



INDIA JURIS
International Law Firm

DECODING TPAP ARCHITECTURE



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1. INTRODUCTION

1.1 Definition and Meaning

A Third-Party Application Provider, or TPAP, is a non-bank company that delivers UPI services by linking up with the UPI system through registered Payment Service Provider (PSP) banks. TPAPs act as service providers inside the UPI ecosystem, but they never touch customer funds directly. They build the user interface, handle transaction flow, and make sure payments run smoothly for both users and merchants. That's different from payment aggregators, who actually hold and move customer money. TPAPs simply route transactions via their partnered banks. This distinction puts them under lighter regulatory requirements and less demanding capital rules.

TPAPs run their own mobile apps or digital platforms that connect to UPI APIs, so customers pay through these branded interfaces. The partner PSP bank handles the actual movement and settlement of funds behind the scenes. Meanwhile, the TPAP takes care of the user experience, app-level transaction processing, and keeps the payment process smooth and engaging. This setup has become the backbone of India's digital payment landscape. Thanks to TPAPs, millions of people can send and receive money instantly, right from their favorite apps.

1.2 Role in UPI Ecosystem

TPAPs play a huge role in the UPI ecosystem. For most people, they're the main point of contact; they connect users directly to the UPI system, which is run by the National Payments Corporation of India (NPCI). The whole idea behind UPI was to create a platform where different players could offer payment services, and TPAPs make that possible on a massive scale. They're the ones responsible for bringing users on board, coming up with new ways to pay, and ramping up the number of transactions happening on UPI. TPAPs don't work alone. They team up with PSP banks, NPCI, and issuer banks to build an integrated payment environment that handles both Person-to-Person (P2P) and Person-to-Merchant (P2M) payments. But their importance goes way beyond just processing payments. TPAPs have become hotspots for innovation in digital payments. They've launched features like QR code scanning, voice-enabled payments, bill splitting, and even tied in credit products.

NPCI provides the core infrastructure and handles transaction switching. PSP banks supply the banking licenses and settle the funds. TPAPs focus on user experience and getting people hooked. Together, they keep the UPI ecosystem running smoothly and growing fast.

1.3 Importance in Digital Payments

Third-Party Application Providers (TPAPs) have totally changed how people in India pay for things. These platforms have greatly increased the availability of the cashless payment system, turning the digital transactions method, which was initially accessible only to those who were tech-savvy and lived in the cities, into a mainstream form of transaction that can be accessed by anyone with a smartphone. India's Unified Payments Interface (UPI) started off small, handling just a few million transactions early on. But by 2025–26, that number is set to hit over 241 billion. This is indicative of a phenomenal growth pattern in a relatively brief period of time. With the use of TPAPs, digital payment options have been made available from various platforms, which means that digital payments have become increasingly inclusive of people belonging to all walks of life.

The involvement of TPAPs in enhancing the level of financial inclusion in India is important. Through simplification of account opening process via KYC through smartphones, the TPAPs have managed to overcome many of the challenges associated with access to digital payments system by making their applications easy for use. Merchants have gotten in on the action, too. TPAPs rolled out millions of UPI QR codes in shops all over, so individuals can pay digitally almost anywhere now. And it's not just about shopping, TPAPs have stitched UPI into e-commerce, social media, and a bunch of new online businesses. These trends have ensured that India is a pioneer in the field of real-time digital payments on a global scale. Innovation, access, and mass usage have made India the leading player in the sphere of digital payment technology around the world.



2. ELIGIBILITY AND LICENSING REQUIREMENTS

2.1 How to Obtain TPAP Authorization

The process of applying for TPAP authorization from NPCI consists of a multi-stage evaluation process that ensures that only competent and credible organizations are allowed to enter the UPI network.

- **The first step** in the process requires an internal evaluation to confirm eligibility. The candidate must establish that he/she qualifies on the basic requirements set by NPCI. They must be a legal entity in India, have an existing mobile application with UPI capability, provide evidence of financial stability through audited statements, and appoint a sponsoring PSP bank. Once eligible, the candidate prepares his/her application documentation.
- **The second step** in the process is the actual application. In this stage, the candidate applies through NPCI's official website, submitting all required documents together with a technical architecture, business plan, and disaster recovery policy. NPCI evaluates the submitted application, assessing the technical feasibility, financial stability, organizational structure, and compliance readiness of the candidate. The evaluation process may take several rounds of communication between the organization and NPCI.
- **The Third Stage**, Sandbox testing represents the next step in the TPAP process, where the application of the applicant is tested in the sandbox mode in an environment managed by UPI to assess the technical, transactional, error, and security aspects of integration. Once the applicant's test results are reviewed by both the

applicant and its sponsor bank, NPCI will sanction further movement to the production stage provided all relevant criteria are fulfilled.

