millions of low-value exchanges. They are also distributive: a technology that is economical only for large purchases or formal stores will exclude a large part of India's retail economy.

The institutional design supports this reach. The payment instruction moves through a regulated, interoperable network while banks retain the underlying accounts and private or bank-owned applications supply user interfaces. The IMF's analysis of the universe of UPI transactions finds evidence that interoperability encouraged adoption by allowing users to choose their preferred application without losing access to other users. Interoperability is thus not a technical ornament. It changes the economics of participation. It allows the network benefit to be shared across front ends and gives smaller merchants access to customers regardless of application choice.

The price of access has mattered as well. Since January 2020, person-to-merchant UPI transactions have operated with zero merchant discount rate, and the government has used incentives to compensate ecosystem participants for eligible low-value payments. For FY 2024-25, a ₹1,500 crore scheme provided a 0.15 per cent incentive for payments up to ₹2,000 to small merchants, with part of the reimbursement tied to technical-decline and uptime standards.14 The arrangement lowers the immediate cost to merchants and citizens, but it also exposes a long-run policy question: a system with real infrastructure, fraud-management, support, and compliance costs requires a transparent and durable financing model.

The transaction mix gives the strongest indication of social depth. Person to merchant payments accounted for 63 per cent of UPI volume in the first half of 2025, while person-to-person transfers accounted for most value. In FY 2025-26, 86 per cent of merchant payments were below ₹500.4 A system used principally for high-value transfers could be financially important without being commercially democratic. UPI's concentration in small tickets

suggests a different role: it is used for vegetables, transport, food, household services, and the dense exchanges of the informal and semi-formal economy. That pattern is a necessary, though not sufficient, condition for economic democratization.

The Economics and Commerce of Everyday UPI

For households, the immediate economic benefit of UPI lies in convenience, time, and reach rather than an automatic rise in income. A transfer can be made without travelling to a branch, waiting for business hours, or disclosing full bank details to a recipient. The opportunity cost of a payment falls, particularly for workers whose time away from employment is costly. The record of a transaction can improves recall and dispute documentation. UPI can also connect welfare receipts to market use, making the formal account more than a destination into which money enters. These effects can improve allocative efficiency, but they are not equivalent to financial resilience. Findex estimated that only 30.1 per cent of Indian adults in 2024 would not find it difficult to raise emergency money within thirty days, with the figure falling to 22.6 per cent among women and 18.7 per cent among the poorest forty per cent. A fast payment moves resources efficiently; it does not create resources that a household lacks.

For merchants, digital acceptance can affect both the revenue side and the operating side of a business. Accepting a customer's preferred method reduces the risk of losing a sale. Instant confirmation supports faster checkout and reduces the time spent counting, safeguarding, depositing, and reconciling cash. Digital records can help separate household and business flows, reveal sales patterns, and support interactions with formal lenders or tax systems. Adhikary and colleagues found a positive association between digital-payment adoption and revenue among unorganised retailers in their sample, but also showed that business characteristics moderated the gain.15 The relevant conclusion is not that every QR code raises profit. It is that payment capability can become a productive resource when it complements the retailer's customers, credit practices, scale, and management.

The absence of a conventional acceptance device is particularly important for micro-enterprises. Card infrastructure imposes equipment and acquiring costs that are difficult to justify for a stall with small average tickets. A printed UPI QR lowers that entry barrier. Zero MDR further reduces the marginal cost of accepting a payment, while the common standard protects the merchant from having to display a separate code for every application. The resulting acceptance density benefits consumers as well: the value of keeping funds in a usable account rises when nearby merchants will accept them. Merchant and consumer adoption therefore reinforce each other through a network effect.

This apparently simple model contains three commercial cautions. First, digital receipts are not the same as free working capital. A merchant needs reliable access to the bank account into which funds settle and may face other banking or compliance costs. Second, a payment record can assist a credit decision, but the quality and governance of digital credit remain separate questions; a transaction trail should not become a licence for opaque profiling or aggressive lending. Third, a merchant who depends on a single front-end application for notifications or service may experience practical lock-in even though the underlying rail is interoperable. Competition at the interface and portability of transaction history therefore remain important.

