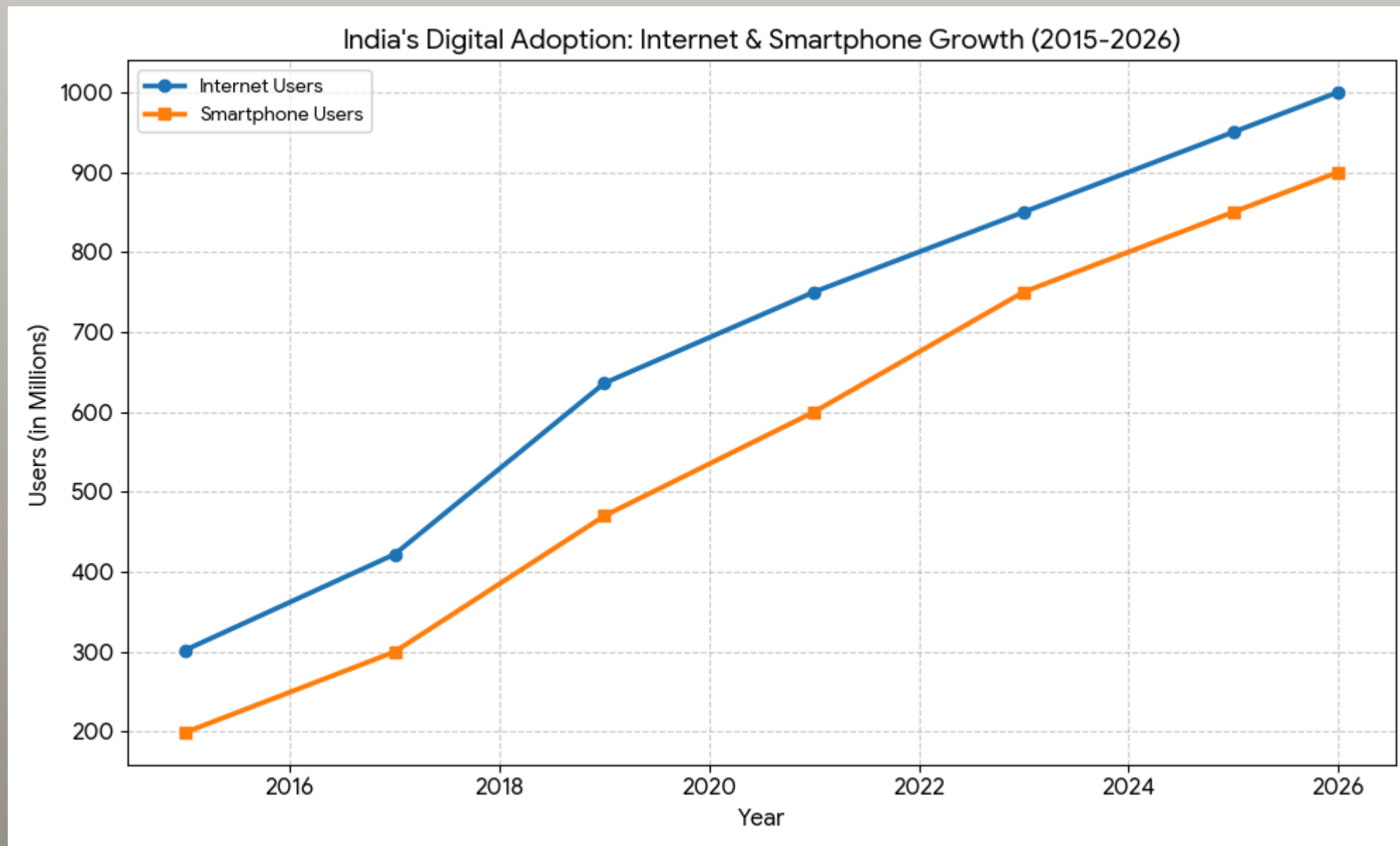




Data Driven Market Power in India

India's Digital Transformation: Infrastructure and Adoption



Source: TRAI, MeitY estimates

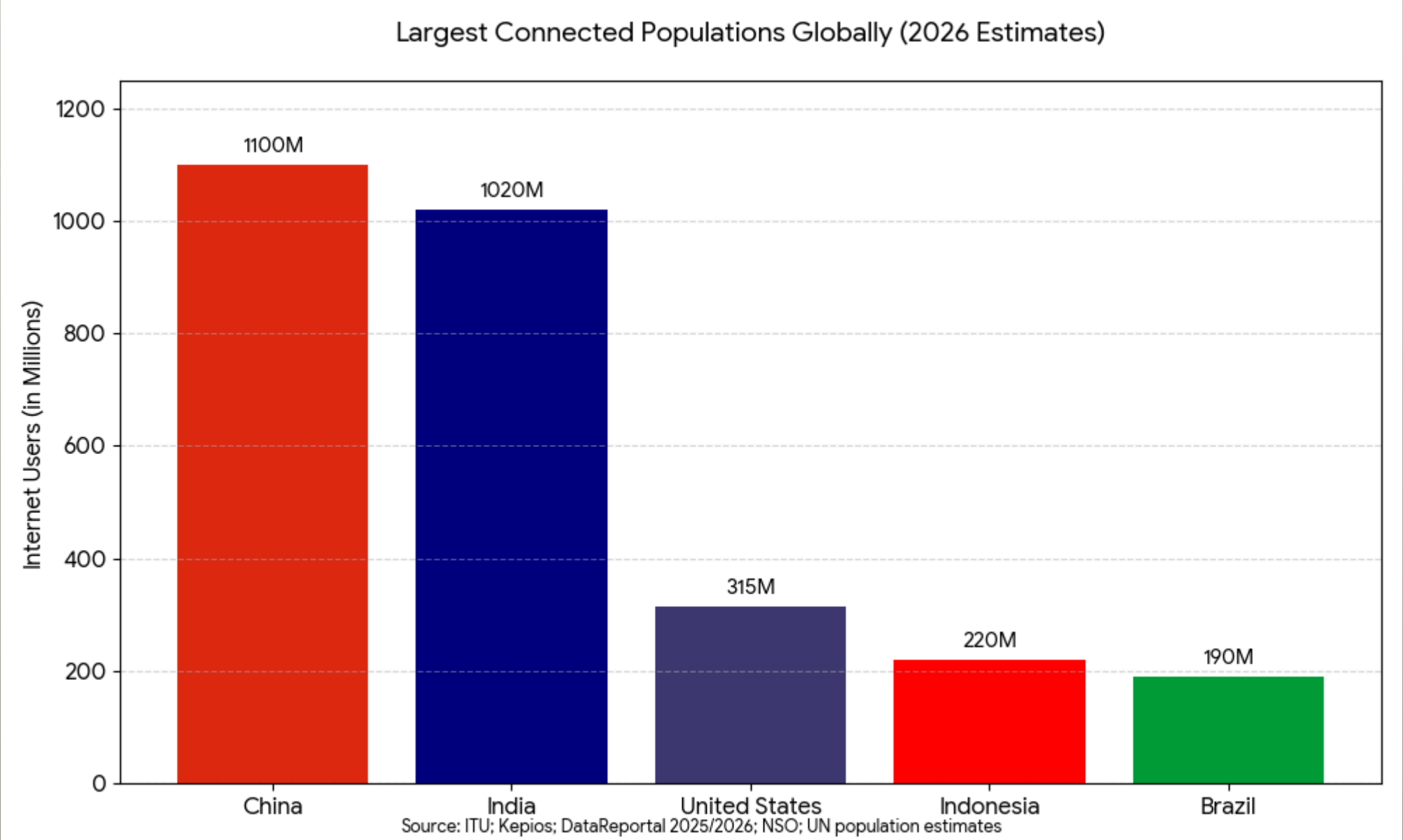
This data reflects a fundamental structural shift in the Indian economy:

- **Economic Impact:** India's digital economy has expanded to account for approximately 11-12% of GDP.
- **Infrastructure Synergy:** The expansion of Digital Public Infrastructure (DPI), specifically Aadhaar, mobile broadband, and UPI, has been the primary catalyst for market participation.
- **Scale of Adoption:** With over 1 billion internet users estimated by 2026, India has reached a level of connectivity where 86.3% of households have internet access, facilitating massive high-frequency behavioral datasets.
- This trajectory confirms that India's digital economy is growing nearly twice as fast as the overall economy, projected to contribute nearly one-fifth of national income by 2030.

India's Digital Economy: Scale and Structural Transformation

India has achieved a historic milestone in its digital journey, now ranking as the second-largest connected population in the world.

Billion-User Milestone: Recent estimates show that approximately 70% of India's population is now online, surpassing 1 billion internet users.

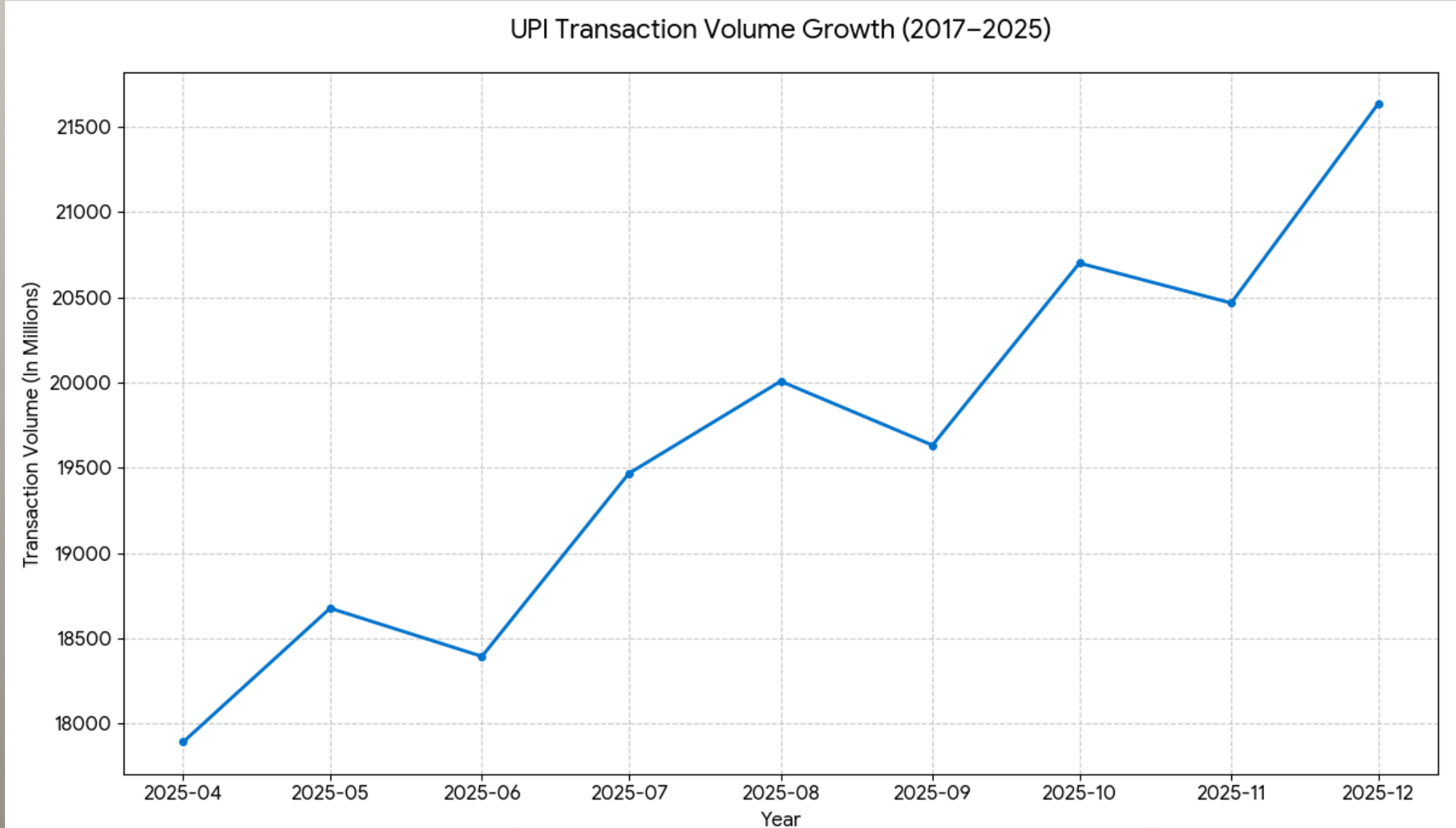


Source: ITU, Kepios, DataReport 2025/2026.

Household Access: 86.3% of Indian households now possess some form of internet access, indicating near-universal connectivity in key demographics.

Data Generation: This massive scale of participation creates unparalleled behavioural datasets across payments, search, and social platforms, fueling India's data-driven market power.