- **The final step** in this process occurs once the above steps have been completed successfully, with any problems being sorted out. Formal approval will be granted by NPCI, which will issue TPAP authorization to the applicant. Following this, the applicant will sign binding agreements with NPCI and its sponsor bank; it will then be onboarded for production purposes and allowed to go live with UPI services. The overall timeframe within which one can obtain TPAP authorization usually stands between 8 and 12 weeks. However, the more complicated the case, the more extended the process. Recent statistics show that obtaining TPAP authorization now takes about 15-18 months for new entrants.

2.2 Eligibility Criteria

NPCI has provided detailed eligibility criteria that an applicant should fulfill in order to gain TPAP authorization. This set of criteria ensures that TPAPs are capable enough to provide secure and reliable services for processing UPI payments and safeguarding customers' interests. The basic eligibility criteria are as follows:

- **Registration as a Legal Entity:** The applicant has to be registered as a legal entity in India, formed either under the Companies Act, 2013 or as a Limited Liability Partnership (LLP) firm in India. In addition, foreign firms are eligible to apply for TPAP

authorization if they have a registered subsidiary or any other legal entity in India that fulfills all the required eligibility criteria.

- **Financial Stability:** The applicant firm should be financially strong and sustainable enough. This is verified by auditing the financial records of the previous 2-3 years of the applicant firm, ensuring that it is sufficiently capitalized, earning money, and can run UPI operations in the long term. Unlike payment aggregators, NPCI does not lay down any net worth criterion for TPAPs.
- **Tech Architecture:** The applicant should either possess or gain access to an adaptable, robust, and reliable technical infrastructure that supports the inclusion of UPI API endpoints, processes massive transaction volumes, ensures the use of encrypted transactional data, supports real-time transactions, and safeguards against any possible security breaches. The technical architecture proposal should comply with the security requirements set by NPCI, and an ISO 27001 certification or equivalent must be provided.
- **Business and Operational Model and Preparedness:** The applicant should be able to explain their business model regarding the proposed use case for the UPI platform, transaction volume targets, customer segments, and revenue generation strategies. They should have an existing or upcoming application that can incorporate the UPI system into its functionality. It will be advantageous to apply as a TPAP when the organization has prior experience in finance, fintech operations, payments, and banking.
- **Partnering PSP Bank:** For an organization to apply for authorization as a TPAP, they should have established partnerships with at least one PSP bank prior to submitting an application for approval. The partnering PSP bank should be an existing member of the UPI platform and approved by NPCI.

2.3 Compliance and Operational Requirements

Post-authorization, TPAPs must meet ongoing compliance responsibilities that guarantee continued adherence to regulations set out by RBI and NPCI. These include:

- **Privacy and Localization of Data:** TPAPs have the responsibility of ensuring that all payment data, including transaction data and customer information gathered during UPI transactions, is kept only on servers located within India. Processing of data outside of India is allowed, provided the data is removed from the foreign server and imported back into India within 24 hours. This is in accordance with the RBI's payment system data localization rules and data protection guidelines.
- **Security and Auditing:** TPAPs are required to develop comprehensive information security policies, perform regular security audits, deploy multi-factor authentication for customer login, use encryption for sensitive customer data, and have disaster recovery plans. The auditing of TPAP systems by NPCI and PSP banks is possible at any time to confirm the system's

adherence to security measures and data integrity. TPAPs are obliged to carry out yearly audits on their APIs and system behavior through third-party auditors.

- **Grievances of Customers:** TPAPs have to put in place a formalized redressal process for any complaints of end users about UPI transactions. Complaints have to first be filed with the TPAP; in case they go unresolved, the customers have the option to escalate the issue to the PSP bank, the customers' bank, and even to NPCI and the Banking Ombudsman.
- **Scheduling of Regulatory Returns:** Periodic reports have to be furnished by the TPAPs to NPCI regarding various aspects, including transaction levels, the number of customers, and compliance status. Additionally, TPAPs will have to comply with all circulars issued by NPCI and the Reserve Bank of India.

2.4 PSP Bank Partnership Requirement

The binding relationship between the TPAP and the Payment Service Provider (PSP) Bank constitutes an integral component of the UPI system. A PSP Bank is any commercial bank registered with NPCI to allow TPAPs to participate in the UPI network. It acts as the channel that allows customers to register and authenticate their accounts, settle transactions, implement cybersecurity measures, and comply with RBI/NPCI policies. Apart from providing banking services, PSP Banks oversee the functioning of TPAPs by guaranteeing the integrity of the transactions, implementing complaint handling systems, and performing security/compliance checks. A TPAP can only function with the help of a PSP Bank, and any alteration in the sponsor bank must be approved by NPCI.



