

PayPal

How AI is transforming retail payments

For a fast, more personalized retail journey



Contents

- 3 Introduction**
- 4 AI-powered retail experiences are the new norm**
- 5 Turning prediction into action**
- 6 How is this impacting the customer experience?**
- 7 Overcoming the barriers of AI in payments**
- 8 What should you prioritize?**
- 9 Conclusion**

Every transaction tells a story. Behind each purchase sits a trail of data that, with the right tools, can predict what customers want next.

Retailers that put AI and predictive analytics to work are already turning that data into action, powering faster checkouts, and more personalised experiences that convert.

69% of retailers in Singapore view AI agents as essential¹

75% of retailers say ai agents will be essential to compete¹



¹ Salesforce, "AI Agent Retail Trends 2025," 2025. Available at: <https://www.salesforce.com/uk/news/stories/ai-agent-retail-trends-2025/> (Accessed: September 2025)

AI-powered retail experiences are the new norm

AI is reshaping how retail payments are made and managed. For retailers and beyond, the technology is becoming essential to delivering the speed, security, and personalisation today's shoppers expect.

Making payments personal

AI-powered engines analyse browsing, purchase, and engagement data to create real-time, tailored payment experiences. Whether it's offering the right digital wallet, highlighting Buy Now Pay Later at the right moment, or nudging toward loyalty rewards, AI helps remove friction and lift conversion.

² PayPal, 'Harnessing machine learning fraud detection technologies', 2024. Available at: <https://www.paypal.com/us/brc/article/payment-fraud-detection-machine-learning> (Accessed: September 2025)

³ PayPal, 'Transforming Omni-Commerce Platforms with the Power of PayPal AI', 2025. Available at: <https://developer.paypal.com/community/blog/agentic-ready-services/> (Accessed: September 2025)



Stopping fraud before it starts

Payment fraud remains one of retail's biggest challenges, costing merchants billions each year. Advanced algorithms and AI models offer the opportunity to rapidly detect suspicious activity as it happens, learning from patterns across millions of transactions.² This can result in stronger protection for customers, lower chargeback costs, and less disruption at checkout.

Reduce friction at checkout

AI agents read customer signals in real time to handle checkout tasks automatically, from routing payments and authenticating securely to triggering post-purchase workflows.³ This helps reduce cart abandonment, cuts manual intervention, and creates a smoother journey across every channel.

Turning prediction into action

While AI is transforming real-time payment experiences, predictive analytics pushes that advantage further, helping retailers to anticipate patterns, prevent issues, and design smoother, more resilient payment journeys.

Prepare for high demand before it happens

Predictive models forecast purchase patterns and prepare payment systems to handle spikes, so retailers can:

- Anticipate seasonal surges and adjust processing capacity in advance
- Reduce downtime and failed payments during high-traffic periods
- Help customers experience smooth, reliable checkouts at peak times

Spot and save at-risk customers

Analytics highlight shoppers likely to drop off and trigger targeted interventions, enabling retailers to:

- Identify signals of churn early
- Offer timely, personalized payment options or incentives
- Strengthen retention and protect customer lifetime value



Keep payments consistent across channels

Predictive mapping can help ensure customers enjoy the same payment experience wherever they shop, meaning retailers can:

- Track how shoppers move between online, mobile, and in-store journeys
- Deliver consistent options and experiences across all touchpoints
- Reduce friction that leads to cart abandonment

How is this impacting the customer experience?

As AI and predictive analytics continue to reshape payments, customer expectations are shifting in tandem. Shoppers now expect transactions to be seamless, secure, and integrated naturally throughout their purchase journey.

Keeping payments easy

Frictionless transactions have become the standard. Retailers are removing the friction from the payment stage, enabling customers to transition smoothly from decision to purchase.

Turning moments into purchases

AI enables contextual commerce, placing payment opportunities directly within the customer journey. This means a smoother path from browsing to buying, where the right option appears at exactly the right time.

Building trust through transparency

Proactive fraud communication is also becoming a differentiator. Flagging potential issues before they escalate can help reduce support costs, protect transactions, and reinforce trust in their brand.



