

NPCI and the Value of Frugality and Transparency in National Payments Infrastructure

The National Payments Corporation of India (NPCI), which operates NFS, CTS, UPI, RuPay, IMPS, NACH, AePS, NETC and other systems, is the backbone of financial transactions in the country. It’s financials for 2024–25 reveal an institution that has mastered frugality, operational discipline, and purposeful spending. The lesson here is not just for India: it is a global case study on how to build and operate national-scale financial infrastructure with extraordinary efficiency.

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When the world thinks of a national payment utility, the image that often comes to mind is one of sprawling bureaucracy and massive costs. Surely, a network that runs multiple payment systems for a billion people must be weighed down by inefficiency? India’s experience proves otherwise.

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The Numbers Tell the Story

NPCI processed nearly 230 billion transactions across its platforms in FY 2024–25.

NPCI major systems volumes: 2024-25		
NO	NPCI Operated Systems	Volume (Millions)
1	NFS - National Financial Switch	3,477.65
2	NACH- National Automated Clearing House	6,966.56
3	CTS Cheque Clearing (Processed Volume)	609.54
4	IMPS	5,624.96

5	RuPay Card usage at POS/E-Comm	938.58
6	AEPS (Inter Bank) Txn over Micro ATM	1,193.39
7	UPI - Unified Payments Interface	185,866.02
8	NETC	4,209.12
9	Non-Financial Txn - Balance inquiry etc.	21,333.13
	Total	230,218.95

Source: NPCI Statistics available at:

<https://www.npci.org.in/PDF/npci/statics/Retail-Payments-Statistics-July25.pdf>. Numbers aggregated by the author.

To support this volume, its total expenses were ₹2,270 crore (about \$272 million at today's exchange rate ~ ₹88 per US\$). That works out to a per-transaction cost of just ₹0.10 (₹ 0.098 to be precise or less than 10 paise) or roughly ~0.114 US cents (a little over one-tenth of a cent).

NPCI Expense Break down - 2024-2025		
	INR Crores	Percentages
Marketing Expenses	1,116.02	49.17
Employee costs	435.81	19.20
Operating expenses	210.33	9.27
Administrative expenses	189.97	8.37

Depreciation and amortization	290.66	12.81
Finance costs	5.83	0.26
Other misc expenses	21.20	0.93
Total	2,269.82	100.00

Source: NPCI 2024-25 financials. Available at

<https://www.npci.org.in/who-we-are/corporate-governance/financials-2024-25>

This level of cost efficiency is almost unheard of in global financial infrastructure. Consider what this means: every payment, whether a large corporate settlement through IMPS or a street-side chai purchase via, is being routed, cleared, and settled on an infrastructure that costs less than a tenth of a rupee to maintain per transaction.

NPCI's asset base is equally modest. Its entire capitalized systems base, covering all major retail rails, is just ₹1,689 crore (about \$203 million). The annual depreciation and amortization charge is about ₹291 crore, implying a useful life of around six years for its IT and software infrastructure. In other words, India's entire retail payments backbone has been built and is operated on a systems base of under \$210 million.

The Cost of Comparison: FedNow in the U.S.

Contrast this with the United States. The Federal Reserve launched FedNow in July 2023, its first real-time payment service. Unlike many countries that are silent on the cost of building and running such systems, the Fed has been transparent. The Fed reported \$545 million in total implementation costs for FedNow. Further, the Fed budgeted \$245 million annually for operating expenses in 2024 and 2025. By law, the Fed must recover its costs over time through these fees, and it explicitly tracks FedNow separately until the service achieves sufficient volume. The Fed has published a clear fee schedule, including 4.5 cents per customer credit transfer and 1 cent per request-for-payment, plus monthly participation fees for institutions.

The comparison is stark. FedNow's one-time build cost for a single real-time payment system is nearly three times the entire systems base of NPCI, which covers eight major national scale retail payment systems. And FedNow's annual operating expenses are close to NPCI's total expenses for all its systems combined.

This is not to say FedNow is inefficient. It is early in its life cycle, serving far fewer transactions than UPI or IMPS, and its costs will look leaner once volumes grow. On the other hand, NPCI's frugality is not accidental. It reflects an ethos built from the start: that the utility must never operate at a loss and must justify every rupee spent.