3. OPERATIONAL STRUCTURE OF TPAP

3.1 How TPAP Works

- The operational architecture for the TPAP is based on a multi-level structure wherein the TPAP operates as an application service provider, PSP bank works as a banking service provider, and NPCI acts as the transaction processing engine and switch for the TPAP platform. As soon as a user performs a UPI payment transaction using a TPAP app, the TPAP app collects the transaction information, which includes the payer identifier, payee identifier, amount of money, and purpose of the transaction. The TPAP securely sends the transaction information to the PSP bank without exposing any banking credentials.
- The PSP bank, on receipt of the transaction request, conducts customer authentication using the customer's PIN, biometrics, or other means of authentication stored securely at the bank. The PSP bank, after authenticating the customer, forwards the transaction request to NPCI's central switching network via standard interfaces. The switching network at NPCI processes the transaction in real time, identifies the receiving bank (also called the issuer bank), and forwards the debit instruction to the payer bank and the credit instruction to the payee bank. The receiving bank conducts any necessary validations and either accepts or rejects the transaction and sends the response back via NPCI's switch to the PSP bank, which forwards the transaction status to the TPAP application.
- During all this process, the TPAP continues to handle all transaction confirmations, transaction history within the app, and notifications of transaction statuses immediately.

The TPAP cannot see the banking credentials, banking accounts, or any other private data belonging to the payer; they continue to be housed within the secure banking environment of the PSP bank and issuer bank

3.2 Registration Process for TPAP Authorization

The procedure for acquiring the authorization status of Third Party Application Provider (TPAP) in the UPI system is mainly regulated by the National Payments Corporation of India (NPCI) in conjunction with the Reserve Bank of India (RBI). In order to be allowed to function as a TPAP within the scope of the UPI system, an applicant organization should meet different requirements from the perspective of its operation, technology, finance, and compliance aspects.

Step 1- Preliminary Eligibility Evaluation: Prior to the registration procedure, the applicant company has to confirm that it meets the criteria stipulated by the NPCI regarding its eligibility for being a TPAP. This implies that the entity conducts an evaluation of its financial and other resources and capabilities necessary for conducting operations as a TPAP. Furthermore, the entity must choose a sponsor (PSB) to gain access to the UPI infrastructure as a TPAP because it is not able to connect directly to the infrastructure itself.

Step 2 - Preparation of Application & Documents: After confirming the applicant's eligibility, it is now time for them to prepare all the required application documents.

This process requires the gathering of corporate information, financial data, management information, business strategy, operational framework, and cybersecurity policy. The purpose here is to prove that the applicant is legally established and financially stable, as well as having a business plan ready.

Step 3- Filing of Application to NPCI: Once the application is compiled, the applicant submits the application form at NPCI in a prescribed manner. The application should disclose all the necessary details regarding the organization, including management details, business structure, and UPI implementation plans. Errors and misrepresentations in the application could lead to rejection of the application or may delay the entire process. The necessary documents include:

- Letter of Incorporation
- Memorandum & Articles of Association
- Know Your Customer Documents
- Financial Documents
- Business Plan
- Security and Privacy Plan
- All other documents as required by NPCI

Step 4- Preliminary Scrutiny by NPCI: As soon as the application is received by NPCI, preliminary scrutiny takes place to ensure that the application complies with all the basic requirements. During this stage, NPCI will make certain queries based on which NPCI will be able to assess whether the applicant qualifies for NPCI membership or not. Speed and accuracy with which the questions are answered are crucial in this regard.

Step 5 - Assessment of Eligibility: After submitting the above documents, NPCI conducts an in-depth review of the applicant's preparedness for becoming a TPAP. The review process is focused on analyzing the applicant's technological capabilities, cybersecurity measures, customer service policies,

compliance structure, and financial standing. Besides, NPCI might even check if the applicant can handle digital transactions in a secure way while adhering to the guidelines of RBI and NPCI.

Step 6 - System Integration and Testing: Prior to providing authorization to operate within the UPI platform, the applicant is usually mandated to complete system integration and testing with NPCI and its partner PSP bank. This step helps ensure that the applicant's systems of the applicant are compatible with the UPI platform. Moreover, it is necessary to conduct such testing to ensure secure and efficient transaction processing.

