COMPETITION LAW CHALLENGES IN INDIA'S DIGITAL PAYMENT ECOSYSTEM: DOMINANCE, INTEROPERABILITY, AND REGULATORY OVERLAPS

Abhinav Chaudhary, LL.M. (CB&IL), Amity University, Noida

ABSTRACT

India has not just become a global leader in digital transactions through its Unified Payments Interface (UPI) as its primary network; India has also advocated for a digital economy that is plausible for developing or underdeveloped countries. UPI has processed 15 billion transactions in a month in 2026. UPI has also advanced the challenges of financial inclusion by overcoming the traditional banking hurdles that plagued the Global South. The rapid scaling of UPI in India has brought commensurate competition law challenges. Monopolization concerns in the UPI ecosystem (PhonePe, Google Pay, and Paytm), despite being horizontally integrated, aren't its only challenges. The Competition Commission of India (CCI), the Reserve Bank of India (RBI), and the Digital Competition Bill (DCB), to name a few, have brought a plethora of regulatory weirdness to the UPI system, especially with the disjointed nature of UPI interoperability. This paper uses a doctrinal approach (as a lens) and combines regulation, comparative frameworks, the United States, and the European Union, to enforce a set of competition-law and jurisprudential framework regulation guidelines. The paper identifies regulatory black holes for network, data, and inter-regulatory effects. The paper also advocates for further regulation of the digital payment ecosystem in India, in addition to the enforcement of competition law, by setting a minimal threshold of systemic relevance for intermediary digital payment frameworks to Mandate inter and intra data ecosystem sharing.

Keywords: Competition Law; Digital Payments; UPI; Market Dominance; Interoperability; FinTech Regulation; Big Tech Platforms; Regulatory Overlaps.

Introduction

Demonetizing notes above ₹500 and ₹1000 in November 2016 started a new digital payment era in India. Because of UPI (Unified Payments Interface) from the National Payment Corporation of India (NPCI) that year, essential mobile-based, real-time/transferrable payment systems were eliminated by the need for bank details. By 2026, UPI work was projected to exceed 15-20 billion and hold more than 80% of India's retail digital payments. This rise has been attributed to the urban to rural payment and banking gap of over 500 million bank accounts aided by the Jan Dhan-Aadhaar-Mobile (JAM) movement. Despite this, the digital payment systems were a positive feature that helped decrease cash payment preference from 90% to under 50%. Unfortunately, the competition has been a major concern.

Payment and market control, coupled with a 47% 37% 11% activity from PhonePe, Google and PayTm remains a concentration concern. This, along with Ani vs. Matrix case, predatory pricing from cash back offers, data control and bundling (especially with the Android inclusion) maintains the control. In UPI's aim for universal payments, the policy and possible digital payment systems further integrate with wallets. Fragmentation is further worsened by the new policies and the Digital Personal Data Protection Act, 2023 and the proposed Digital Competition Bill (DCB) from India's 3 main payment control and protection providers against competition. This is further complicated by the Payment and Settlement Systems Act, 2007 and the control-intervention balance.

Recent events, including the possibility of fintech collaboration after Donald Trump's re-election, have reignited talks of open banking and the integration of cross-border payment systems. Still, internal structural issues remain. Lacking prompt action, India's digital payment system may mirror global monopolistic trends of Big Tech, adversely impacting the innovations needed to meet the goals of a $5 trillion economy and the vision of Viksit Bharat 2047.

Theoretical Background

Traditional competition law is based on industrial organization economics, which assumes static markets and unambiguous entry barriers. This is challenged by digital payment ecosystems' characteristics—network effects, multi-sidedness, and near-zero marginal costs.

Network effects are most important here. There is a direct network effect when a user's value of a UPI app increases due to the app's merchant acceptance. A good example of this is PhonePe QR codes. There are indirect network effects through a user group of payers and a user group of merchants, with the existence of "tipping point" terms defining winner-takes-most market characteristics.

These processes create "data moats," where companies use transaction data for fraud detection, personalized services, and merchant analytics. This creates high entry barriers for competitors. Several theories of competitive harm arise:

1. **Leveraging Theory:** Businesses use their dominance in one market to enter and control adjacent markets (e.g. payment apps dominating the entire Android ecosystem).

