Modern retail payments: Omnichannel flexibility, security, and scale

eBook

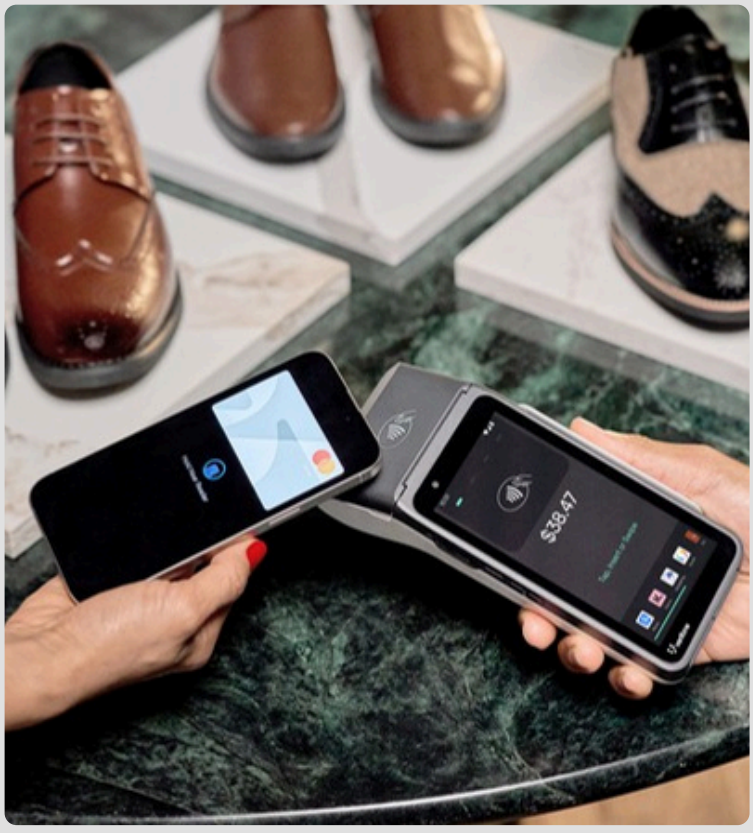
verifone

Table of contents

Introduction

It's the Monday morning after a big sale. You're fielding IT escalations about three kiosks that froze over the weekend, your CFO's reconciliation report is off by $40,000, and customer service is flooded with complaints about marketing emails recommending products people just returned. Three different problems. One root cause: a payment infrastructure that can't see across channels.

Some retailers call this the fragmentation tax: a cumulative drag that fragmented payment systems put on conversion, loyalty redemption, fraud prevention, customer identity resolution, and store operations at scale.



It shows up across the organization in different ways. The CEO sees weaker growth and inconsistent customer experience. The CFO sees margin leakage and limited financial visibility. The CIO sees integration sprawl and technical debt. The CMO sees broken identity and underpowered personalization. The COO sees store friction and slower operations. And the CISO sees an expanded fraud surface. Different symptoms, same underlying issue: a payment foundation that can’t see across channels.

This is the reality of omnichannel retail today. Everything works on the front end, but the back end is a series of disconnected payment decisions layered over time. Consumers move seamlessly between online, mobile, and in-store experiences, but the infrastructure supporting those journeys has not kept pace.

Fortunately, KPMG research indicates 87% of retailers are either in the middle of modernizing their payment technology or are planning to do so. Learn why a unified payment infrastructure is critical for delivering seamless omnichannel experiences, and how to move beyond silos toward a flexible, scalable system.

87%

of retailers are either in the middle of modernizing their payment technology or are planning to do so

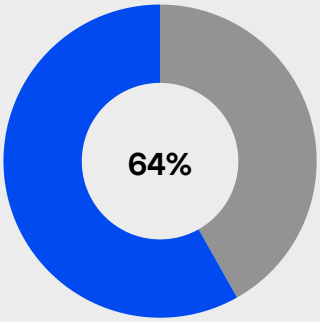
Payments as a critical infrastructure layer

Retail leaders often don't realize how far the gap is between their ideal customer experience and what the current payment technology stack can support — and just how impactful that gap can be. However, it's easy to see when you consider a typical customer journey.