Digital Payments and High-Frequency Data Generation

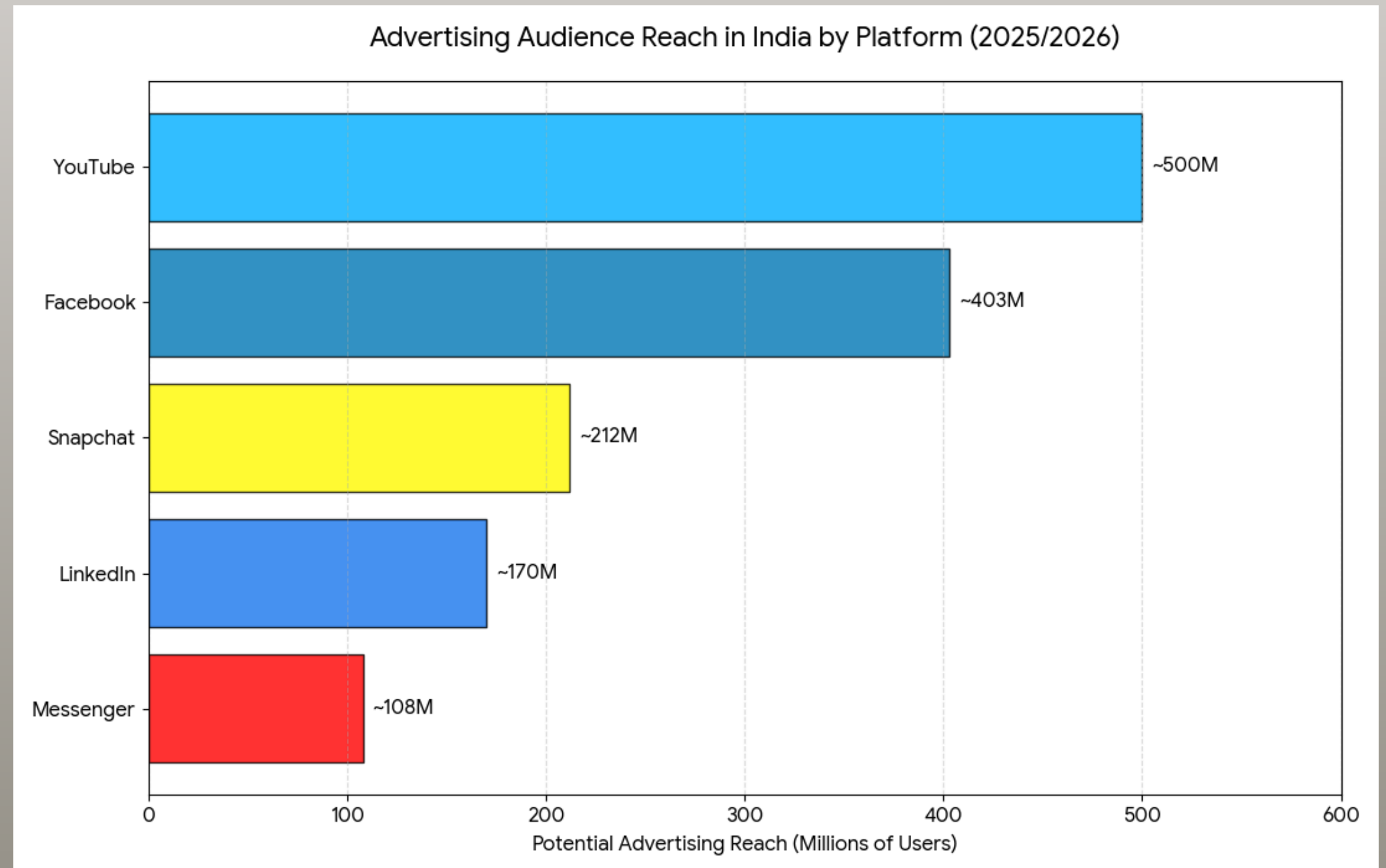


Source: NPCI UPI statistics

- The rapid expansion of India's digital payments ecosystem, led by the Unified Payments Interface (UPI), serves as a primary engine for high-frequency data generation.
- **Growth Trajectory:** UPI has seen exponential growth since its 2016 launch, now processing over 200 billion transactions annually as of FY2025-26.
- **Scale of Activity:** Monthly transaction volumes have consistently surpassed the 20 billion threshold, reflecting deep integration into daily consumer behavior.
- **Data Advantage:** This high-frequency activity generates granular behavioral datasets covering consumer spending patterns and merchant transaction trends, providing platforms with significant data-driven insights

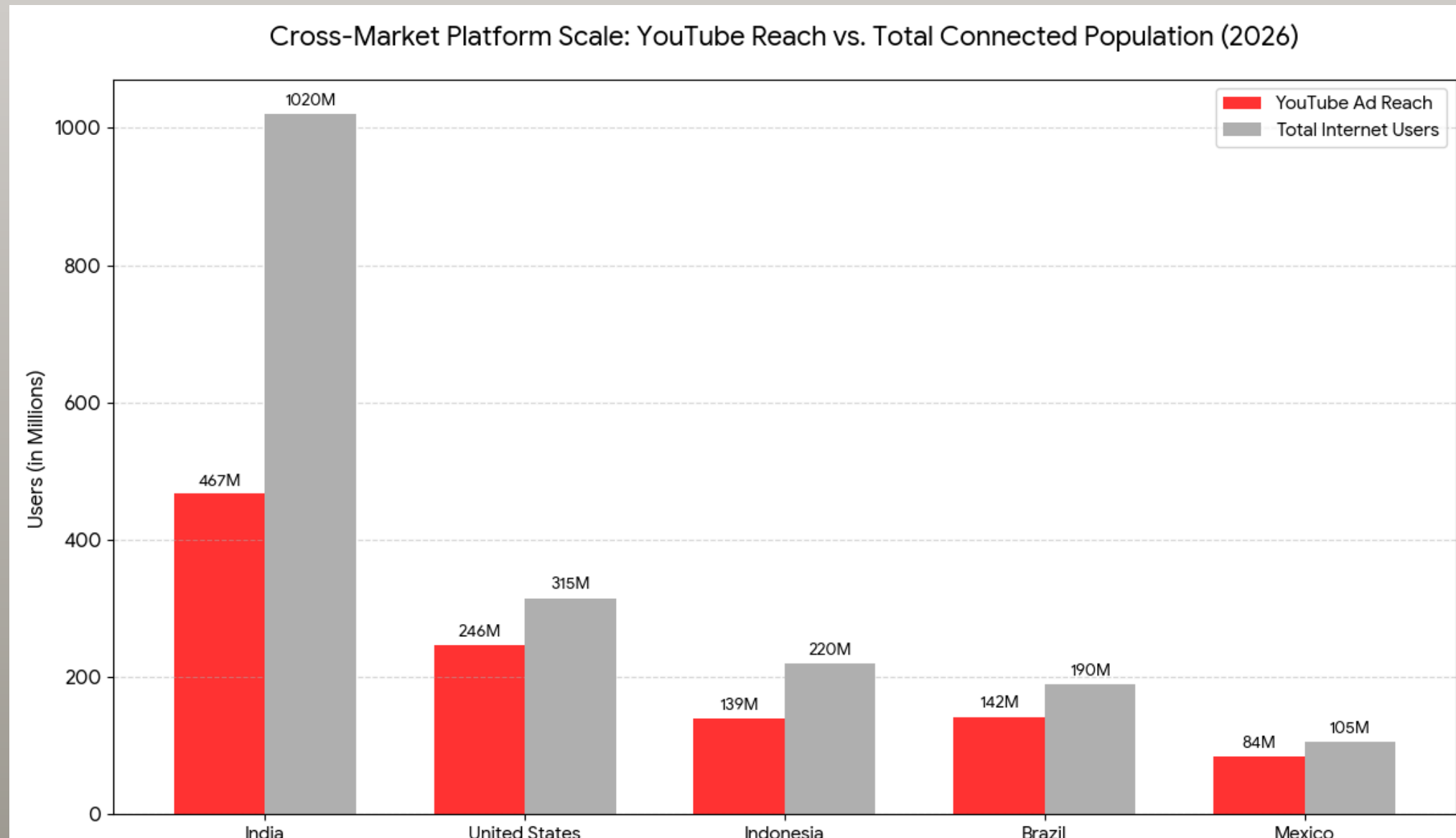
- India has emerged as one of the most significant digital platform audiences globally, providing a massive surface area for data collection and algorithmic training.
- India hosts some of the world's largest advertising audiences, with YouTube alone reaching approximately 500 million users, followed closely by Facebook at 403 million.
- Further, to note the high-volume behavioral data, the sheer scale of these user bases generates extensive behavioral datasets across varied services, including video consumption, professional networking, and instant messaging.
- Large-scale digital participation allows platforms to continuously refine datasets, creating a feedback loop where massive data inputs lead to superior algorithmic optimization for ranking and targeting.
- To reach multi-platform engagement, significant reach across niche platforms like Snapchat (212M) and LinkedIn (170M) indicates that behavioral data is being harvested across diverse demographic and intent-based segments.