Why Frugality Matters

Why should we care about frugality in national payment systems?

Public Trust: Payment utilities are critical infrastructure. They cannot run at losses that require bailouts, nor can they extract monopoly rents. Frugality ensures they remain viable, credible, and trusted. NPCI status as a Section 8 company provides this balance.

Inclusion: The lower the cost of processing transactions, the easier it is to price services affordably. In NPCI's case, frugality has allowed UPI transactions to remain free to end users, accelerating adoption across all sections of society, and ensuring scale.

Innovation: For developing countries, frugal infrastructure is a prerequisite. Few governments can afford multi-billion-dollar systems. NPCI demonstrates that it is possible to build world-class digital payments on modest capital if governance, incentives, and discipline align. By enabling active participation by banks and other private players in the ecosystem leveraging the digital rails built by NPCI, it has spawned a variety of use-cases, ensuring continuous innovation and scope.

The Ethos Behind the Numbers

Numbers only tell part of the story. NPCI's frugality was not imposed by accountants, it was baked into the institution's DNA. From its inception, NPCI was set up as a not-for-profit utility. That meant two things: it could not pursue profit maximization, but neither could it afford to operate at a loss. The board, management, and staff absorbed this ethos. Every rupee was spent carefully, with an eye on scale, resilience, and public value.

This is why NPCI's accounts show a lean cost structure: operating and administrative expenses are around 11% of revenues, employee costs around 12%, depreciation 8%, and finance costs negligible. The only large outlay is incentives and marketing: about 32% of revenues, which include deliberate subsidies to drive adoption and spawn innovation. This spending reflects policy intent. The result is an institution that combines lean overhead, capital-light systems, and policy-driven investment in adoption, yielding a net profit margin of 42%.

Where Transparency is a Challenge

The Fed and NPCI stand out because they publish financial data that allows us to quantify costs. Most other national payment systems do not.

- United Kingdom (Faster Payments): Launched in 2008, Faster Payments is operated by Pay.UK with infrastructure support from [Vocalink](#) (now Mastercard). Public reports reference a build cost of under £200 million, but ongoing operating costs are not routinely published.
- Australia (New Payments Platform): The NPP was launched in 2018 by a consortium of banks and the Reserve Bank of Australia. It publishes some aggregate statistics, such as scheme unit costs (falling from AUD \$0.39 in 2019 to \$0.04 in FY25), but it does not disclose full operating expenses or asset bases.
- Singapore (FAST/PayNow): Operated by the Association of Banks in Singapore under MAS oversight, FAST has linked with PromptPay in Thailand and UPI in India. Yet cost data is not public.
- Brazil (Pix): A phenomenal success since its launch in 2020, Pix processed more than 65 billion transactions in 2024. But the Central Bank of Brazil has not published a detailed breakdown of implementation or operating costs.

This makes it difficult to benchmark efficiency across countries. By contrast, NPCI's audited accounts and the Fed's budget documents allow precise calculations of cost per transaction and capital intensity.

A Learning for the World

As countries around the world race to build their own fast-payment systems, the NPCI experience is instructive. India has shown that it is possible to design, implement, and scale multiple retail payment systems with less than \$210 million of systems capital, and operating costs of just about \$0.11 (11 cents) per transaction.

The FedNow case shows another path: a central bank willing to invest nearly \$550 million upfront in a single system and to disclose its operating budgets transparently. Both models deserve recognition, but they also highlight the gap in most other jurisdictions, where costs remain opaque.

Transparency matters. It allows policymakers, researchers, and the public to assess whether infrastructure is being built and run efficiently. It encourages accountability and builds trust on both sides of the rails, those that build products and services on top of those as well as those end-users who use these rails & products/ services for business/ personal uses.

Conclusion

NPCI's story is not just about UPI or RuPay or IMPS. It is about a frugal institution that has built a national payments backbone on modest capital, run it with lean discipline, and delivered it at a per-transaction cost among the lowest in the world. Other countries can learn from both: from NPCI's frugality and from the Fed's openness.

The challenge for the next decade is clear: as more countries build instant-payment systems, they must not only achieve scale and resilience but also demonstrate frugality and transparency. India has shown that it is possible. The rest of the world would do well to take note, not just of NPCI's success, but of the principle that frugality and transparency are the twin pillars of sustainable national payment infrastructure.

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