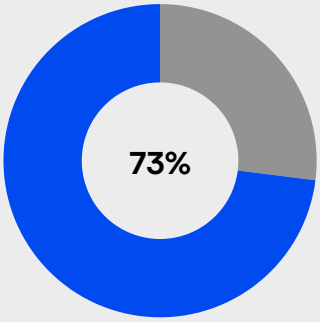
Imagine you're shopping in an app, putting items on your wish list, and you end up abandoning checkout because your digital wallet wasn't supported. Later, you walk into a store and ask an associate to ship a clothing item to your home. You check out with your mobile wallet, redeem loyalty points the associate has to manually look up, and get a receipt texted to your phone.

Now, what about future interactions? Two weeks later, you return the item in store because the fit was wrong. The return processes through the in-store POS, but the original purchase ran through the ship-from-store fulfillment system, which is a different reconciliation flow. The loyalty points you redeemed don't automatically show back up in your account, and the credit takes over a week to reimburse your original form of payment. Then, you get a marketing email recommending the exact item you just sent back.

Checkout is the most important 30 seconds you own as a retailer. But when seamless payment processing and data capture break down on the back end, it can undermine even the best customer-facing experience. Recent retail research shows that 64% of shoppers will abandon a purchase if faced with long checkout lines, and 73% say checkout speed directly impacts whether they return to a store.



of shoppers will abandoned abandon a purchase if faced with long checkout lines



of shoppers say checkout speed directly impacts whether they return to a store

What are the consequences of a fragmented infrastructure?

Infrastructure failures with your payment system rarely appear as a single outage or dramatic breakdown. More often, they surface as everyday friction across loyalty, finance, operations, and customer experience, and small disconnects that compound over time. Some of the consequences include:

Inconsistent loyalty
When loyalty programs don't work across channels, customers can't earn or redeem rewards consistently. Imagine a customer watching an associate try three workarounds at the register before handing back the coupon code and suggesting they talk to customer service online to get their points refunded. And on the retailer side, without loyalty recognition, key data points are missed.

Failed reconciliation
When it's difficult to reconcile transaction data across systems, finance spends too much time on basic accounting while customer service struggles without accurate, integrated purchase information. Forbes reports that 79% of finance leaders spend a significant part of their time on data management and manual reconciliation. If your finance team is chasing a discrepancy between the BOPIS settlements and in-store POS report, that's time not invested in strategic analysis and other high-value work.

Broken customer identities

When customer information lives in different places, you can end up with multiples of the same customer data or a fractured view because key interactions are missing. But personalization isn't optional. McKinsey research shows that 71% of consumers expect personalized interactions and 76% get frustrated when this doesn't happen. And 65% of buyers see a targeted promotion as a top reason to make a purchase. For executive teams, data from the payment layer and payment-loyalty integrations are critical aspects of delivering a personalized buying experience.

71%

of consumers expect personalized interactions

76%

get frustrated when this doesn't happen

65%

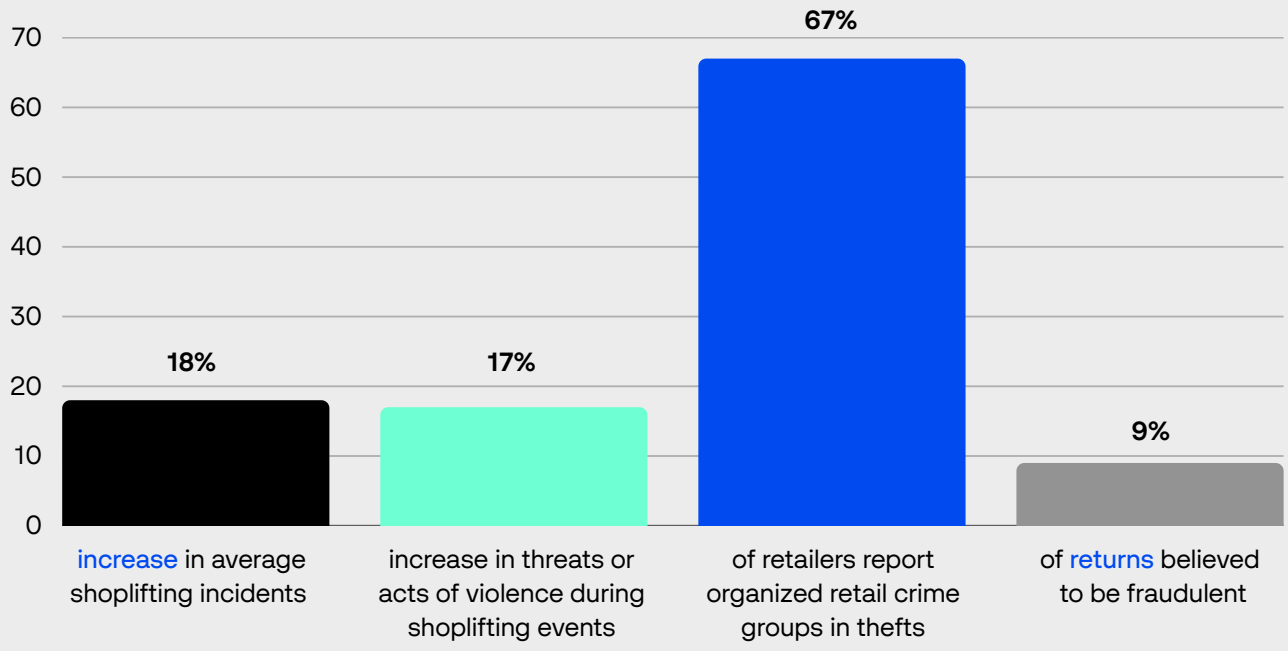
of buyers see a targeted promotion as a top reason to make a purchase