Step 7 - Issuance of TPAP Authorization: In case the eligibility criteria laid down by NPCI are satisfied by the applicant, the applicant becomes eligible to operate as a TPAP under the UPI ecosystem. Upon authorization, the entity gets access to the UPI platform for offering payments through UPI.

Step 8 - Obligations After Authorization: The TPAP needs to comply with various regulatory requirements after being granted authorization by NPCI and RBI. Such obligations include, among others, compliance with cybersecurity standards, customer protection, grievance redressal, and reporting obligations. Failure on the part of the TPAP to comply with any of these obligations will lead to regulatory action against it.

3.3 Transaction Flow and Architecture

An overview of the transaction flow becomes crucial for understanding how TPAPs are implemented within the UPI system without compromising on security and regulatory requirements. Transaction flow consists of several sequential steps as discussed below:

This process requires the gathering of corporate information, financial data, management information, business strategy, operational framework, and cybersecurity policy. The purpose here is to prove that the applicant is legally established and financially stable, as well as having a business plan ready.

- **Initiation Step:** The transaction process begins with a registered user initiating a payment transaction using their TPAP application. In this process, TPAP collects payment parameters from the user, such as payee UPI ID/phone number, transaction amount, and notes. Here, TPAP is acting only as an interface and does not have any access to any sensitive data associated with the user account.
- **Transmission of Request:** A request is then generated by the TPAP application and transmitted to the UPI server of the PSP bank. The transmission is encrypted and follows standard APIs provided by NPCI. The transmission does not include any account credentials or other sensitive details. Only the payer UPI ID (masked) and transaction details are included in the transmission process.
- **UPI Transaction Processing by PSP Bank:** The server of the PSP bank receives the transaction details and immediately fetches the authentication credentials of the sender from the vault. The PSP bank requires authentication for confirmation of identity in the form of a PIN or other methods. Post authentication, or confirmation of identity in the form of PIN or other methods. Post authentication, the PSP bank confirms if the transaction details adhere to customer restrictions and fraud detection rules, and also verifies if the transaction amount exceeds the bank balance.
- **UPI Switch Processing by NPCI:** After PSP bank authorization of the transaction, the details are sent to the UPI switch of NPCI for processing. Here, important tasks like determination of the payee's bank, validation of the UPI ID, and determination of the settlement needed are performed. NPCI sends out separate debit instructions and credit instructions to the respective banks.
- **Settlement by Banks:** The issuer bank will process the credit instruction, and the recipient bank will process the debit instruction. Settlement of funds takes place through the settlement mechanism of NPCI.
- **Confirmation and Notification:** After the successful settlement of the transaction, NPCI reports back the status to the switch, which is then relayed to the PSP bank. The PSP bank will notify the TPAP application, which will confirm the transaction to the customer, store the transaction within its own database, and notify

4. PERMITTED AND RESTRICTED ACTIVITIES

4.1 Allowed Activities by TPAPs

The regulatory framework allows TPAPs to undertake various activities required for the proper functioning of the UPI ecosystem. These allowed activities include:

- **Payment facilitation:** TPAPs are allowed to undertake payment facilitation activities like facilitating P2P transactions where customers remit money to another person using UPI IDs, mobile numbers, or even Aadhaar numbers. Also allowed are P2M transactions where customers pay merchants for goods and services using either QR code payments or entering UPI IDs. However, the TPAP is only an intermediary for such transactions without necessarily being involved in fund transfers
- **Transaction via QR Codes:** TPAPs can generate, distribute, and manage UPI QR codes that merchants can use at their points of sale. Customers can simply scan these QR codes to facilitate payments. This is one of the features that has helped merchants to enable themselves to be part of the payments system by allowing them to receive payments using QR codes and not necessarily through any physical terminal devices.
- **Billing and Utility Payment Activities:** TPAPs can facilitate payment for utility bills like electricity and other services integrated with the UPI payments system.
- **Linked Credit and Prepaid Payment Instruments:** One of the latest regulations is that TPAPs are allowed to link credit services with their UPI applications to enable customers to transact using credit UPI via the TPAP application. TPAPs can also offer prepaid payment instrument (PPI) services, including prepaid wallet capabilities.
- **Customer Onboarding/KYC:** TPAPs can perform the online KYC process for customer enrollment with UPI. However, the actual process of registration and linking happens via the PSP bank. Hence, TPAPs are allowed to onboard new customers through digital processes, which makes it easier for customers.
- **Value-added services:** Value-added services include providing additional features such as transaction history, payment reminders, recurring payment setup, split bills, and spending analysis, among others. The important thing is that these value-added services should not involve any handling of money by TPAPs.