2. **Predatory Pricing:** Businesses offer a service at a loss (e.g. cashbacks) to competitors, later recouping the losses by cross-selling.

3. **Self-Preferencing:** Business use their market dominance to prioritize their services to the customers, thus altering consumer choices and merchant services.

Regulations such as those of the Telecommunications Act benefits from the interoperability theory posited by Stanley Liebowitz and Stephen Margolis. However, there are benefits of India's restrictions such as volume caps. Regulations overlapping further complicate management. Digital payments span several overlap across protections for regulators: consumer protection, financial stability, competition (e.g. part IV of the Indian Competition Act, 2022), and data protection/governance. Competing theories also influence public policy regarding:

1. The "curse of bigness" / **Brandeisian Approach** that warns of focus of power across few entities.

2. **Schumpeterian View:** Positively regards monopolies as inspiration for advancing new innovations via destruction and replacement of old systems.

India's "post-factum" (ex-post) enforcement also faces challenges such as the "envelope theorem," due to practices that seem to be less competitive exacerbating large anti-competitive practices as a by-product of big data. In contrast, the "ex-ante" (EU's "Digital Markets Act")

obligations that require practices be implemented accordingly before the fact, is preferred. Behavioural science also stipulates that systems are manipulated in a manner that strengthens instability in a digital economy.

Literature Review

Unified Payments Interface (UPI) is the leading player in the Indian digital payment ecosystem. Its rapid rise and competitive challenges have garnered interest from both scholars and policymakers. Following India's demonetization in 2016, UPI's monthly transaction volume skyrocketed from almost nothing to a projected over 15 billion in 2026. This rapid increase in transactions stimulated research in market structure, the robustness of current regulations, and antitrust issues.

Existing literature emphasizes three major themes:

1. **Market Concentration and Platform Dominance:**

   Research identifies market concentration and the worrying reduction of available market players. Concerns have been raised about the absence of competitors, monopolistic data, and the impact of the long-term reduction in competitiveness.

2. **Regulatory Frameworks and Gaps:**

   Research points to a lack of a cohesive regulatory system. Critiques have focused on the Competition Commission of India and the Reserve Bank of India, and coordination and enforcement issues.

3. **Digital Market Dynamics and Network Effects:**

   Scholar and research alike have been focused on the influence of external network effects, lack of interoperability, and the economics of platforms to improve competition in the digital payment space.

These comparative studies, alongside ex-ante regulations and requirements of data sharing and neutrality in the balancing of the technology marketplace, have drawn relevant lessons to improve the UPI. Based on data from peer-reviewed publications, policy reports, competition commission of India documents, and research up to March 2026, this highlights the

contributions and insights in digital payment systems.

Abuse and Dominance in Digital Payments

Initial research analyzed the use of leveraging strategies by Big tech companies. The study by Wolters Kluwer in 2021 on the CCI's investigation on Google Pay notes how dominance by Android (which has 95% of the market) allows for pre-installation by revenue-sharing agreements (RSAs) with the OEMs. This creates a preference and a frustration of consumer choice which closes the competition on the competitor, PhonePe.

The CCI's primary assessment reports indicate that these types of financial arrangements lead to, and enforce, a lack of competition in the "market for UPI-implementing applications." The CCI Journal on Competition Law and Policy (2020) also reviews the abuse of dominance as prescribed by Section 4, and discusses the lack of evidence for proving a market that is primarily data driven, where incumbents utilize the data gathered from users to build process-overs for AI systems that assist in fraud detection and customer-specific personalization. A study in 2020 by CUTS-CIER also argues that the two-fold role of the National Payments Corporation of India, as both an operator and a promoter, creates a bias of a given structure in favor of payment BHIM, causing disadvantage to payment service providers. Importantly, the study also indicated a focus that was beyond the concentration of the market, i.e., levels of 3000 and above in the Herfindahl–Hirschman Index (HHI). None of this was seen as a serious concern. Examples of this would be PhonePe and Paytm which together spent more than ₹10,000 crores in cashback offers from 2018 to 2024, predatory pricing, and selling below the marginal cost.

Recent studies shine a light on new forms of damage that can arise from digital markets. Khanna & Associates (2025) offers a consideration of the risks of self-preferencing, postulating that tougher measures may lead to heavier sanctions (amounting to 10% of the annual revenue). In addition, we can find analyses of the phenomenon of AI-based data foreclosure, where Amazon Pay (and possibly other platforms) are utilizing merchant data to the maximum, while restricting access to data between competitors of smaller sizes. This is examined in LiveLaw (2026).