Loss prevention, fraud, and shrink in retail

Fraud and loss prevention are uniquely critical topics for retailers. Return fraud, organized retail crime, sketchy refunds, BOPIS scams, and chargebacks are ongoing challenges that retailers face, all of which are at least partially a payment infrastructure-related problem.

U.S. retail shrink costs hundreds of billions of dollars each year, according to the National Retail Federation (NRF), with retailers reporting several issues:

Issues reported by retailers



Your retail payment technology infrastructure, including its ability to track customers, is important to addressing these issues. If you're a loss prevention leader at a 500-store regional retailer, you're pulling weekly reports to identify issues, which is a smooth process when everything's in one system.

But if your current infrastructure is fragmented, you're working to reconcile eCommerce data, in-store returns, loyalty data, and chargebacks from multiple systems. By the time you understand what's happening, you have historical data on crimes rather than a warning signal that enables you to stop the fraud in progress or respond quickly.

Unified data changes everything. With an integrated payment system, it's possible to generate one token that recognizes customers across channels. A customer who purchases an expensive item online with one payment method and tries to return it in store with another shows up as suspicious immediately. Real-time transactions moving through one system help you flag anomalies when they happen, from BOPIS abuse to sweethearting tactics at a particular register.

Often, these capacities are one of the highest-ROI aspects of the retail payment modernization business case. Reducing fraud can make a measurable difference to a retailer's bottom line.

Avoiding the closed-loop trap in retail

The closed-loop trap is one of the biggest reasons retailers stay stuck with fragmented payment systems. What starts as a payment stack built for today's needs becomes increasingly difficult to scale as retailers expand into new markets, add payment methods, or unify channels.

For large retail estates, switching isn't simple. Modernizing payments can mean coordinating device rollouts, certifications, processor changes, onboarding, and store operations across hundreds or thousands of locations. That operational complexity is what keeps many retailers locked into legacy infrastructure.

That's why execution matters as much as architecture. Verifone Ops Services helps retailers manage large-scale payment transitions with less disruption through deployment support, estate management, onboarding, and operational services.

Choosing open, modular architecture means your payment stack is no longer a constraint to growth and innovation. It becomes part of what fuels your progress over time.

Operational excellence and a unified ecosystem accelerate businesses growth

Modern retail growth depends on more than adding channels or payment methods. It depends on having a unified infrastructure that connects payments, customer identity, loyalty, operations, and data across the enterprise. When retailers operate from a single ecosystem instead of disconnected systems, they gain the agility to scale faster, improve customer experiences, and operate more efficiently. This unified approach allows you to:

Expand into new markets with confidence
A unified payment infrastructure makes it easier to introduce new payment methods, support regional preferences, and adapt to changing customer expectations without rebuilding core systems. As retailers expand into new geographies or demographics, flexibility becomes a growth advantage. PYMNTS found that 70% of consumers consider the availability of their preferred payment method "very or extremely influential" when deciding where to shop.