Platform Reach and Data Generation



Source: DataReport 2025/2026

Cross-Market Data Integration and Ecosystem Expansion

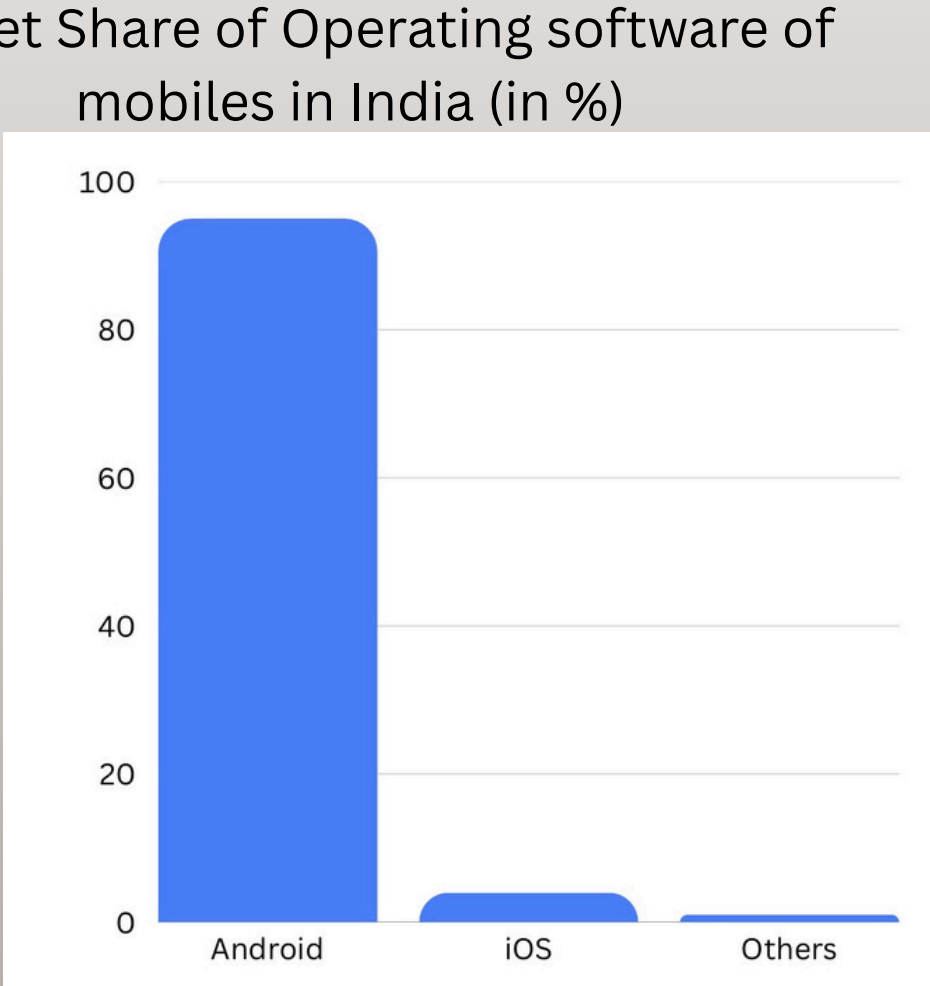


Source: Google Ads, Kepios, DataReport 2025/2026

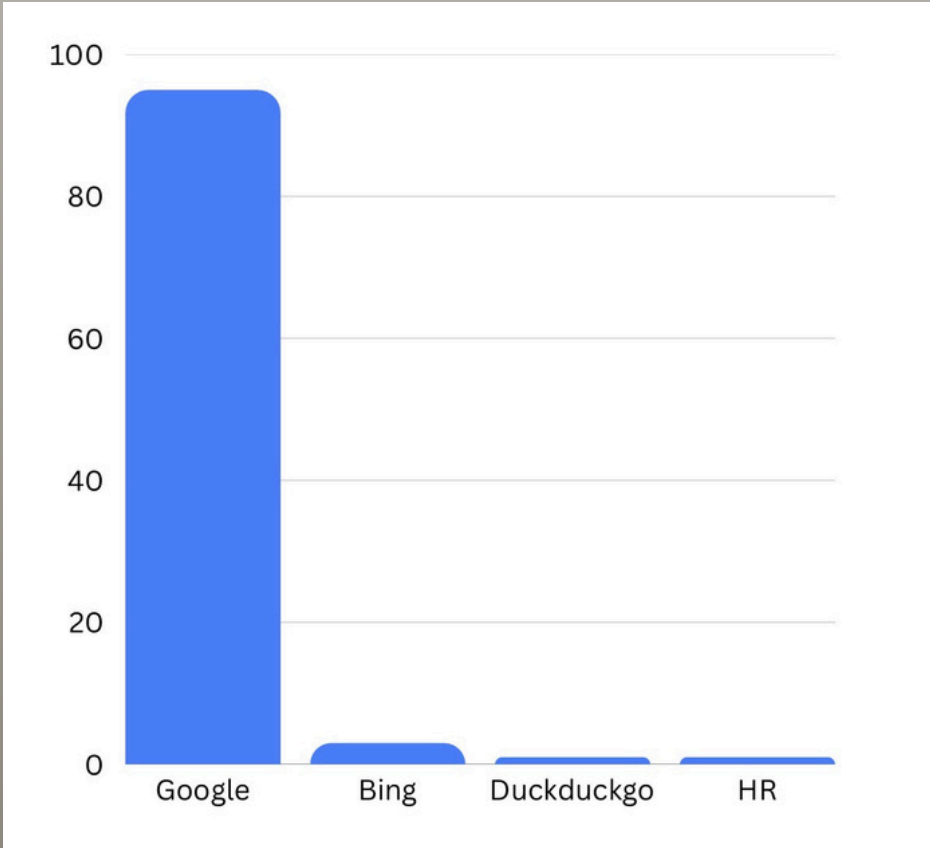
India hosts some of the world's largest digital platform audiences. This scale generates extensive behavioral data across varied services such as video consumption, professional networking, and instant messaging. India's YouTube advertising audience alone reaches approximately 500 million users, followed by Facebook at 403 million. These massive user bases allow for constant algorithmic refinement. Platforms collect and analyze diverse datasets to optimize their ranking and targeting capabilities.

The reach extends across multiple demographic segments through platforms like Snapchat with 212 million users and LinkedIn with 170 million users. Messenger also maintains a significant presence with 108 million users. This multi-platform engagement enables deep behavioral harvesting across high-intent user segments. The resulting feedback loop creates a structural advantage for dominant platforms. These firms leverage their massive data inputs to strengthen their ecosystem-level market power in India.