4.2 Activities Restricted or Not Allowed

Activities banned by NPCI rules and regulations that prevent TPAPs from indulging in include:

- **Fund Holding:** The TPAPs have no role whatsoever in the holding, storage, or management of customer funds. The movement of the fund will be done only through banking means and through PSP banks. This is what makes the TPAP model different from payment aggregators.

- **Direct Settlement:** The TPAPs cannot be involved in the settlement process; neither can they act as intermediaries for the transfer of funds from the customer to the merchant. The settlement will happen only through NPCI's switch and authorized banks.
- **Cross-Border Transfer:** While NPCI has been contemplating expanding its UPI network across borders, TPAPs are restricted from handling international fund transfers. Only those entities permitted to engage in cross-border payments can undertake this task.
- **Lending and Credit Products (Direct Issuance):** Though credit products can be incorporated into TPAPs' services, they cannot provide credit products or loans to their clients. This is because the lending activity needs authorization to carry out.
- **Selling or Monetizing Data:** TPAPs can neither sell nor monetize any data generated by a customer in connection with his transactions unless he explicitly consents to such sharing. The transaction data captured by the TPAP is owned by the customer and the regulatory framework, and not the TPAP itself.
- **Violation of Cap on Market Share:** If the TPAP exceeds the 30% transaction volume cap (as per its average performance in the last three months), then the TPAP shall be prohibited from onboarding new customers till such time when it complies with the cap requirements.
- **Transactions Off-UPI:** TPAPs cannot transfer transactions from the UPI payment rail to any other form of transactions.



5. MAJOR TPAP PLAYERS AND MARKET STRUCTURE

5.1 Key Players and Market Positioning

The TPAPs market in India has become a very competitive and dynamic one, with players falling into certain competitive groups.

- **Group 1 (Prominent Players):** PhonePe and Google Pay represent leading platforms and dominate the market, sharing the majority portion of UPI transactions. They reached the position of leaders by being the first to enter the ecosystem, running massive marketing campaigns aimed at attracting customers and introducing new features constantly. Additionally, they have integrated other functionalities such as bill payments, wealth management, insurance, and lending services into their fintech ecosystems.
- **Group 2 (Challenging companies):** Group 2 represents well-established participants in the UPI ecosystem that have considerable numbers of users but do not match the scale of operation of Group 1 TPAPs, having rather lower transaction volume. Such companies contribute to increased competitiveness, innovations, and service variety in the Indian digital payments market. They tend to integrate into existing ecosystems such as e-commerce, fintech, social media, lending, and loyalty ecosystems.
- **Group 3 (Emerging Players):** This category consists of new TPAPs that have been authorized mainly during 2023-2024, including entities like Navi and Super.money, Razorpay,

and others. These new fintechs have specialized in different market segments, including credit, wealth management, or embedded payment solutions.

- **Group 4 (New Entrants & Niche Players):** The latest approvals from TPAPs have included a number of fintech companies that operate in other segments of the financial industry like loans, wealth management, and investments. As their name suggests, these new players are realizing that UPI can be used to gain an entry into the customer base. The growing participation of such entities reflects the increasing commercial significance of the digital payments ecosystem in India.

5.2 Significant participants in TPAP ecosystem

India has Third-Party Application Providers that work with the Unified Payments Interface. These providers are authorised by the National Payments Corporation of India. They help make digital payments work across apps and merchant systems. Some known Third-Party Application Providers, in India are:

TPAP/ APPLICATION	MAJOR UPI HANDLE(s)
PhonePe	@ybl, @ibl, @axl
Google Pay	@okhdfcbank, @okaxis, @okicici, @oksbi
Paytm	@paytm, @ptaxis, @ptsbi, @pthdfc, @ptyes
CRED	@axisb, @yescred
Amazon Pay	@apl, @yapl, @rapl
MobiKwik	@mbkns, @ikwik
WhatsApp	@waicici
BHIM	@upi

Super apps have gone for TPAP authorization to offer payment services embedded within their platform so that users do not need to leave the platform when making purchases, watching movies, or accessing financial products. The e-commerce players understand the importance of TPAP authorization as it helps them retain customers by providing seamless payments within the app itself. Neobanks have gone for TPAP authorization to give their customers UPI payments without requiring them to redirect to other payment apps. Fintech involvement in the TPAP ecosystem demonstrates a key business logic that regulatory authorization to run a UPI platform gives legitimacy, access to market, and customer interfaces, thereby enabling the monetization of the ecosystem via cross-selling of high-margin financial products.

These TPAPs collectively contribute to the rapid expansion of India's digital payment infrastructure by enabling seamless peer-to-peer and merchant-based transactions through interoperable UPI systems regulated by NPCI and the Reserve Bank of India.