Merchant adoption also depends on customer behaviour and confidence. Field evidence from Jaipur found that perceptions of demand, usefulness, and information shaped small retailers'

decisions to accept digital payments.[16] More recent adoption studies similarly emphasise facilitating conditions and trust.17, 19 These findings explain why distribution cannot end with the placement of a QR sticker. A merchant needs a reliable confirmation process, a way to reconcile receipts, clear instructions for refunds and mistaken payments, and a complaint channel that does not require specialist vocabulary. Repeated successful use creates trust; one unresolved failure can push a cash-constrained trader back towards cash.

At the consumer interface, convenience can support welfare and undermine self-control at the same time. Cash makes the reduction in a wallet visible. A UPI payment separates the act of purchase from that physical cue and compresses deliberation into a scan, an amount, and a PIN. Research on payment mechanisms shows that reduced rehearsal and weaker payment salience can diminish the influence of past expenditure on later choices.[21, 22] The UPI user study by Dev and colleagues reported widespread perceptions of higher spending among its respondents, often associated with the intangibility of the payment.[20] It would be wrong to generalized the reported proportion to all Indians, but equally wrong to assume that a frictionless interface has no behavioural effect.

Commerce has actively used this frictionless. Cashback, rewards, reminders, saved billers, and promotional messages can increase the perceived value and habitual use of payment applications. Kiran and Sailaja found promotional benefits to be part of the adoption environment, while add-on services affected perceived performance and effort even where they did not directly predict adoption intention.[19] Such features are legitimate forms of competition, but they can blur the line between a neutral payment utility and an environment designed to intensify engagement. When the underlying service has infrastructural importance, interface incentives deserve consumer-welfare scrutiny as well as marketing analysis.

The appropriate response is not to make every payment cumbersome. It is to create proportionate friction. A correctly designed confirmation screen should make the recipient's verified name, amount, and direction of payment unmistakable. A simple spending-status indicator could let a user set a monthly discretionary limit and display green, amber, or red status without requiring a complex budgeting dashboard. Optional cooling prompts could appear for unusual transactions, rapid repeated purchases, or a user-defined threshold. These tools should remain optional and locally intelligible, since an interface crowded with graphs may exclude the very users it aims to protect. Nudge theory is useful here because it asks how the environment guides choice while preserving agency.[24]

From Domestic Scale to Digital Economic Diplomacy

Economic diplomacy traditionally works through trade agreements, investment, development finance, standards, and the management of cross-border economic relations. Digital infrastructure adds another instrument. A country that can demonstrate a reliable platform, connect it to a partner's system, share technical knowledge, and help establish rules around it can lower transaction costs while creating institutional familiarity. In this sense, UPI is not diplomacy because a payment application is popular. It becomes diplomatic when its architecture and operating experience are used to negotiate connectivity, support a partner's policy objectives, or shape a wider understanding of how digital markets should be organised. Domestic scale supplies credibility. The IMF describes UPI as the world's largest retail fast-payment system by volume and attributes part of its adoption to interoperability.[6] Indian government data, drawing on an ACI Worldwide comparison, placed India at roughly 49 per cent of global real-time payment volume in 2023.[13] Reporting methods differ, but the

platform's low-ticket intensity, hundreds of participating banks, and diverse private interfaces give foreign authorities a reason to examine the model beyond pilot scale.

The first and shallowest form of internationalisation is overseas merchant acceptance. As of 31 July 2026, Indian travellers could use UPI at participating merchants in nine countries: Bhutan, Singapore, the United Arab Emirates, France, Mauritius, Sri Lanka, Nepal, Qatar, and Cambodia.[34] This arrangement primarily improves convenience for travellers and can support tourism spending and bilateral commerce. It also makes an Indian payment credential visible abroad. Its diplomatic value is real but limited: acceptance at selected foreign merchants does not mean the host country's residents use UPI domestically, nor does it establish that the local payment architecture has been replaced.