Provide faster checkout experiences and improve conversion
Connected systems help streamline checkout by reducing latency, simplifying integrations, and creating more consistent experiences across lanes, kiosks, and digital touchpoints. Faster transactions mean shorter lines, smoother peak-hour operations, and better customer satisfaction, which all contribute to stronger conversion and repeat visits.

Unify experiences and increase adoption across channels
Whether customers engage through self-checkout, the endless aisle, mobile POS, or eCommerce, consistency matters. A unified ecosystem allows retailers to extend loyalty, saved payment methods, promotions, and customer recognition across every touchpoint. When experiences feel connected and familiar, customers are more likely to adopt new retail formats and engage across channels.

Collect better customer data and drive smarter personalization
When payment, loyalty, and commerce systems operate together, retailers gain a more complete view of the customer journey. Returns, purchases, promotions, and engagement data can flow into a single environment, helping marketing teams deliver more relevant recommendations and personalized experiences instead of disconnected messaging.

Simplify operations and reduce complexity
Unified infrastructure also improves day-to-day operations. Store associates spend less time navigating multiple systems, training becomes simpler, and onboarding new employees is faster because workflows are standardized across channels and locations. Finance and operations teams gain clearer reporting and reconciliation processes through centralized dashboards and integrated transaction visibility.

Build in compliance and centralized insights to strengthen decision-making
A unified ecosystem can also simplify compliance and governance by standardizing security controls, payment processes, and reporting across the organization. Instead of pulling data from disconnected systems, executive teams can access centralized dashboards with real-time operational, financial, and customer insights, turning the payment layer into a strategic source of business intelligence rather than just a transaction processor.

Anatomy of a modern retail payment stack

Retailers that want to fight fragmentation and build a payment back end that can be the true backbone of the omnichannel experience must consider several aspects of the process.

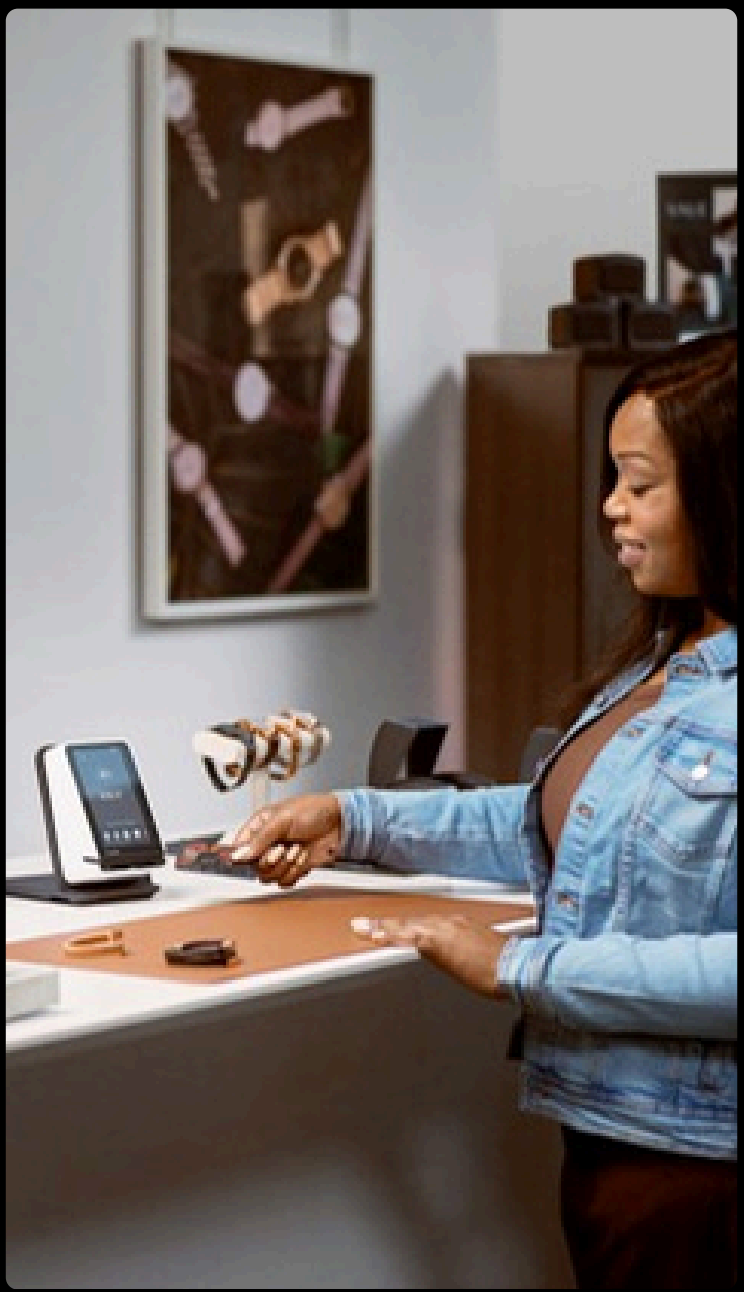
A modern retail payment stack has three layers that work together, and each piece is independently updatable with the right underlying modular architecture.