5.3 Role of Fintech Companies

The fintech firms have been the major contributor to TPAP newcomers, which indicates that there is an overall understanding of the significance of the UPI infrastructure in the digital finance world. Fintechs working in the credit sector have gained TPAP authorization to offer customers the ability to pay through the lending platform and simultaneously manage credits and payments.

6. SECTORAL AND GROWTH ANALYSIS

6.1 Growth Since Inception

The Unified Payments Interface (UPI) has really taken off since it started in 2016. This is especially true for the TPAP part of it. The Ministry of Finance and the National Payments Corporation of India (NPCI) have released some numbers. The Unified Payments Interface (UPI) had about 2 crore transactions in the year 2016-2017. By the year 2025-2026, the Unified Payments Interface (UPI) had over 24,162 crore transactions. The total value of these transactions was then ₹314 lakh crore. The TPAPs are the ones that people deal with directly when they use the Unified Payments Interface (UPI). So the TPAPs have been very important in making the Unified Payments Interface (UPI) grow. They have made it easy for people to do transactions. They have also helped merchants get on board. Made it possible for people to pay using QR codes. The Unified Payments Interface (UPI) has come a long way, and the TPAPs have played a big role in this.

Moreover, the NPCI official stats suggest that UPI retains its dominance in India's retail digital payment network, with multiple banks and authorized TPAPs playing their roles in the platform. With TPAP authorizations on the rise and transactions increasing, it can be seen how confident institutions have become in India's digital payment network and the role of TPAPs in fintech.

6.2 Impact of UPI Growth on TPAP Ecosystem

The rapid rise in UPI transactions has resulted in massive potential for TPAPs to grow their customer base and increase transaction numbers. In recent years, the number of UPI transactions has increased significantly on a yearly basis. This unprecedented growth rate has allowed TPAPs to acquire millions of new customers, explore new regions, develop new capabilities, and do all that without fear of any loss of transactions. By integrating credit products into their offerings on UPI platforms, TPAPs can earn more revenues from higher margin products while increasing UPI transaction volumes.

On the other hand, the rise in UPI transactions has also resulted in intense competition between TPAPs. Since even now the market is dominated by only a few top players, it becomes imperative for newer entrants to aggressively innovate in order to secure themselves a decent share of the market. Given the market concentration, which although is decreasing gradually, has become one of the biggest concerns for NPCI and other regulatory agencies trying to make sure no single TPAP can upset the entire payment system.

7. FOREIGN PARTICIPATION & REGULATORY CONCERNS

7.1 Foreign-Backed TPAPs

Many foreign firms and foreign investments in enterprises have been making attempts to obtain authorization as TPAPs and thus join India's fast-growing digital payment system. Google Pay (a subsidiary of Alphabet, a United States-based multinational company) is an example of foreign capital presence in the TPAP segment, although through Indian subsidiaries. The involvement of foreign corporations in the TPAP space is a result of the acknowledgment on a global scale of the potential of India's digital payment and the significance of participating in the largest real-time payment system in the world by transaction volumes.

There are regulatory limitations on foreign investment due to the protection of national economic and security interests. Foreign firms have the right to apply for TPAP authorization only when setting up a registered Indian entity meeting all requirements set for domestic entities. Such a regulation is needed because otherwise, foreign-controlled firms will not be subject to Indian jurisdiction, making control of such firms by the Reserve Bank of India and the National Payments Corporation of India impossible. Moreover, payment data and personal customer data should be maintained in India irrespective of the percentage of foreign ownership in the TPAP segment.

7.2 Data Localization Requirements

The law says that all third-party payment app providers, which are called TPAPs, have to keep all the payment information in India. This means that every single piece of data, like what people buy and how they pay for it, has to be stored here in this country. When we talk about kinds of personal information, like what people like or do, the rules are not as strict. You can send some of this information to countries, but you have to make sure it is safe. However, if the information is very sensitive, like passwords or addresses, it has to stay in India. If someone wants to use this information in another country, they have to ask the user for permission

They have to set up centers in India to store all the payment information, use storage that is based in India, and always check that none of this information is being kept on servers in other countries. Nowadays, it is very common for companies from other countries to set up special offices in India just so they can follow these rules.



8. FRAMEWORK GOVERNING TPAPs & UPI IN INDIA

8.1 Who Grants Authorization

Only the National Payments Corporation of India (NPCI) can grant TPAP authorization. They look at each application closely, checking eligibility and whether the applicant meets all the technical requirements. NPCI has this authority because it runs the UPI platform, and it works with member banks and follows the RBI's overall rules. When a company wants TPAP status, it applies directly through the NPCI's official portal. NPCI then reviews everything: technical capability, finances, legal standing, and compliance history. The applicant needs a sponsor, a PSP bank that's already part of the UPI network and approved by NPCI. This sponsor helps confirm the applicant's credentials and supports them through the process.