- India’s digital ecosystem shows strong concentration in upstream infrastructure that serves as a gateway to online markets. Search engines hold over 90 to 95% of the total market share in India, with one platform dominating user queries and access to information (StatCounter, 2025). Given that India has over 800 million internet users, this concentration means that a single platform controls most digital information flows and visibility online.
- The mobile operating system layer follows a similar trend, with Android running on about 95.79% of smartphones in India (Counterpoint Research, 2025). With more than 750 million smartphone users in the country, this dominance gives control over app ecosystems, default settings, and pre-installed services. This creates structural dependencies for app developers and businesses that want digital access.
- Control over these upstream layers affects digital advertising, app distribution, and service integration. Companies at this level can influence market entry, user choice, and platform compatibility. Consequently, high concentration in infrastructure creates advantages throughout the ecosystem and raises barriers for competitors in various digital markets.



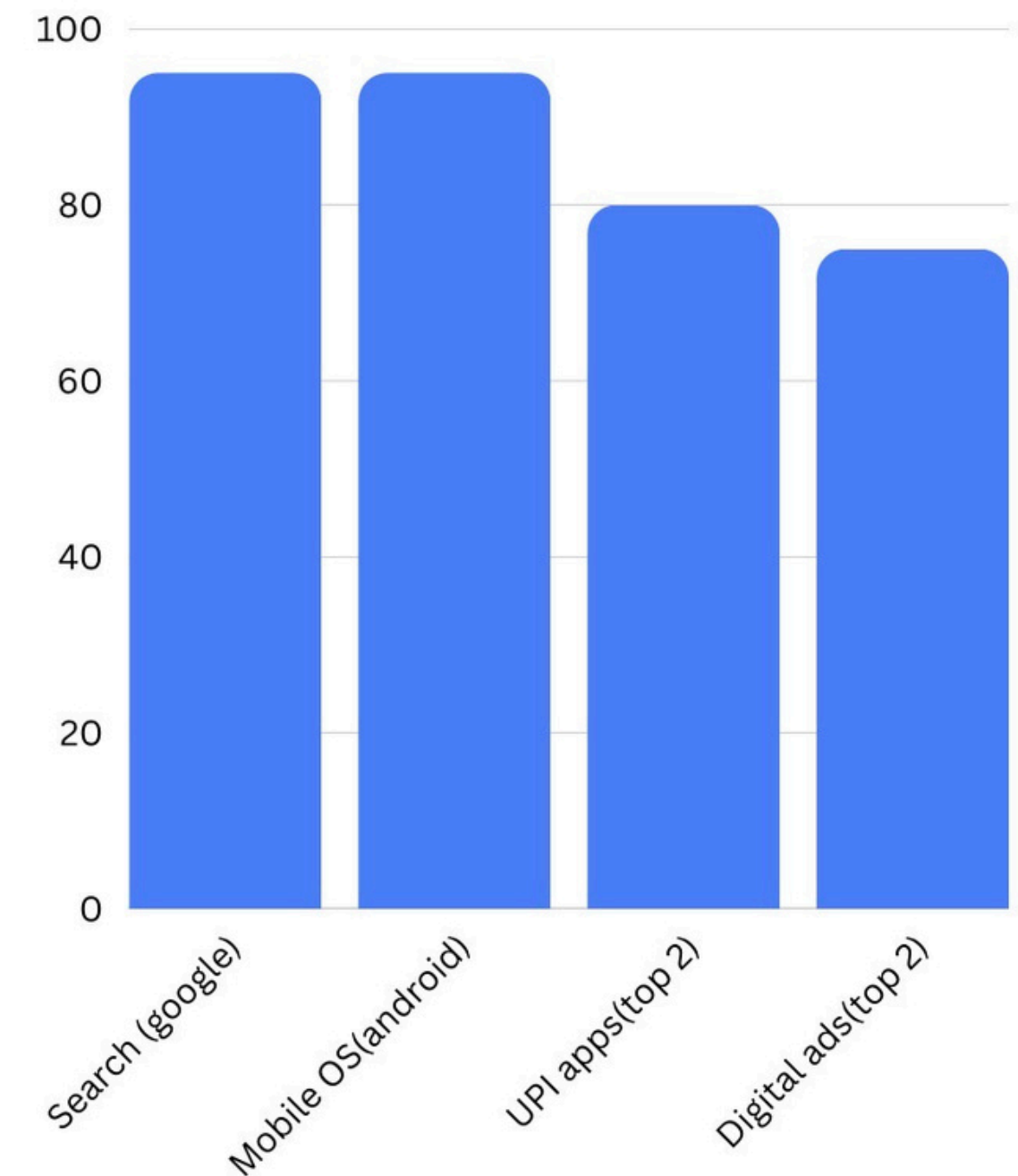
Source: CCI, counterpoint research 2025



Market share of search engines in India (%)

- Concentration extends beyond infrastructure into multiple core digital markets in India. Search engines maintain shares exceeding 90–95%, while Android continues to dominate the smartphone ecosystem with a similar share (StatCounter; Counterpoint Research). These high levels of concentration across foundational layers indicate limited competition in key digital access points.
- In digital payments, UPI processed over 200 billion transactions annually by FY2025–26, with monthly volumes exceeding 20 billion transactions (NPCI statistics). Within this ecosystem, two major applications account for the majority of transaction volume, highlighting significant concentration in a system that generates high-frequency financial data at scale.
- The digital advertising market, valued at over ₹USD 9,237.6 Million annually, is also concentrated among a small number of global platforms (IAMAI–Kantar Digital Advertising Report, 2025). When concentration exists simultaneously across search, payments, and advertising, firms can combine datasets across markets. This enables cross-market data leveraging and strengthens ecosystem-level dominance.