Pillar 1
Devices and form factors

Retail's hardware needs are broader than those of almost any other vertical. At the center are manned checkout terminals that anchor high-volume transactions and define the pace of the in-store experience, alongside self-checkout kiosks that must maintain speed and reliability even during peak traffic. Extending from these are mobile devices that empower associates on the floor to support customers in real time, whether checking inventory, scanning barcodes, or completing transactions away from the fixed lane.

Beyond these core touchpoints, the device portfolio expands to include endless aisle kiosks that bridge in-store and online inventory, unattended terminals that power pickup lockers and vending environments, and mobile POS used for peak periods or pay-on-the-floor experiences. Together, these form factors reflect the operational reality of modern retail, where transactions span multiple locations and interaction models.

The right partner does not treat these as separate product categories, but as part of a unified device strategy. The ideal architecture views every device as a node in a connected payment ecosystem. Devices not only process transactions but also enable identity verification, loyalty lookup, and customer recognition using the same infrastructure, ensuring each interaction contributes to a unified view of the customer.



This is especially critical in associate-led experiences. A mobile device in the hands of a store associate becomes a bridge between service and transaction. Instead of forcing manual lookups or system switching, associates can recognize customers, retrieve loyalty information, and complete transactions anywhere in the store using a unified token.
What was once friction becomes a seamless extension of the shopping journey.

A modular architecture also changes how retailers approach scale. With family-level certification, new device rollouts can extend across hundreds of locations quickly, and mobile POS can follow within months rather than long legacy certification cycles. This enables phased estate evolution without operational disruption.

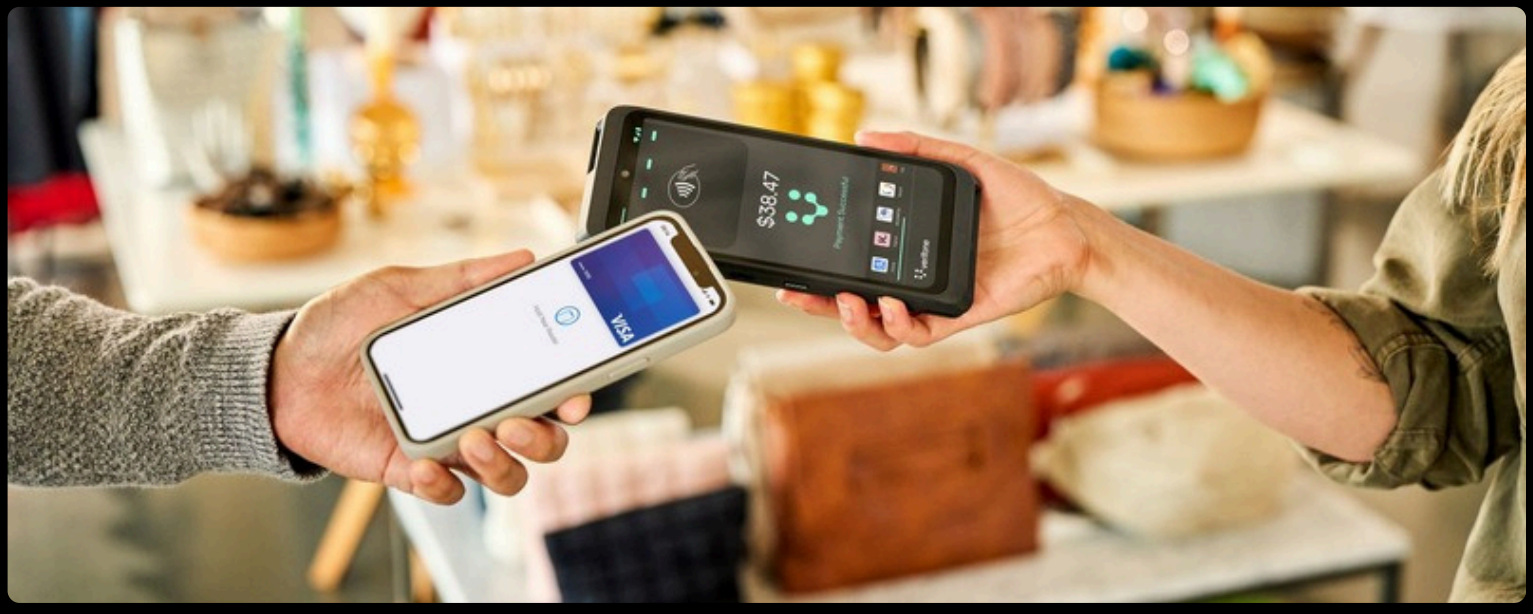
Devices also play a role in loss prevention and fraud detection. When identity signals and transaction context are captured at the device level, they can be transmitted directly into fraud systems instead of being trapped in isolated logs, enabling faster anomaly detection and response.