The RBI doesn't just sit back either. It keeps an eye on things by sending regular circulars, running audits, and issuing policies that affect how NPCI grants authorizations and supervises TPAPs. This means NPCI, the sponsor bank, the applicant, and the RBI all stay connected. Only trustworthy, technically solid, and financially stable companies get TPAP authorization.

1. Statutory Framework

The regulation and supervision of digital payment systems in India is primarily entrusted to the Reserve Bank of India (RBI). In order to establish a comprehensive legal framework for payment systems, the RBI introduced the Payment and Settlement Systems Act, 2007 under Section 38 of the Reserve Bank of India Act, 1934. The Payment and Settlement Systems Act, 2007 (PSS Act) serves as the principal legislation governing payment systems in India, including electronic and

digital payment mechanisms such as the Unified Payments Interface (UPI). The Act empowers the RBI to regulate, supervise, and oversee payment systems operating within the country.

2. Regulatory Role of RBI

The Reserve Bank of India serves as the chief regulator of digital payment systems in India. Together with the Board for Regulation and Supervision of Payment and Settlement Systems, the RBI takes responsibility for ensuring the security, efficiency, and efficacy of the payments system functioning within the financial infrastructure. The RBI promulgates guidelines, directions, and circulars on various aspects of digital payment systems, such as UPI payments, through the statutory regime.

3. NPCI Framework for UPI

The development and implementation of UPI is carried out by the National Payments Corporation of India (NPCI). To make transactions over UPI secure and hassle-free, the NPCI has laid down guidelines that have been formulated based on the PSS Act and RBI instructions. Guidelines that have been issued specify various requirements related to the technology and procedures for transactions over the UPI system. The guidelines lay down all the relevant details pertaining to the technical architecture, protocols, compliance norms, and authentication requirements that must be adhered to by all the stakeholders in the UPI network.

8.2 Entities in UPI

The Unified Payments Interface (UPI) system works based on Two-Party Model, Three-Party Model, and Four-Party Model according to the type of entities participating in the transaction. Usually, there are four types of entities that make the process of a UPI transaction possible: the Payer PSP, Payee PSP, Remitter Bank, and Beneficiary Bank. All of these entities contribute to initiating, authenticating, processing, and settling UPI transactions.

1. Payer PSP: Payer PSP is an entity that provides the means of initiating a transaction through UPI for customers/merchants. Using this, users get access to the creation of a UPI ID and conduct any financial or non-financial transaction with the use of a UPI PIN.

2. Payee PSP: Payee PSP is an entity that makes it possible for customers/merchants to accept payments from users using their UPI IDs. This is the way through which collect requests are initiated.

3. Remitter Bank: Remitter Bank is the name of the bank where the payer has opened an account. While conducting a UPI transaction, the remitter bank helps in authenticating a transaction and making a debit from the account of the payer.

4. Beneficiary Bank: The Beneficiary Bank refers to the bank that has the linked account of the beneficiary. The transaction request is sent via the UPI system to this bank, which debits the amount from the sender's account.

8.2 Regulatory Concerns and Enforcement

The rules for foreign-owned TPAPs have gotten really tough lately. This is especially true when it comes to

keeping data in the country and making arrangements for processing it outside the country. The RBI is taking a look at who owns these foreign companies and can even stop or cancel their permissions if they do not follow the rules for storing or sharing data. The reason for these rules is that people are worried about who is in charge, how safe the data is, and how much we rely on foreign companies for important payment systems. Foreign companies can bring in money and new technology. They have to follow the rules made by the RBI and NPCI if they want to be a part of it. The RBI and NPCI are very serious about foreign-owned TPAPs following these rules.



9. RECENT REGULATORY DEVELOPMENTS

9.1 Market Structure and Competitive Dynamics

India's TPAP Ecosystem follows a structured market structure that is segmented into three levels, which include fintech giants, digital payment services firms, and niche players. The highest level comprises fintech companies and payment platforms, which have a sizable share of total UPI transactions carried out. On the other hand, the middle and lower tiers consist of fintech companies and specialized payment platforms, as well as upcoming payment solutions players, respectively, who seek to create market space for themselves within the growing digital payment landscape.