The second form is payment-system interlinkage. The UPI PayNow connection launched in February 2023 joined India's and Singapore's real-time payment systems for cross-border transfers.[30] By July 2026, official Indian reporting also identified live person-to-person links involving Greece and Nepal.[5] On 30 July 2026, the Maldives' Favara system went live with UPI for transfers from participating Maldivian banks to Indian accounts, with merchant and additional uses planned for later phases.34 These links are economically deeper than traveller acceptance because they can reduce time and procedural friction in remittances. They nevertheless require coordination over foreign exchange, customer identification, transaction limits, settlement, sanctions screening, error resolution, and the allocation of liability across jurisdictions.

The third form is assistance to build a sovereign, UPI-like domestic platform. NPCI International signed an agreement with the Bank of Namibia in May 2024 to support an instant-payment system intended to improve interoperability, accessibility, and affordability while remaining under a central-bank-led national framework.[31] In June 2024 it partnered with the Central Reserve Bank of Peru on a UPI-like system, making Peru the first South American country to enter such an arrangement.[32] A September 2024 agreement with Trinidad and Tobago sought a similar platform for person-to-person and merchant payments.[33] These projects are not simply the overseas operation of India's domestic UPI network. They involve the transfer of design experience, technology, licensing, consulting, and implementation knowledge so that a partner can develop infrastructure suited to its own institutions.

This distinction has diplomatic importance. A sovereign system gives a partner greater control over participation rules, data, settlement, pricing, and future development than dependence on a closed foreign wallet. India can therefore present cooperation not as the capture of another market but as support for local capability. That proposition resonates with states seeking to digitise without surrendering control of core financial infrastructure. It also creates legitimate opportunities for Indian technology firms, banks, consultants, and training institutions, but those commercial gains are more likely to be accepted when the partner's public objectives remain visible and enforceable.

The fourth and broadest form is DPI policy and knowledge cooperation. During India's G20 presidency, members adopted a voluntary framework describing DPI as shared, modular digital systems supported by technology, governance, and community. The framework emphasised interoperability, inclusion, security, privacy, grievance redress, transparency, and sustainable financing. By February 2026, India had signed agreements or memoranda with 23 countries for cooperation on India Stack or DPI, covering areas that could include identity,

payments, data exchange, documents, and service delivery.[29] The Global DPI Repository and India Stack Global further convert national experience into a catalogue of systems and implementation knowledge.

Table 2. Four modes of UPI-related international engagement

Mode	Selected live or announced evidence by 31 July 2026	Principal economic function	Diplomatic meaning and limit
Overseas merchant acceptance	Participating merchants in Bhutan, Singapore, UAE, France, Mauritius, Sri Lanka, Nepal, Qatar, and Cambodia	Easier visitor payments; tourism and retail spending	Visible foreign reach, but not domestic adoption by the host population.
Cross-border system linkage	Singapore PayNow–UPI; P2P links reported with Greece and Nepal; Maldives Favara–UPI corridor	Faster remittances and account-to-account transfers	Builds bilateral financial connectivity; requires joint rules for FX, compliance, liability, and redress.
UPI-like sovereign infrastructure	Agreements with the Bank of Namibia, Central Reserve Bank of Peru, and Trinidad and Tobago's Ministry of Digital Transformation	Domestic instant-payment capability and interoperability	Transfers know-how and can support sovereign control; outcomes depend on local implementation and governance.
DPI policy and knowledge cooperation	G20 DPI framework; Indian agreements with 23 countries; Global DPI Repository	Shared standards, capacity building, and reusable public platforms	Broadens India's development partnership, but should not be reported as payment-system adoption.

Sources: *G20 Digital Economy Ministers; Ministry of Electronics and Information Technology; Ministry of Finance; Monetary Authority of Singapore; NPCI International.5, 28, 29, 30, 31, 32, 33, 34*
Note. "Live," "linked," "accepted," and "under development" describe different institutional states.