Case study: Global apparel leader

A global apparel retailer is rolling out Verifone Victa Lane — a full-screen, keypad-free payment device — across 10,000 checkout lanes, with near-term plans to introduce Victa Minis for mobile POS. But this deployment is about more than upgrading hardware. It's about redefining checkout as a branded, digital-first experience.

The retailer is using biometrics to streamline credit card enrollment and loyalty sign-up, turning traditionally high-friction moments into seamless, embedded interactions that legacy terminals can't support.

What makes the story compelling is how quickly it came together. In under a week, Verifone, a POS partner, and a gateway partner stood up a fully functional lab environment — all running on the same device. Built on open architecture, Victa Lane gives the retailer the flexibility to bring together best-of-breed partners without lock-in.



Pillar 2
Platforms and orchestration

Platforms and orchestration layers are major drivers of fragmentation in the retail stack. Historically, your payment stack might tie you to working with a single acquirer. When you have a processor-agnostic gateway, you're able to negotiate rates with different acquirers. More importantly, an omnichannel gateway issues one token that works across all in-store and digital channels.

One token means one customer profile across every channel within your business. With a single customer profile, it's possible to deliver a 360-degree customer experience that's consistent and personalized across loyalty, fraud detection, and every interaction from promotions to returns. A unified token also supports fraud pattern recognition and better loss prevention, with the ability to identify transactions and who is involved in real-time.

This level of integration is supported within the technology stack through pre-certified ecosystem connections that enable solutions to work seamlessly within the same tokenized system via a network of vetted partners.

Case study: Global specialty retail group

A global specialty retail group operating multiple home and lifestyle brands set out to deliver a seamless omnichannel experience across online and in-store channels. The objective was to unify payments across a complex, multi-brand retail environment and enable consistent customer experiences at every touchpoint.

To achieve this, the retailer partnered with Verifone to deploy a unified commerce platform spanning in-store hardware, payment services, gateway processing, tokenization, and eCommerce integration.

The result is a connected payments ecosystem that supports consistent, secure transactions across all brands and channels, enabling a more seamless and scalable omnichannel retail experience.

Pillar 3
Processing and acquiring

Flexible acquiring relationships also allow retailers the most flexibility in routing transactions. It's possible to add an acquirer based on regional needs without changing the rest of the payment architecture. Retailers can route transactions to optimize for authorization rates or cost. Smart routing is also key to a resilient system: if one acquirer has issues, you simply direct traffic elsewhere.

When all the major layers of your payment architecture — devices, platforms, and processing and acquiring relationships — are modular, you can change or upgrade any one of them without rebuilding the others.

Adding new payment methods, changing acquirers for market expansion, or integrating new biometrics tools are simple when your retail payment architecture is future-ready. And with the right infrastructure in place, you can achieve peak scalability for promotions, holiday traffic, flash sales, and other essential retail moments.

Case study: Global home improvement retailer

A leading home improvement retail group operating across multiple banners and more than 1,300 stores set out to elevate the in-store payment experience while improving speed, ease, and customer convenience.