Overcoming the barriers of AI in payments

Adopting AI in payments comes with its own set of challenges, but they don't have to hold you back. With the right approach, data silos, transparency concerns, and skilled labour shortages can all be addressed practically.

1 Break down data silos

AI needs the whole picture. To provide this level of granularity, retailers should:

- Consolidate payment data across channels into a single source of truth
- Choose interoperable systems that allow data to flow freely
- Use unified datasets to train AI for more accurate insights

2 Make AI explainable

Clarity around AI decisions builds confidence and keeps retailers compliant with regulations. You should be able to:

- Explain clearly how AI is used in payment decisions
- Balance automation with human oversight for sensitive cases
- Stay ahead of compliance requirements with transparent governance



3 Close the talent gap

AI in payments requires specialist knowledge, but retailers don't need to build that capability in-house to move forward. Progress can be accelerated by:

- Partnering with trusted providers who bring proven AI-in-payments expertise
- Upskill internal teams to apply AI with guidance from external experts
- Starting small with phased implementations that reduce complexity

What should you prioritize?

87% of retailers said AI has helped increase annual revenue.⁴

94% of retailers have cut operating costs using AI.⁴

AI adoption in retail is accelerating, but those seeing the strongest results are those taking a deliberate, phased approach. Strategic adoption is about focusing on the right use cases and building the right foundations, all while choosing partners that can help you along your way.

Start where the ROI is clear

You don't need to experiment blindly, ROI is already clear in areas like fraud detection and personalised checkout. Personalised checkout options are another potential conversion driver, helping retailers capture revenue that might otherwise be lost. Starting here allows you to demonstrate immediate impact before expanding into new areas.

Build resilience for the long term

Beyond quick wins, AI can help strengthen your overall payment ecosystem. That means using predictive analytics to anticipate demand spikes, automating back-office processes to reduce costs, and designing systems that scale as customer expectations evolve. Resilience should be the goal, not just efficiency.

Invest in explainability and trust

Transparency in AI goes beyond meeting compliance requirements. Leading retailers are embedding explainability into their AI strategies from the start, making it clear how payment decisions are made, giving them a competitive edge. Clarity helps build customer confidence and satisfies regulators, while also helping brands stand out in a crowded market.

Partner for competitive advantage

Strategic partnerships remain one of the fastest ways to scale. Rather than building in isolation, merchants may leverage embedded AI payment tools like PayPal Agentic Commerce Services⁵, already optimised for payments and continually updated. This will help enable merchants to accelerate time-to-value and stay ahead of fast-moving developments without overextending internal resources.

⁴ Nvidia, 'State of AI in Retail and CPG: 2025 Trends', 2025. Available at: <https://blogs.nvidia.com/blog/ai-in-retail-cpg-survey-2025/> (Accessed: September 2025)

⁵ PayPal Agentic Commerce solutions are not available to merchants in all markets. Capabilities differ by market.

How PayPal can help

AI and predictive analytics are helping retailers turn transactions into opportunities to drive loyalty and grow revenue. Those that act now will set the pace, capturing efficiencies and delivering the seamless experiences customers already expect.

PayPal Open brings embedded AI capabilities and predictive tools directly into its payments network, helping retailers adopt innovation without adding complexity. From helping to reduce cross-border friction to strengthening Fraud Protection⁶ and navigating compliance, PayPal's Agentic Commerce⁵ solutions are designed to make it easier to deliver transparent, seamless checkout experiences that build consumer trust and sustainable growth.

Together, this delivers smarter payments and stronger performance across the entire retail journey.

Are you ready to put AI into action? Get in touch to start building a smart retail payment experience today.

Get in touch

PayPal

This content is provided for informational purposes only. You should always obtain independent business, tax, financial, and legal advice before making any business decision.



⁶ Terms and exclusions apply to the Fraud Protection tool. Fraud Protection is available for accounts enrolled in Advanced Credit and Debit Card Payments. See [terms](#).