By 2026, India's UPI system will be populated by many authorized TPAPs operating within the defined guidelines set forth by the National Payments Corporation of India (NPCI). Even though many TPAPs will be present in India, the market environment is expected to retain a high level of concentration as only a few key TPAPs will handle most of the total transactions within the system. According to statistics from NPCI, the two leading transaction platforms that are dominating the Indian digital payment infrastructure are PhonePe and Google Pay.

9.2 Compliance Developments and Ongoing Initiatives

RBI has introduced a number of compliance monitoring programs designed to ensure that TPAPs fulfill their operational and regulatory responsibilities. This includes conducting compliance audits on a regular basis, conducting site visits, and analyzing TPAPs' records regarding cybersecurity, fraud management, customer complaints, and data privacy. Furthermore, RBI has set reporting guidelines for security breaches, mandating TPAPs to report any security violations within prescribed timelines.

Acknowledging the increasing significance of TPAPs in the Indian payment system, both RBI and NPCI have hinted at their intention to widen the range of TPAP services. The following projects are among those being considered as future ventures: the ability of TPAPs to facilitate cross-border payments; the ability of TPAPs to provide value-added services, such as installment-based payments; and the ability of TPAPs to gain access to alternative payment networks besides UPI for selected customers.



10. FUTURE OUTLOOK, CHALLENGES & OPPORTUNITIES

10.1 Future Growth Trajectory

The TPAP ecosystem of India is at a turning point. With increasing volumes in UPI transactions as well as an ongoing rise in transaction counts, the need for various and easy-to-use payment platforms could not be greater. TPAPs have become critical in ensuring this growth happens through acting as the main gateway for communication between users, merchants, and the payment system maintained by PSP banks and NPCI. In terms of future growth, the TPAP ecosystem looks set to keep on growing fast. This is due to multiple reasons including the increase in smartphone usage in rural India leading to more users joining the platform; increasing uptake of merchants as a result of government policy initiatives in favor of digital payments; familiarity of consumers with digital payments; and technological advancements which allow new payment applications.

10.2 Key Challenges and Regulatory Hurdles

However, despite its bright future prospects, TPAP is plagued by some important obstacles. First, there is too much competition for small TPAPs, due to a high degree of concentration in transaction numbers among major players in the industry. Second, there are strict regulatory requirements, which include data localization, cybersecurity standards, etc., increasing the compliance cost for small TPAPs.

The lack of clarity around regulations is another obstacle to TPAP growth. Although RBI provided clear guidance, TPAP regulations are still changing, and future regulations might influence the market

dynamics. Foreign companies operating TPAP have to deal with additional regulatory issues.

10.3 Opportunities for Market Participants

Despite these hurdles, there are substantial opportunities for TPAPs with a good position in the market. There are opportunities for TPAPs specializing in certain merchant types or demographics, owing to the increased application of UPI for more uses than just bill payments, insurance premium payments, disbursement of loans, and subscriptions. Moreover, there are possibilities for TPAPs incorporating emerging innovations like using artificial intelligence for detecting fraud, enabling voice-based payments, and other such innovative features.

The increase in smartphone adoption in tier two and three cities and their potential for becoming hubs of digital payment usage can bring opportunities for region-specific and specialist TPAPs. In addition to that, the focus on financial inclusion and digital payments mandated by the government can bring opportunities for TPAPs catering to unbanked and underbanked customers. The world of TPAPs is one of the fastest-evolving and most innovation-driven payment ecosystems in India. RBI and NPCI have been able to strike a perfect balance between promoting innovation and healthy competition in TPAPs and protecting the interests of consumers and maintaining security and financial stability in the process.

11. How India Juris Can Assist

India Juris can assist companies, fintech platforms, and foreign entities in navigating the legal and regulatory framework governing TPAPs and UPI operations in India. The firm can provide support in areas such as:

- Advising on RBI, NPCI, and Payment and Settlement Systems Act compliance requirements;
- Assisting in incorporation and structuring of Indian entities for foreign participants;
- Guiding clients through the TPAP registration and authorization process with NPCI;
- Drafting and reviewing agreements with PSP banks and technology partners;
- Advising on data localization, cybersecurity, AML, and KYC compliance obligations;
- Conducting regulatory due diligence and risk assessment for fintech operations;
- Assisting in policy interpretation, operational compliance, and grievance redressal mechanisms;
- Supporting clients during audits, technical compliance reviews, and regulatory inspections;
- Providing ongoing legal and regulatory advisory services for digital payment and fintech businesses operating within the UPI ecosystem.



About India Juris

India Juris is a full-service international law firm providing comprehensive legal solutions to a diverse range of clients, including corporates, financial institutions, and individuals. With a strong focus on delivering practical and result-oriented advice, the firm combines deep legal expertise with a clear understanding of business needs across sectors.

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