Together, the four modes create several channels of influence. Payment acceptance gives travellers and merchants a direct experience of Indian technology. System links create recurring cooperation among regulators, banks, and operators. Infrastructure partnerships embed Indian technical knowledge within a partner's long-term modernisation. G20 and DPI engagement influence the vocabulary and principles through which digital development is discussed. These channels combine material benefit with reputational effect. In Nye's terms, attraction and credibility can produce influence without coercion, although digital infrastructure also involves bargaining, commercial interests, and regulation that extend beyond conventional "soft power."[36]

The phrase digital economic diplomacy is therefore preferable to a celebratory claim of technological soft power. It keeps economic function at the centre. A remittance link is valuable if it is cheaper, faster, transparent, and accessible. A UPI-like national rail is valuable if it widens participation and supports local innovation. A DPI agreement is valuable if it builds durable institutions rather than a showcase portal. Diplomatic influence follows from those outcomes; it should not substitute for them. India's credibility will be greatest when it shares operational lessons, including failures and trade-offs, rather than presenting UPI as a finished object.

The approach also fits the theme of an assertive but cooperative India. Assertiveness here does not require dominance over another country's payment market. It appears in the ability to place an Indian-origin institutional model on the global agenda, negotiate reciprocal links, and offer a development option distinct from both closed proprietary networks and costly bespoke systems. The model proposed by Varma, Matthan, Chaudhuri, and Madhukar packaged DPI that can be adapted for smaller states illustrates how deployment could become

faster while preserving the possibility of later customisation.35 Yet packaging must not become standardisation without consent. Countries differ in identification systems, banking concentration, connectivity, legal capacity, languages, informal markets, and attitudes towards data. Adaptation is not a concession; it is a condition of legitimate diffusion.

India may gain lower remittance frictions, easier tourist spending, demand for technical expertise, and a role in shaping interoperable standards. Partners may gain competition, cheaper acceptance, and wider merchant reach. Neither distribution is automatic: a corridor with few banks can serve a narrow group, and a new rail can coexist with poor device access. Evaluation should therefore follow announcements with measures of cost, active use, merchant breadth, failures, complaint resolution, and reach across gender, income, age, and geography.

The Limits of Democratization

UPI's success invites a simple equation: more transactions mean more inclusion, and more countries mean more influence. Both parts are incomplete. Transactions measure activity, not control or welfare. Foreign reach measures institutional interest, not a partner population's benefit. Economic democratization is a stronger claim. It implies that people who previously faced structural barriers acquire a practical and reasonably equal capacity to participate in exchange. The distance between 89.0 per cent account ownership and 48.5 per cent digital-payment use in the Findex data shows why the distinction matters.[3]

Device ownership is one constraint. In 2024, the World Bank estimated personal smartphone ownership at 42.0 per cent among Indian adults, 31.8 per cent among women, and 25.0 per cent among the poorest forty per cent.3 A household may own a phone without each member controlling it. Shared devices can compromise privacy, make authentication dependent on another person, and limit the timing of transactions. UPI 123PAY, lightweight products, voice support, and offline modes can widen access, but technological alternatives must be accompanied by awareness, nearby assistance, and safeguards against delegated control.

Knowledge and trust are another constraint. Rural evidence shows that age, gender, education, occupation, and income remain associated with adoption, while the mere existence of a Jan Dhan account did not predict use in one district-level model.[18] Low-income-user research identifies perceived security risk and knowledge alongside usefulness and social influence.[17] These findings argue against a uniform awareness campaign. A merchant needs reconciliation and refund skills; a first-time consumer needs to recognise a collect request; an older user needs confidence that a complaint will be heard; a woman using a shared phone may need a safe way to maintain privacy. Capability is specific to the transaction context.

Consumer redress is central because the cost of a failed payment is not proportional to income. The RBI required authorised payment operators and participants to establish an online dispute-resolution system for digital payments, with in-app complaint access for UPI users and escalation to the integrated ombudsman where appropriate.[25] The rule creates an important foundation, but formal availability does not guarantee practical accessibility. Complaint menus, evidence requirements, language, turnaround time, and the division of responsibility among the app, bank, and network determine whether a person can actually recover funds or understand a delay. Cross-border links make the chain longer and increase the need for a single, intelligible point of contact.