Research Questions

1. To what extent have the major UPI participants demonstrated market power abuse, e.g.,

via leveraging, predatory pricing, and data advantages? Is Section 4 of the Competition Act, 2002, sufficient for addressing digital-specific harms of this nature?

2. What key interoperability issues exist in the UPI ecosystem, for example, volume restrictions and wallet silos? What impacts do these restrictions have on market entry and competition?

3. What is the effect of the overlap in regulatory domains including the Competition Commission of India, Reserve Bank of India, the DPDP Act, and the Digital Competition Bill (DCB), on the variance in enforcement?

4. Which aspects of the EU Digital Markets Act, the U.S. antitrust laws and the Sherman Act, and the UK's open banking framework are especially relevant for the Indian case?

5. What policy reforms are necessary to implement an integrated strategy for the digital payment services market that captures the balance between competition, innovation, and the safety and soundness of the financial system?

Research Objective

This has the potential to offer an example of a flexible, multi-stakeholder governance framework for regulatory capture that encourages the Inclusive Growth of the Unified Payments Interface while identifying the potential oligopolistic threats.

Research Methodology

This research is based on the doctrinal (black-letter law) approach, which entails a systematic examination of and the interpretation of laws in the form of legal texts. Given the nature of the subject, the study, and the research on competition laws, a doctrinal survey of statutes, case law, regulatory frameworks, and policy directives is continuously and critically performed.

The study employs a multi-layered qualitative design, including:

1. **Legal Analysis:** Evaluate the Competition Act, 2002, RBI’s regulations, and the draft DCB.

2. **Case Law Review:** Evaluate CCI's decisions and the pattern of enforcement.

3. **Comparative Study:** Evaluation regarding the regulations in the EU, the U.S., and the UK.

4. **Descriptive Analysis:** Examination of official data regarding UPI's growth from 2016, the role of NPCI, and market concentration, i.e., PhonePe's 47% and Google Pay's 37%.

This methodology facilitates the detection of gaps and the absence of regulations in the digital market.

Legal Issues

Given the UPI payment architecture, the evolving Indian digital payment ecosystem poses challenges, particularly regarding the Competition Act, 2002, that relate to digital market dominance, interoperability and regulatory overlaps. These challenges are also characterized by the effects of strong network effects and the fragmentation of data and other institutions.

1. Abuse of Dominant Position (Section 4, Competition Act, 2002)

Section 4(1) of the Act makes it illegal for an enterprise or group in a dominant position to engage in anti-competitive conduct. This also includes the power to manipulate competitors or consumers in a negative way. The definition of the market is a critical factor. The Competition Commission of India has separated the "market of applications that facilitate UPI" from the payment infrastructure. In this market, the concentration of dominance is observed, where the competition is greater, and the share is greater than 50% (in this case, PhonePe (47%), Google Pay (37%), and Paytm (11%)). The market concentration score is HHI greater than 3200 (i.e., highly concentrated market), and this means a lot of dominance, which leads to a lot of fragmentation. The issues of such a market are:

1. Leveraging dominance from adjacent markets (for example, the Android ecosystem)

2. Zone pricing with long-term cash back deals

3. Data-driven competitive advantages creating entry barriers

4. Self-preferencing and ecosystem integration

Concerns of competition based on the above fall outside the scope of traditional methods of competition law which operate on the assumption of static markets rather than the dynamic, data-driven digital systems.

Digital Payments' Manifestations of Abuse of Dominance

Wildly divergent forms of anti-competitive behavior, shaped by the disruptive power of platform economics, the consolidation of data, and the integration of ecosystems, can be found in the application of Section 4 of the Competition Act, 2002 to digital payment markets.

Leveraging from Adjacent Markets

Section 4(2)(a)(i) (the imposition of unfair conditions) and 4(2)(e) (the leveraging of dominance) come into play when companies transfer their power from one market to another. The dominance of Android (approximately 95% market share), in turn, allows Google Pay to receive preferential treatment by default through withholding pre-installation as well as post-installation revenue sharing agreements with OEMs. In its Case No. 39/2020, the Competition Commission of India observed the default bias in pre-installed platforms, and this can even lead to the closing-up of the market. Digital defaults create path dependence in a market and even reinforce dominance through a form of market tyranny in the absence of traditional economics coercive behavior.