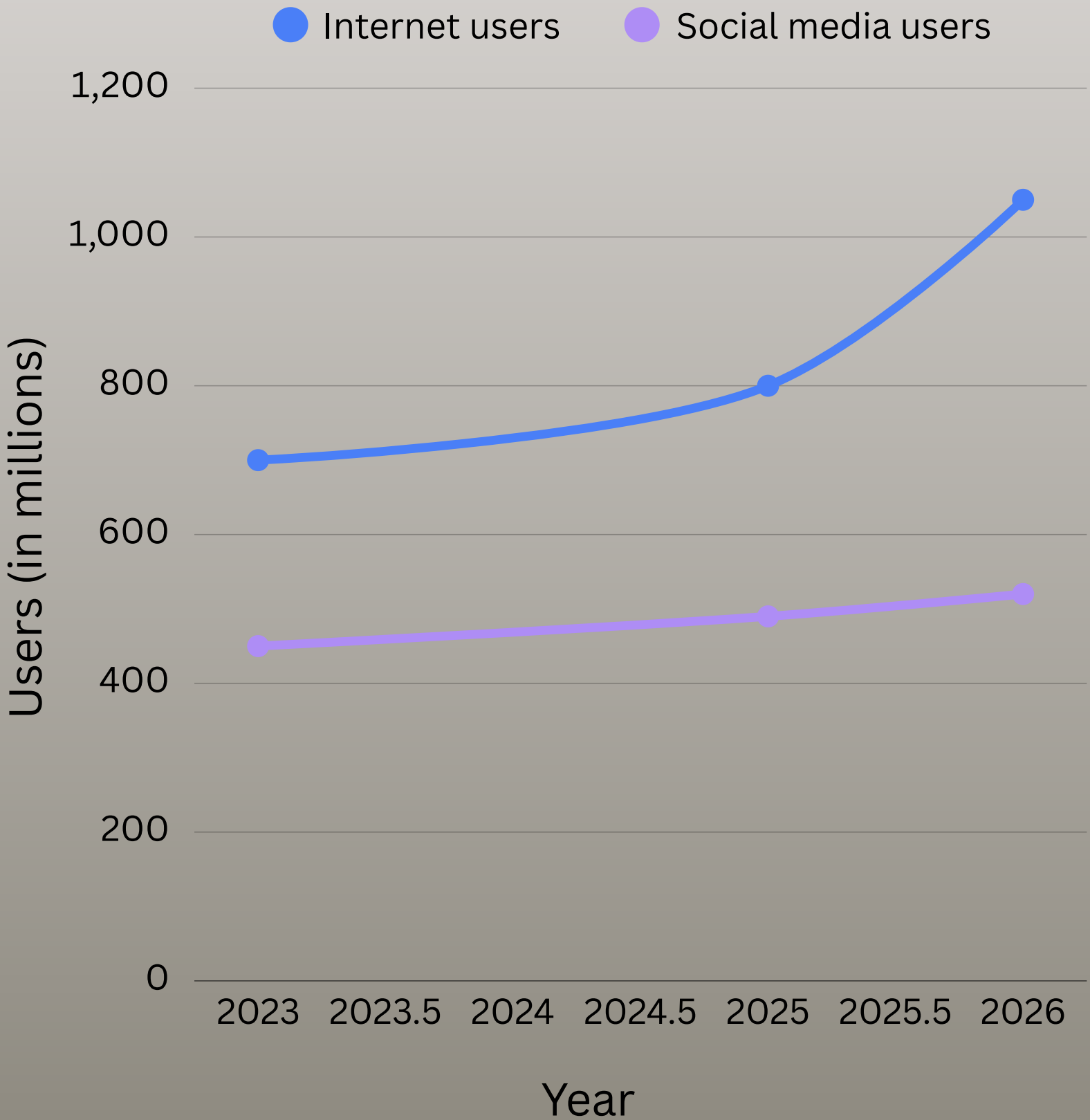
Multi Market share comparison (%)



Source: CCI

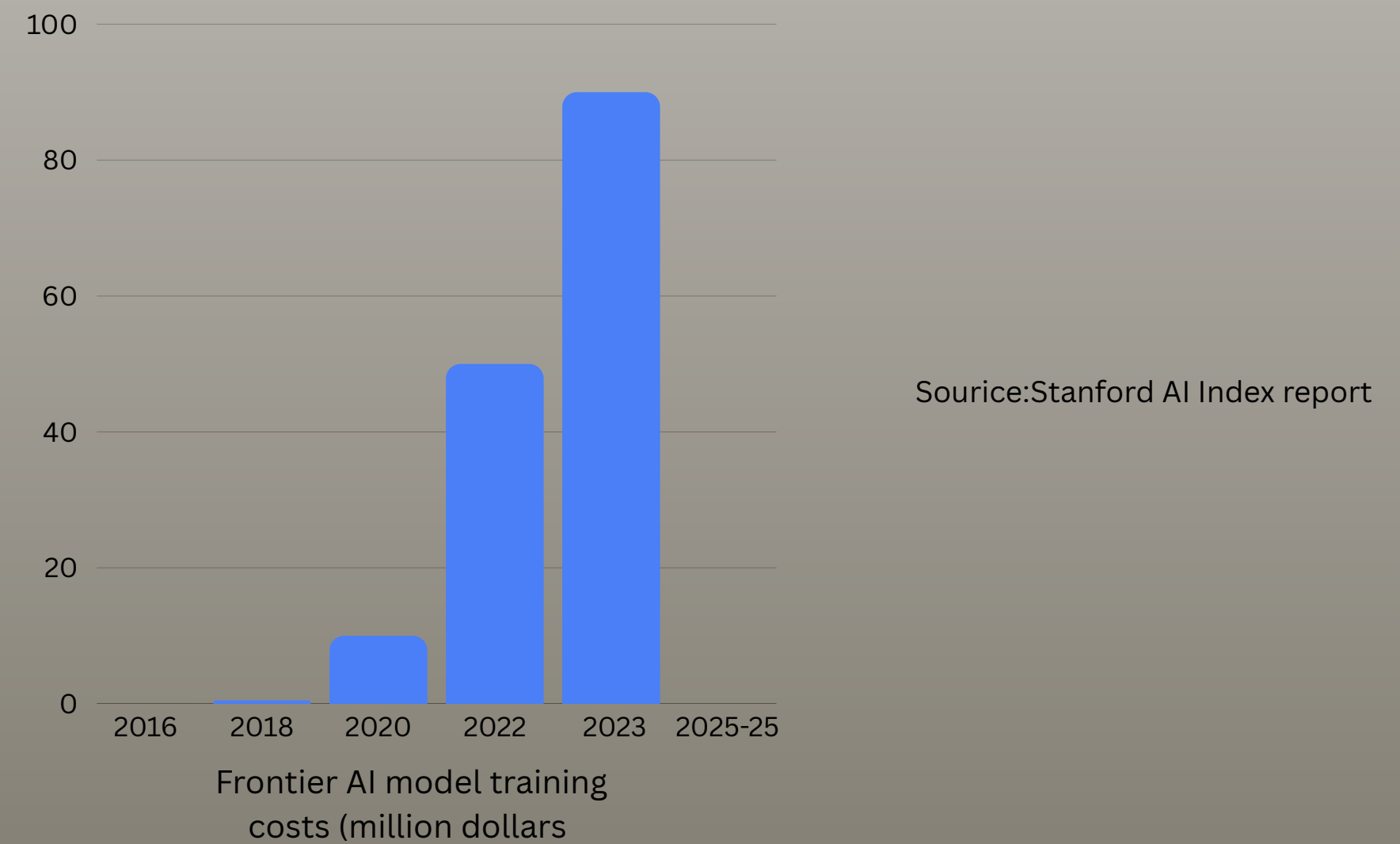
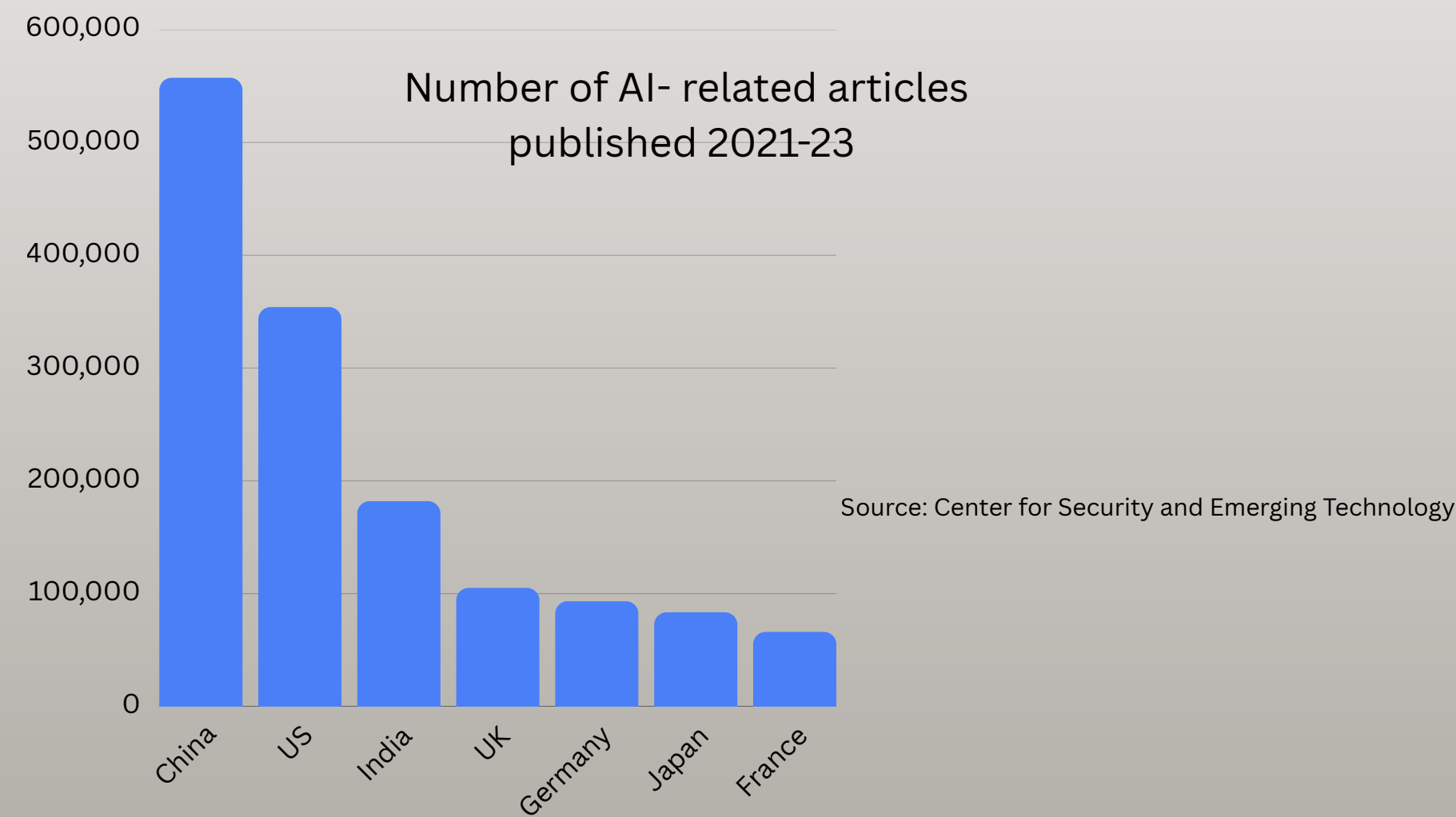
- Digital platforms benefit from strong indirect network effects, where more user participation increases the platform's value. India has a large digital base of over 800 million internet users. This leads to massive amounts of behavioral data generated across platforms (TRAI; industry estimates). This data is used to refine algorithms, improve recommendations, and optimize services.
- As platforms grow, better service quality attracts more users, advertisers, and developers, which boosts further growth. For instance, high-frequency digital payment systems like UPI handle billions of transactions monthly. This creates datasets that can enhance financial services and targeting abilities. This forms a feedback loop between data generation, algorithm performance, and user growth.
- These reinforcing dynamics raise the chances of market tipping, where one platform becomes dominant. Once this happens, entry barriers increase significantly due to data imbalance and network advantages. This explains why digital markets often trend towards outcomes where one winner takes most and show ongoing concentration over time.