Data governance presents a related legitimacy test. RBI rules require domestic payment-system data to be stored in India, subject to specific treatment of cross-border transactions.[26] The Digital Personal Data Protection Rules, 2025 added requirements around clear consent notices, breach communication, individual rights, and accountability of data fiduciaries.[27] These rules are stronger than the unsupported claim that payment applications may freely sell every transaction record. Even so, the ecosystem generates sensitive behavioural information, and international expansion raises questions about which data cross borders, who can access them, how long they are retained, and which regulator acts when harm occurs. India cannot credibly promote trusted DPI abroad unless purpose limitation, security, auditability, and effective remedy are visible at home.

Market structure creates a further tension. Interoperability allows a consumer using one application to pay a merchant using another, but network effects, interface quality, rewards, and installed user bases can still concentrate front-end activity among a few providers. Concentration can produce efficiency and investment; it can also magnify an outage, weaken bargaining by smaller participants, and give dominant interfaces disproportionate influence over discoverability and consumer engagement. The public rail must therefore be matched by transparent participation rules, operational-resilience standards, and credible pathways for new or smaller applications to compete.

Commercial sustainability cannot be separated from inclusion. Zero MDR removes a barrier for price-sensitive merchants, while public incentives recognise that banks and payment firms incur real costs. A permanently underfunded system may reduce service quality or push providers to monetise adjacent services in ways that are less transparent than an explicit fee. A high fee, by contrast, can send small traders back to cash. The policy challenge is to finance security, support, and innovation without taxing low-value inclusion. Periodic, evidence-based review of subsidies, cost allocation, and differential treatment of small and large merchants is more defensible than treating either free payments or uniform pricing as an unquestionable principle.

Finally, payment convenience can expose users to behavioural and fraud risks without making the technology itself harmful. The reduced salience of spending may encourage impulse purchases for some consumers; anxiety may discourage others from using the system at all. Scams often exploit urgency, authority, and confusion rather than a weakness in the core payment rail. Good governance must therefore combine secure authentication with humane interface design, warnings at the right moment, transaction-specific education, and rapid response after harm. Democratization requires the freedom to use digital payments and the confidence to refuse a suspicious request.

A Policy Agenda for Responsible Global Influence

India's first policy priority should be to treat domestic inclusion quality as an external strategic asset. A partner considering an Indian-origin payment architecture will look beyond total transactions to system uptime, fraud controls, complaint resolution, rural reach, disability access, gendered device constraints, and the experience of small merchants. A public dashboard should therefore report not only volume and value but also active-user breadth, failed-transaction rates, median resolution time, merchant inactivity, language access, and disaggregated usage where privacy-preserving data permit. Transparent weaknesses would strengthen, not diminish, the credibility of India's offer because they demonstrate institutional learning.

The second priority is precise language. Official and scholarly reporting should classify each international initiative as merchant acceptance, cross-border system linkage, sovereign-platform development, or broader DPI cooperation. It should also state whether an arrangement is announced, under development, piloted, or live. This modest discipline would prevent the number of "UPI countries" from becoming a misleading diplomatic scorecard. It would redirect attention from the count of flags to economic outcomes: transaction cost, settlement time, participating institutions, user coverage, merchant reach, and recourse.

Third, infrastructure partnerships should begin with local political economy rather than technology. The partner's central bank, finance ministry, banks, non-bank providers, merchant bodies, consumer organisations, and data-protection authority should agree on objectives and governance before a platform is configured. Local control over rules and data should be explicit. Open standards, modular components, and staged implementation can reduce lock-in, but a country also needs the capacity to procure, audit, maintain, and eventually modify the system. Training and institutional handover are consequently part of the diplomatic product, not secondary services.