Predatory Pricing

Predatory pricing is a tactic where goods or services are sold at a price lower than their cost, with the primary goal of running rivals out of business. Section 4(2)(a)(ii) is a part of the Indian competition act that addresses this issue. In this context, it has also been reported that digital payment companies, PhonePe and Paytm, spent more than ₹15,000 crores in cashback and other sorts of promotional benefits between the years of 2018 and 2025. Their transaction fees are as low as 0.1%, and selling at this below-cost price to gain market share is called 'underpricing'. These costs of cashback are recouped via cross-selling high interest merchant loans and other financial services. However, the zero price market makes it much harder to do empirical assessments to prove the exclusionary intent and the consumer harm, which is likely to remain a challenge for the Competition Commission of India to a significant extent.

Data Moats and Self-Referencing

Large transaction datasets (billion+) allow a platform to use sophisticated AI tools for fraud detection, personalization, and scoring. This creates a data moat which can be described as a structural entry barrier, and highlights a form of denial of market access under Section 4(2)(c).

Platforms can also resort to self-preferencing, where they favor their own services or in-app wallets. This influences the decisions of merchants and consumers, disrupting competitive neutrality and limiting the view of competing services.

Complexity in enforcing rules in this space increases with the Digital Personal Data Protection Act, 2023, and the issues around consent-based data sharing, which may limit access to data needed to facilitate fair market competition.

NPCI's Institutional Dominance

As the main provider of the Unified Payments Interface (UPI), the National Payments Corporation of India, has a dominant role in the India digital payments marketplace. Concerns have been raised about the risk of favoring the BHIM app, as both promoter of the ecosystem and a provider of the infrastructure, which could disadvantage other payment services that are outside the banking sector. This raises concerns under section 4 of the Competition Act, 2002, on the abuse of dominance and discrimination or denial of market access. Concerns regarding platform administration neutrality and the lack of a clear separation between governance and market involvement are even heightened.

Enforcement Gaps

One important restriction on competition enforcement in India's digital market is the greater reliance on effects-based economic analysis after the most recent amendments and the evolving jurisprudence of the CCI. Startups and smaller companies face evidentiary hurdles that require advanced econometric evidence of competitive harm to be demonstrated, including effects of pricing pressure and legal market foreclosure. These evidentiary hurdles are nearly impossible to overcome in increasingly digital markets, where services are provided at zero monetary cost and pricing occurs through indirect means.

Moreover, the Competition Commission of India's remedial toolbox is primarily behavioral

and, to some extent, structural, and includes:

- Cease-and-desist orders
- Fines (which can range up to 10% of worldwide profits)

There is, however, a lack of structural remedies such as divestiture and separation, which are critical in addressing the structural market imbalances of digital markets that are especially platform driven.

2. Interoperability Barriers (Sections 3(4) and 4(2)(c))

UPI's Promise vs. Reality

While designed to be an interoperable real-time payment system, the Unified Payments System has several design, structural, and even some regulatory impediments to full interoperability (allowing, e.g., direct transfers from PhonePe to Google Pay).

Volume Caps

The National Payments Corporation of India has, for several years, capped payment service providers that are not banks at 30% market share in an effort to reduce excessive market concentration within the payment services ecosystem. Though this was initially created as a risk control measure, such a market restriction may adversely impact payment services providers, particularly Paytm, as a restriction on market access, contrary to Section 4(2)(c) of the Act.

Wallet Fragmentation

Closed-loop (and not open system, as they are often termed) payment systems like Amazon Pay, where integrated wallet systems are in place, lead to greater cost of changing systems and an overall reduction in interoperability. These factors, cumulatively, contradict the primary goal of the UPI system, which is to foster open interoperable systems, and may even be a violation of exclusive dealings as defined in Section 3(4)(e) of the Competition Act, 2002.

BBPS and QR Standardization Issues

The difference between static and dynamic QR standards and the prevalence of NPCI-led

billing infrastructure (BBPS) leads to merchant inconveniences and increased compliance expenses. The limited number of bill aggregation services may lead to slower innovation and limited alternative payment options.