The retailer also prioritized strengthening loyalty and retention by making checkout faster, simpler, and more consistent across markets.

To support this, the retailer partnered with Verifone to deliver secure, high-performance payment processing integrated into existing store systems. The solution provided a robust and scalable infrastructure designed to adapt to evolving retail demands while maintaining operational continuity.

The result is a more seamless and customer-centric checkout experience, enabling greater choice and convenience at the point of payment while supporting long-term digital growth across the estate.

Adding new payment methods, changing acquirers for market expansion, or integrating new biometrics tools are simple when your retail payment architecture is future-ready.

Why retailers switch to Verifone

For many retailers, the real question is not whether their current payment platform works today, but whether it can support what comes next. Hardware refresh cycles, contract renewals, and expansion into new channels create clear decision points where fragmentation starts to slow down growth.

For IT leaders, the trigger is operational strain across large estates, from device management to integration complexity. For CFOs, it is lack of visibility into true cost of acceptance and cross-channel performance. For CMOs, it is the inability to deliver consistent personalization when identity and loyalty data remain disconnected.

At scale, switching is not just a platform change. It is a coordinated estate transition across devices, processors, and integrations that must happen without disrupting trading.

Verifone is built for this moment, enabling retailers to modernize from fragmented incumbent platforms through a modular, managed approach that reduces disruption while accelerating time to value.

The Verifone difference

Modern retail depends on a unified payment foundation that secures and streamlines the customer journey across every touchpoint, from online checkout to in-store experiences. For IT leaders, it reduces the complexity of fragmented estates and accelerates refresh cycles. For CMOs, it closes the gap between physical and digital engagement. For CFOs, it strengthens the modernization business case by improving efficiency, control, and visibility across channels.

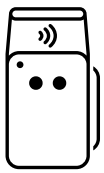
Verifone is the payment infrastructure behind many of the world's largest retailers, with 73 of the top 100 retail brands using its solutions. Deployments span multilane checkouts, mobile POS, kiosks, and unattended environments globally.

The Verifone platform brings together:

- **Ruggedized, retail-hardened devices** that help IT teams simplify estate management, reduce downtime, and support evolving in-store formats without constant hardware refresh cycles.
- **An omnichannel payment gateway** that unifies card-present and card-not-present transactions under a single token, helping CMOs close personalization gaps and deliver consistent experiences across physical and digital channels.
- **Real-time transaction data and unified tokens** that support loss prevention, shrink reduction, and fraud detection across channels, giving CFOs stronger visibility and control over financial performance.
- **Flexible routing and processing choice** that allows payments teams to optimize cost, performance, and acquirer relationships while maintaining operational agility across markets.
- **A partner ecosystem of more than 2,500 pre-certified integrations** that reduces integration complexity for IT teams and accelerates deployment of new retail experiences across the stack.
- **Biometric-ready hardware capabilities** that enable frictionless in-store experiences such as enrollment, loyalty check-in, and personalized checkout without an app download, helping retailers bridge the physical and digital experience gap.

For retailers, payment infrastructure is either accelerating or constraining omnichannel growth. Moving beyond fragmentation means adopting a modern, modular architecture that is unified, resilient at peak volume, and ready to support every new channel, market, and customer expectation.

73 of the top 100 retail brands use Verifone payment infrastructure. Deployments span multilane checkouts, mobile POS, kiosks, and unattended environments globally.



Take the next step

Are you ready to transform your retail operations and customer experience?

Learn more about how Verifone powers unified, omnichannel payment experiences for leading retail brands, or talk to a retail expert to see how modern retail payments can work seamlessly across in-store and online environments.

Get started today

The world's leading brands trust Verifone for global payments. We power the boundless payments grid — enabling distinctive commerce experiences for merchants, fintech companies, and financial institutions wherever commerce happens.

By combining a flexible payments platform comprised of devices, applications, services, acquiring and more, an open ecosystem of 2,500+ integrations, and four decades of payments expertise, Verifone eliminates complexity and expands what's possible across every payment channel.

Each year, Verifone processes $8 trillion in transaction value across 165+ countries around the world helping businesses of all sizes to grow without limits.

Learn more at verifone.com

Verifone, Inc.
817 Broadway, Suite 1100
New York, NY 10003
United States