User base growth vs. performance engagement(India)



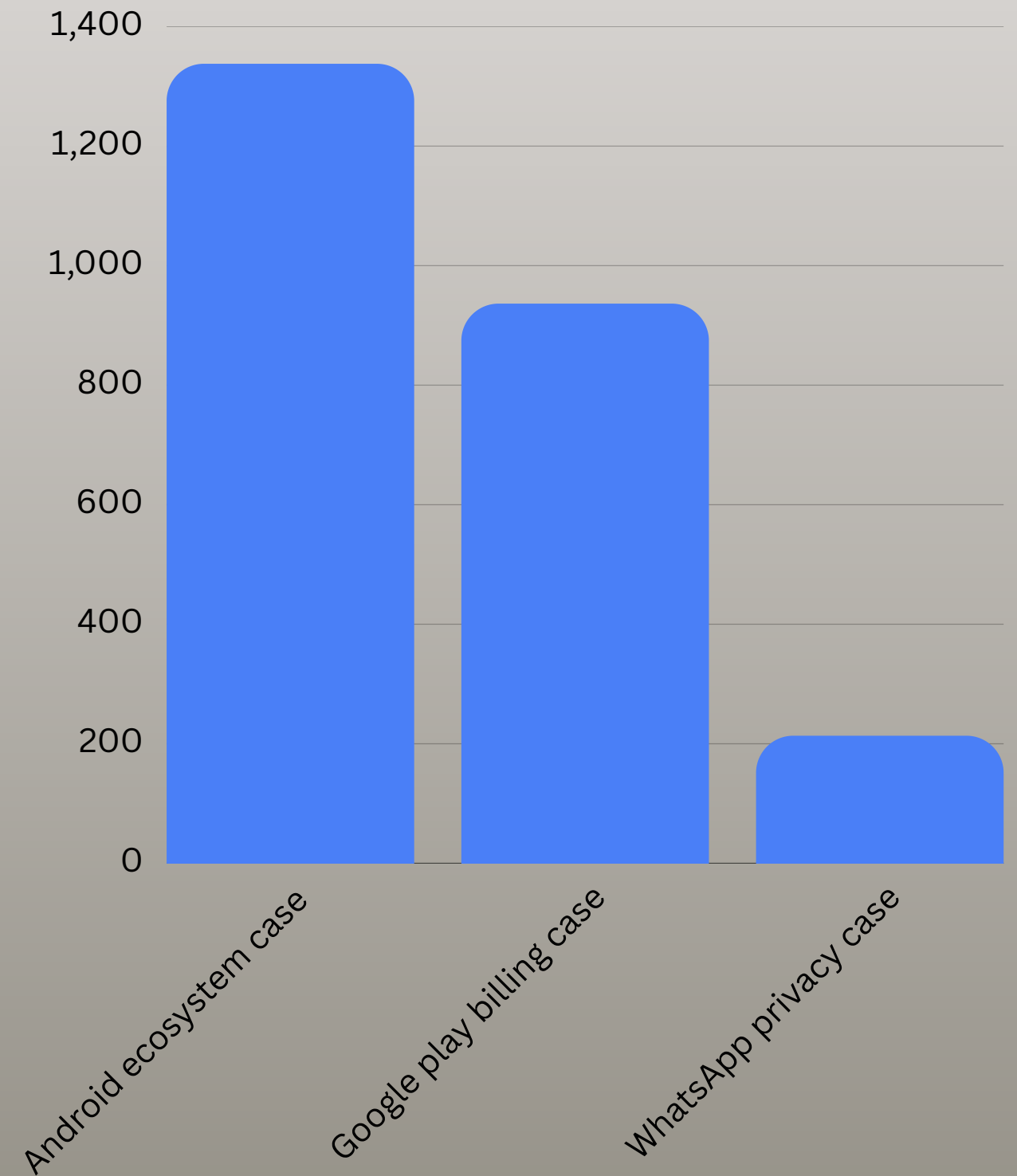
Source: Digital 2025 & Digital 2026 India Reports

