ACI Worldwide®

Cards aren’t disappearing. They’re getting smarter.

Contents

Foreword

Payments are changing fast. New ways to pay are scaling rapidly, regulation is reshaping the market, and the ecosystem is growing more complex. But cards aren't disappearing. They're still foundational to global commerce, now as smarter, more secure digital credentials embedded across digital wallets, devices, and everyday experiences.

Real-time account-to-account (A2A) payments are accelerating alongside cards, and the interaction isn't always smooth. Inside many financial institutions, cards and real-time have evolved in parallel with different teams, different risk assumptions, and different operating models. The next phase is about bringing those worlds into the same discipline of controls, visibility, and accountability. Each rail has its strengths, and together, they're setting the operating standard for modern payments.

The deeper shift is in how banks run payments. Cards and real-time rails can't be managed as separate worlds. The leaders will be the institutions that apply consistent controls and can investigate and resolve problems quickly, no matter which rail carried the payment.

This isn't about preserving the past. Cards remain central, and will continue to shape payments.

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The future is multi-payment hubs

Cards and real-time payments are reshaping how institutions run payments. Cards are evolving into smarter digital credentials, while real-time A2A is scaling fast for transfers and merchant payments. What still matters is the account relationship and the rules that protect it: who can pay, when, and under what conditions, plus the protections customers expect when something goes wrong. Form factors will keep changing, from card-on-file and mobile wallets to network tokens and enforceable limits on how a credential can be used.

A2A growth adds a second operational reality for banks: push payments that move quickly and, in many cases, can't be pulled back once sent. Instant payments are often positioned as "low fee," but total cost shows up in reimbursement rules, and the controls needed to manage disputes and customer outcomes when funds are hard to recover.

The question for banks, processors, and merchants is straightforward: How do you run card and real-time payments together without duplicating risk, data, and operational workflows? The answer is to centralize decisioning, apply consistent fraud and authentication controls, and use one investigation process across payment types, even when rails behave differently.

Cards will keep evolving, and real-time will keep scaling. The winners will be institutions that choose to run all payment types on a single hub, with one set of controls for risk, authentication, and customer permissions.

Cards are here to stay

The idea that cards are being displaced by newer payment methods doesn't hold up to evidence. The card as a form factor remains a high-scale, high-trust purchase mechanism globally, and new ways to pay with a card have increased their reach and expanded their utility. Fueled by contactless adoption, eCommerce growth, and B2B digitization, global card transactions totaled 776 billion in 2024 and are projected to reach 1.1 trillion annually in 2029, a 43% increase over 2024.[1] Cards will continue to serve as a primary access method for the accounts they are attached to, whether credit, debit, or prepaid.

Real-time payments are also scaling rapidly alongside this continued expansion of cards. In some markets, real-time payments are a primary payment type, with significant volume. In India, real-time transactions reached 129.3 billion in 2023 and represented 84% of India's electronic transactions, illustrating how far instant schemes can go when they become the default for domestic transfers and merchant payments.[2] In Brazil, the Central Bank's SPI annual report shows Pix reached 5.71 billion transactions in December 2024 alone and reports total value settled in 2024 of R$22.12 trillion (≈US$4.3 trillion).[3] These are national-scale payment utilities. Cards and real-time payments serve different jobs. Cards will stay central in many purchase contexts, while real-time payments will keep expanding for others. A fraud model is only as good as the data it can see. If risk teams can't see activity across payment types, they will miss patterns, create false declines, and take avoidable losses.

Global card transactions totaled

776B

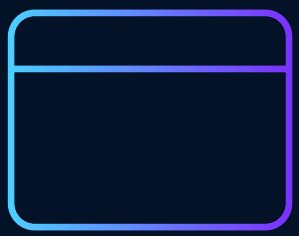
in 2024 and are projected to reach

1.1T

annually in 2029, a

43%

increase over 2024.[1]



Physical cards are primarily access methods to an underlying account

Access rules and account foundations still underpin payments

Whether it's a physical card, a virtual card, a card in a mobile wallet, or a card-on-file with a merchant, the persistent element is access to an account, governed by rules and protections. The form factor changes; the account does not.

The distinctions between credit, debit, and prepaid matter. Credit is a pay-later product with rewards, variable pricing based on creditworthiness, and built-in dispute rights. The convenience and ability to delay payment is a critical attribute consumers use extensively.

Debit is a pay now product with fixed or regulated cost of acceptance in most regions. It is the primary gateway for retail payments from a checking account and for ATM access. Because debit sits on the checking account, banks can apply the same customer checks and permissions to debit payments and instant A2A transfers.

Prepaid cards are pay before instruments with hundreds of use cases, from gift cards and reloadable products to payroll and government disbursements. All three card products provide a seamless way for consumers to load account credentials into a wallet without exposing the underlying account details.

For many merchants, cards also support larger baskets and higher spend than cash, especially in credit-led use cases.