Technical Barriers

Effects of diverse KYC regulations, rate limiting of APIs, and differing technical standards lead to fragmented systems, making it hard to accomplish seamless Peer to Peer (P2P) and Person to Merchant (P2M) transactions.

Legal Interpretation

The relevant provisions include:

- Section 3(4): Anti-competitive agreements (exclusive dealing, refusal to supply)
- Section 4(2)(c): Denial of market access

Due to the lack of statutory obligations to ensure interoperability—as is the case for the EU Digital Markets Act—there is ambiguity in enforcement. While there are positive judicial evolutions, i.e. the Delhi High Court's comments in 2023, a legal interoperability mechanism is still required.

Impact

These barriers result in:

1. High entry barriers as a result of network externalities
2. Lower levels of innovation among fintech startups
3. Increased operational costs for SMEs (estimated at 20–30%)
4. Regulatory overlaps and jurisdictional challenges

Institutional Landscape

India's digital payment system is complicated as a result of:

1. Competition Commission of India - enforces competition in a retroactive manner
2. Reserve Bank of India for regulation of payment systems in accordance with the Payment and Settlement Systems Act of 2007
3. Digital Personal Data Protection Act of 2023 - governs data and consent
4. Draft Digital Competition Bill (DCB) of 2024 - proposed anticipatory regulation of digital gatekeepers
5. Other regulators, such as TRAI and MCA, in overlapping digital domains

Manifestations of Conflict

1. **Forum Shopping**

   Because there is lack of coordination between the CCI and RBI regarding the regulation of Google Pay, jurisdictional challenges have led to the case being classified by some as a competition matter, and by others as a licensing issue.

2. **Normative Conflict**

   This also highlights RBI's focus on the regulation of the financial system, and the CCI's focus on competition in the market.

3. **Enforcement Duplication**

   Regulatory conflict, as the CCI would promote the sharing of data for the purpose of competition, whereas the RBI would want data to be protected in the context of systemic financial stability.

4. **Coordination Deficit**

   Relatively little actual cooperation has occurred even under a MoU signed in 2019, as pointed out by the Parliamentary Standing Committee (2023).

Legal Consequences

India's constitutional framework (Article 246) allows concurrent jurisdiction on matters of law

by the Center and the States. Without harmonized interpretation of law however, this can lead to inconsistent judgments and regulatory ambiguity. This increases the risk of litigation and can slow the growth of the fintech sector.

Broader Implications

The vision of Viksit Bharat 2047 is built on the promise of preserving the balance between competition, innovation, and the stability of the financial system. In the absence of coherent regulations, the rapid growth of UPI , which has reached over 500 million users, may be vulnerable to being overshadowed by oligopolistic consolidation.

Recommendations

A combination of prospective and retrospective regulation is vital:

1. Strengthen Ex-Ante Regulation (DCB Framework)

- Classify Systemically Significant Digital Intermediaries (SSDEs)
- Demand compliance with interoperability and data portability
- Apply structural responses to continued breaches

2. Ensure Full Interoperability

- By 2026–27, revoke or void the limits on market size
- Require Open APIs and Standardized QR Codes
- Facilitate Competitive Participation in BBPS

3. Institutional Coordination Reform

- Establish a Statutory CCI–RBI–DPDP Coordination Council
- Develop a Combined Fintech Regulatory Sandbox
- Integrate Data Sharing with Definitive Exemptions

4. Strengthen Enforcement Capacity

- Implement focused, industry-specific evaluations on UPI
- Enact Structural Changes for Peripheral Abuses
- Digital markets will see a greater improvement in economic evidence standards

Conclusion

India's digital payments ecosystem is built on the Unified Payments Interface (UPI) and is one of the most effective large-scale systems of global financial inclusion. Transaction volumes are now crossing 15 bil-month. Given the concentration that has built up in the payments ecosystem around a very few players (PhonePe, Google Pay, and Paytm), the risks of market killing, regulatory fragmentation, and data-driven monopolization stem. A delayed reform process is likely to turn the ecosystem into one replicating structures of global Big Tech monopolies, and most of the digital economy rests on the payments ecosystem. A UPI that includes a range of social and economic imperative is quite likely to turn into an oligopolistic market. To avoid that outcome, a carefully balanced regulatory framework is required.

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