- The growth of artificial intelligence has greatly increased the economic value of data in digital markets. AI systems need large datasets and significant computational resources, with the cost of training cutting-edge models now exceeding \$100 million (Stanford AI Index, 2025). This shows the rising capital demands of AI development.
- India ranks among the top countries in AI talent and research output, backed by a large number of developers and engineers. The country also shows high levels of AI skills and involvement in global AI networks, making it an important player in AI-driven innovation.
- However, access to large behavioral datasets gives a crucial edge in AI deployment. Platforms in search, payments, and digital advertising can use user data to train better algorithms and enhance predictive abilities. As AI use grows, these data advantages boost returns to scale, strengthening existing concentration and making it harder for smaller companies to compete.



- India's Competition Commission has made important moves to tackle anti-competitive practices in digital markets. In 2022, the CCI imposed a fine of ₹1,337 crore in the Android ecosystem case and a ₹936 crore fine in the Google Play Billing case. These cases looked at issues like abuse of dominance, restrictive agreements, and unfair practices in app distribution.
- In 2024, the CCI imposed a ₹213 crore fine in the WhatsApp privacy policy case, which tackled concerns about data sharing and user consent. These cases emphasize the growing regulatory focus on data governance, privacy, and the use of data across markets as a source of market power.
- Despite these actions, enforcement has challenges because of the fast pace of technological change and the size of digital markets. Investigations often take several years, while platforms keep expanding and integrating services. This creates a gap between market changes and regulatory responses, showing the need for more proactive and preventive regulatory frameworks.

Major digital competition penalties in India(in crores)



Source: CCI

Enforcement Lag in Fast-Moving Digital Ecosystems

- Digital platform innovation occurs through continuous software updates, service integrations, and algorithmic changes, often faster than any regulatory body can respond.
- Competition investigations in India typically require 3–7 years from filing to final order, while a platform's market position can become entrenched within 12–18 months of dominance emerging.
- Ex-post enforcement (acting after dominance is established) may not unwind structural advantages already accumulated through data, network effects, and ecosystem lock-in.
- Structural dominance can persist even after remedies are issued, as evidenced by sustained market share levels in search, mobile OS, and UPI apps post-penalty.

Year	Event
2019	Competition Commission of India Suo Motu: E-commerce market study launched
2020	Google Search & Play Store investigations initiated
2022	Android penalty: ₹1,337 crore; Play Billing penalty: ₹936 crore
2023	Appeals filed – cases move to National Company Law Appellate Tribunal and Supreme Court of India
2024	WhatsApp Privacy Policy penalty: ₹213 crore
2024	Draft Digital Competition Bill introduced by Ministry of Electronics and Information Technology
2025+	Multiple enforcement outcomes still pending final resolution

Sources- CCI Orders

<https://prsindia.org/policy/report-summaries/digital-competition-law>

Economic and Developmental Implications of Data Concentration

- Platform algorithms control advertising allocation, directly shaping online visibility for MSME sellers and determining which businesses gain or lose customers at scale.
- Merchant transaction data from UPI and e-commerce increasingly powers fintech credit scoring, giving data-rich platforms structural advantages in lending markets over traditional banks.
- Concentration in digital advertising among a handful of global platforms limits pricing power for Indian advertisers, publishers, and content creators.
- AI-powered recommendation systems built on proprietary behavioural data entrench incumbent advantage, raising entry barriers for new players in e-commerce and search.

Segment	Share (%)
Search Advertising	39%
Social Media Advertising	28%
Video Advertising	18%
Display Advertising	10%
Other Digital	5%

Source- IAMAI–Kantar Digital Advertising Report 2025;

https://www.iamai.in/sites/default/files/research/Kantar_%20IAMAI%20report_2024_.pdf

Institutional Fragmentation in Digital Governance

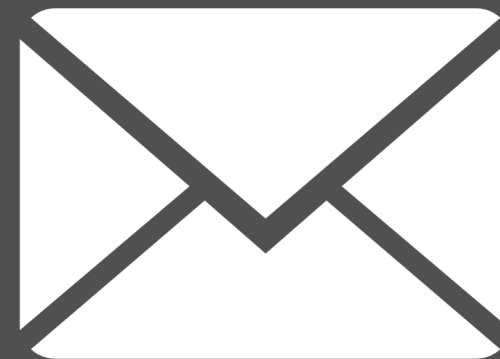
- Competition Commission of India (CCI)
Investigates anti-competitive conduct and issues penalties. Has developed digital market jurisprudence through cases involving Android, Play Billing, and WhatsApp. Primary enforcer of competition law.
- Ministry of Electronics & IT (MeitY)
Oversees the IT Act, Digital India policy, the Personal Data Protection framework, and the proposed SSDE designation under the Draft Digital Competition Bill.
- Reserve Bank of India (RBI)
Regulates payment systems, fintech lending, and data localisation requirements for financial data. Oversees UPI infrastructure governance and monitors digital credit market risks.
- NPCI (National Payments Corporation of India)
Manages UPI rails and sets interoperability rules. Controls market access conditions for payment applications, including the 30% market share cap on UPI apps.

Criterion	EU Digital Markets Act (2022)	India Draft Digital Competition Bill (2024) SSDE
Designation basis	Quantitative thresholds (revenue + users) + qualitative gatekeeping role	Systemically Significant Digital Enterprise (SSDE); turnover + user base criteria
Regulatory approach	Ex-ante obligations, proactive rules before harm occurs	Mix of ex-ante obligations and ex-post enforcement
Key obligations	Interoperability, data access, self-preferencing ban, fair dealing terms	Non-discriminatory access, data sharing, self-preferencing restrictions
Enforcement body	European Commission	Competition Commission of India (CCI)
Penalties	Fines up to 10% of global annual turnover	Penalties linked to global turnover; SSDE-specific orders
Data portability	Mandated for business users and end-users	Proposed; details still under consultation
Current status (2026)	Fully operational; 6 gatekeepers designated (Alphabet, Apple, Meta, Amazon, Microsoft, Google)	Draft stage; public consultation completed; legislation pending Parliament

Conclusion : The Structural Governance Question

- India's digital economy has expanded rapidly through public digital infrastructure, mobile connectivity, and mass platform adoption, creating one of the world's largest digital consumer bases.
- Cross-market data integration and AI-driven analytics increase the structural returns to data ownership, continuously reinforcing advantages for incumbent platforms over new entrants.
- Concentration in upstream digital infrastructure search, mobile operating systems, and payments creates ecosystem-level market power that extends far beyond any single product market.
- Policymakers face a structural governance question: should cross-market data advantages be treated as normal market outcomes, or as systemic risks requiring proactive regulatory intervention?

Thank You!



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