8x More International Card Fraud Stopped: Early Results from Razorpay's Vulcan AI Payments Model

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Since announcing Vulcan, its transformer-based foundation model for payments, **Razorpay** is sharing what the model has delivered on live transactions. Vulcan was trained on about 3 trillion data points across 4 billion payments and built with NVIDIA and AWS.

What merchants are seeing

Components of the model have been running on Razorpay’s network, informing routing, fraud, and risk decisions in real time. Businesses using them, including Blinkit, Bachatt and redBus, have reported:

- **8-10% improvement in payment success rates**
- **□□8x more international card fraud detected and stopped**
- **□□5x more fraudulent or disputed transactions identified,** without increasing the number of alerts
- **□□40% more shoppers see their preferred UPI app on Razorpay Magic Checkout,** helping complete 1-2 lakh more purchases every month

Why one model makes the difference

By analysing payment patterns across merchants, payment methods, issuers and gateways, Vulcan can draw on a wider set of transaction signals to make more informed routing and fraud detection decisions. This allows the model to identify patterns that may not be visible when individual payment decisions are assessed in isolation.

India’s payments landscape is unlike any other: a single purchase can be processed via UPI, cards, net banking, wallets or Cash on Delivery across hundreds of banks and gateways. Take Meera, buying running shoes for ₹2,400 at 9 pm: she taps “Pay” and sees “Payment unsuccessful. Please try again.” Her card, bank and money are all fine – her payment simply had several possible routes, and one was briefly the wrong choice at that moment.

Traditionally, the industry has tackled these challenges using separate, specialised models – one each for routing, fraud, risk and checkout – that don’t share signals, even though the same information can be useful across all these decisions. Vulcan brings these capabilities together, learning from roughly 3,000 signals per transaction across merchants, payment methods, issuers and gateways.

That lets it route each payment down the healthiest path before it is attempted. It can also flag a card used across unrelated sellers and warn merchants about risky Cash on Delivery orders before checkout.

These capabilities matter most to first-time and small-town

shoppers, for whom one failed payment can mean going back to cash. Razorpay's internal study of 1.5 million shoppers and 51,000+ businesses found the same friction, from failed transactions to drop-offs and delays, in metros and small towns alike.

What's next

Razorpay sees Vulcan as the starting point, not the destination. The company plans to extend the model across more parts of the payment journey, from authentication and routing to fraud detection and lending, with the aim of creating a continuously learning intelligence layer that improves with every transaction.

With India's e-commerce market projected to reach $350 billion by 2030, Razorpay believes that making digital payments more reliable, secure and intelligent will be critical to supporting the next phase of growth. The ambition is not just to make individual transactions work better, but to build a payments ecosystem where every transaction makes the next one smarter.

About Razorpay

Razorpay, an omnichannel payments platform for businesses, strives to help Indian businesses with innovative solutions built with technology to address the payment and banking journey for businesses. Established in 2014 by alumni of IIT Roorkee, Shashank Kumar and Harshil Mathur, the company strives to provide technology payment solutions to many businesses. A few angel investors have also invested in Razorpay's mission to simplify payments and business banking.