Channel matters, too. Cards behave differently at the physical point of sale than they do in eCommerce or in-app purchases. That difference has shaped many of the innovations we now see in remote commerce, from tokenization to wallet credentials, where the focus is on reducing fraud risk and removing friction at checkout.

The physical card form factor will continue to decline in relative importance while the credential model expands across embedded commerce, wallets, and delegated payments. What remains is the account and its rules, carried through secure credentials.

Tokenization at transaction time

If cards are becoming portable credentials, tokenization is the control mechanism that makes this safe at scale. Tokenization replaces a primary account number (PAN) with a transaction-specific token that can be limited to specific uses which works for both in-store and online payments. In practice, it makes card credentials harder to steal and easier to control across wallets, devices, and merchants.

Visa reports that more than 50% of eCommerce transactions in its ecosystem are now tokenized, delivering nearly 5% authorization lift and more than 35% lower fraud in tokenized transactions.[4] Better credentials improve approval rates without opening the door to more fraud. False declines cost revenue; irreversible fraud losses cost trust.

This matters beyond cards. If a credential is simply controlled access to an account, banks should be able to reuse the same identity checks, risk controls, and customer permissions across payment types, whether the transaction is a card purchase or an instant A2A transfer.

Why cards continue to matter

Trust, reliability, and protections that shape choice

Cards endure because they offer capabilities buyers and sellers rely on, even if they don't explicitly name them. These include predictable authorization performance, globally interoperable acceptance, rich transaction data for reconciliation and dispute handling, and mature protections that influence behavior at the point of sale.

Consumers keep using cards because they're easy to use, widely accepted, and come with protections people understand. Credit adds a distinct value: the ability to buy now and pay later, often with rewards.

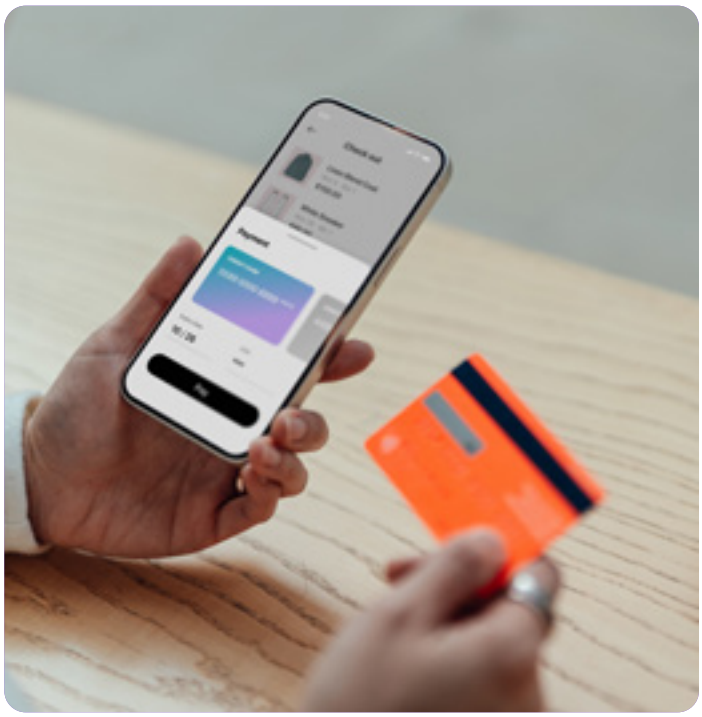
Merchants rely on cards because they're familiar, fast, and work across in-store and online channels. In many markets, they are also associated with higher average ticket sizes than cash, which directly affects revenue.

For financial institutions, cards are still one of the strongest daily connections to the customer. They provide account access, drive engagement, and offer a mature set of controls and protections that customers expect.

Dispute rights aren't a footnote; they're a structural differentiator. Card transactions embed established consumer protections that govern billing errors, fraud claims, and chargebacks, creating clear expectations for resolution when something goes wrong. These protections shape trust and conversion, particularly in remote, cross-border, and higher-risk purchase contexts where confidence matters as much as speed.

By contrast, many real-time payments are push transactions where "send" is often operationally final. Consumer protections in these systems are evolving, often through regulation rather than scheme-native chargeback constructs. The UK's Payment Systems Regulator introduced a reimbursement requirement for Faster Payments authorized push payment scams starting October 7, 2024, with a maximum reimbursement level of £85,000 (≈US$115,000) per claim, illustrating both the scale of scam risk and the regulatory response needed to protect consumers in push payment environments.[5] This doesn't diminish real-time payments, but it highlights a practical reality: Trust, protections, and dispute handling differ by rail, and those differences materially affect which instruments consumers and merchants choose at the point of sale.[6] The in-person experience has also improved significantly through widespread contactless technology.

Cards also endure because they continue to innovate inside the digital experience. Worldpay notes that cards remain a primary funding source for digital wallets across many markets and forecasts that cards will account for 56% of global consumer payments value in 2030, including direct card use and payments made through digital wallets.[7] When a consumer taps a phone, they may believe they are "using a wallet"; operationally, the credential and the authorization logic frequently remain card-based.