Fourth, cross-border corridors need a consumer charter jointly published by the relevant regulators and operators. It should state the exchange-rate basis, total fee, expected transfer time, transaction limits, data flows, prohibited uses, refund conditions, and one complaint route in language an ordinary sender can understand. Liability should be mapped before launch: the user should not have to determine whether an error occurred at an Indian bank, a foreign bank, an application, a currency-conversion provider, or the switching layer. The existing RBI approach to rule-based digital-payment redress provides a domestic starting point, but bilateral arrangements require reciprocal service standards and data-sharing protocols.

Fifth, merchant economics should be built into both domestic and overseas design. Small merchants benefit from inexpensive acceptance, but they also need dependable settlement, audible or accessible confirmation, simple statements, and protection from social-engineering fraud. Public support can be targeted to low-value and newly digitising segments, as India's incentive scheme attempts, while larger merchants can be assessed under a separate cost logic.14 Partner countries should not copy zero MDR automatically; they should publish the cost model, identify who finances the rail, and evaluate whether pricing expands or restricts acceptance over time.

Sixth, inclusion should be designed by user circumstance. Feature-phone and offline options, voice interfaces, local languages, accessible screens, and assisted onboarding can extend reach beyond smartphone-first users. Rural women's programmes should combine digital skills with control over accounts and devices. Older users should be able to activate optional transaction limits, simplified screens, or trusted-contact notifications without surrendering legal authority over their money. For consumers who want help managing frictionless spending, a user-set green, amber, red budget signal can make cumulative expenditure visible while avoiding a complex dashboard. Each intervention should be tested with the population it is intended to serve rather than imposed from an urban design laboratory.

Seventh, the public-private boundary must remain legible. Users should know which institution holds their funds, which entity operates the interface, who processes the instruction, and who handles a complaint. Application providers should compete on service without undermining common QR interoperability or obscuring the public rules of the rail.

Privacy notices should distinguish information essential to execute a payment from data used for optional commercial services. India's DPDP framework and the G20 principles on security, privacy, transparency, and grievance redress provide a basis for this approach, but effective audits and plain-language implementation will determine trust.

Finally, research cooperation should accompany infrastructure cooperation. India and partner countries could establish independent, privacy-preserving evaluations before and after implementation, measuring who adopts, who remains excluded, how merchant costs change, whether remittances become cheaper, and how failures are resolved. Results should be publishable even when they are inconvenient. Such evidence would improve later deployments and prevent diplomatic announcements from outrunning social outcomes. It would also make UPI's international role distinctively valuable: India would be offering not only code and connectivity, but a cumulative body of knowledge about governing mass digital payments in diverse emerging economies.

CONCLUSION

UPI's journey from a domestic payment rail to an instrument of external engagement rests on a credible economic sequence. Basic accounts widened access; identity and mobile channels made remote interaction possible; interoperability lowered network barriers; QR acceptance drew small merchants into digital exchange; and immense everyday usage gave India a demonstrable institutional capability. That capability now travels through merchant acceptance, bilateral payment links, UPI-like sovereign systems, and DPI cooperation. Each mode creates a different kind of economic and diplomatic value, and none should be mistaken for the others.

The chapter's central conclusion is deliberately conditional. UPI can support economic democratization, but transaction growth is not democracy by itself. The relevant test is whether people can convert access into secure, informed, independent, and affordable participation. The gaps in smartphone ownership, digital-payment use, resilience, and rural or gendered adoption show that this conversion remains incomplete. The same standard should govern foreign expansion: success means lower frictions and wider capability in the partner country, not merely the presence of an Indian logo or an announced agreement.

For Samarth Bharat, this is a consequential form of assertive global engagement. India is no longer only a consumer of financial standards created elsewhere; it is offering a tested institutional model and helping shape the global discussion on interoperable, public-purpose digital systems. Its influence will be strongest when it combines confidence with restraint sharing technology without erasing local sovereignty, promoting scale without concealing exclusion, and linking commercial opportunity to consumer protection. UPI's most durable diplomatic asset is not speed alone. It is the possibility that a high-volume payment system can remain open to competition, useful to small traders, adaptable across borders, and accountable to the people whose everyday transactions give it value.

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