Why the future isn't single rail; it's the right rail

Global real-time payments have moved from experimentation to infrastructure. Transaction volumes reached 266.2 billion globally in 2023 and are forecast to more than double to 575.1 billion by 2028, according to ACI's Prime Time for Real-Time report.[2] This reflects widespread adoption across domestic payment systems, where real-time rails now support everyday consumer, merchant, and business transactions rather than isolated use cases.

Real-time payments deliver clear value where immediacy and certainty matter. They are often positioned as low-fee rails, but total cost depends on fraud losses, dispute and reimbursement rules, and operating controls, not only per-transaction fees. ACI's Prime Time for Real-Time report shows global transaction growth shifting from hypergrowth to sustainable high growth, with a forecast CAGR of 16.7% from 2023 to 2028.[2] Juniper Research's value forecast estimates instant payments at $60 trillion in 2025 with continued growth through 2029.[8]

Regional systems illustrate how this plays out in practice. In Brazil, SPI data indicates Pix, a national instant payments system operated by the Central Bank, is seeing rapid growth in merchant payments (P2B/P2M) alongside continued P2P usage, alongside continued P2P usage, with merchant usage rising quickly.[3] In India, reporting from the Ministry of France shows Unified Payments Interface (UPI), the country's national real-time A2A payments system, scaling rapidly in both value and volume, reinforcing its role as a mass-market utility for domestic transfers and merchant payments.[9] These systems are powerful and will continue to expand, but they operate with different consumer expectations around dispute rights and fraud recovery, which institutions must address explicitly in product design and risk operations.[5]

The practical conclusion is segmentation by use case. Real-time payments are exceptionally strong for P2P, bill payments, payouts, and many domestic account transfers. Cards remain highly resilient for global commerce, credit-based consumer purchasing, travel, and contexts where dispute rights and card network protections are integral to trust and conversion.[6]

This pattern is not limited to a few headline markets. Across parts of Southeast Asia and the Middle East, fast payment schemes are expanding merchant and bill payment use cases, reinforcing that most institutions are moving toward a multi-rail reality rather than a single winner.

Merchant economics and regulatory pressure

From fees to value

You can't talk about the future of cards without talking about costs. In the EU, the European Central Bank has cited that average net merchant service charges nearly doubled from 0.27% in 2018 to 0.44% in 2022 and notes this increase occurred despite regulatory efforts, with schemes raising non-regulated components such as scheme fees.[10] In the UK, the Competition Appeal Tribunal delivered a judgment in the Merchant Interchange Fee Umbrella Proceedings in June 2025.[11] In that judgment, the Tribunal discusses the anti-competitive effects of the default interchange fee rule, describing it as resulting in an anti-competitive effect in the context assessed and referring to rules found to infringe competition law.

Debit economics vary widely by market and regulation. In the EU, consumer interchange is capped at 0.2% for debit and 0.3% for credit, and in the US, covered issuers are subject to Regulation II caps.

In the US, interchange and routing economics remain a live political issue. In January 2026, Senators Durbin and Marshall reintroduced the Credit Card Competition Act, positioned as a measure to increase competition in the credit card network market, and the press release explicitly cites the scale of "swipe fees" as a household cost.[12]

For merchants, the pressure is immediate, so attention tends to stay on headline fees, even when performance is the bigger lever. Fees matter, but they're not the whole story. Modern card platforms can deliver measurable value per basis point of fee through higher approval rates, lower fraud, fewer false declines, and smoother dispute handling. These improvements translate into higher sales and better customer retention, which matter to merchants as much as acceptance fees.[4]

For financial institutions and merchants, the issue isn't that fees don't matter. It is that payment value increasingly depends on authorization performance, fraud control, dispute efficiency, and customer trust.

When AI agents buy, cards become programmable credentials

Making agent-initiated payments safe and accountable

Those same performance and control questions become even more important when software starts initiating purchases for customers. Agentic commerce is when software acts on a customer's behalf to shop and buy with limited human intervention. It only works at scale if delegated purchases come with hard limits, strong authentication, and credentials that can be tightly constrained.

Agentic commerce will require more than new credential formats. It will require financial institutions to authenticate delegated intent, constrain usage, monitor behavior across rails, and resolve disputes when automated purchases go wrong."

Major networks and technology platforms, including Visa,[13] Mastercard,[14] and Google,[15] [16] are introducing protocols and programs to make agent-initiated transactions verifiable and governable.

Key risks emerge around unauthorized use, unclear accountability, and liability when an agent goes beyond what was authorized. Google's AP2 frames this as a need for mandates, authenticity, and accountability in agent-initiated transactions.[15] Tokenized card credentials help because they can be limited by merchant, amount, time, or context. But they only work if the bank can see card and real-time activity together, so unusual patterns show up early.

The architectural conclusion

Why the future is grounded in a unified, multi-rail infrastructure

The future of cards is now an operating model question. Institutions need to run card and A2A payments side by side, without splitting risk, operations, and customer experience into separate silos. In practice, this means one set of decisions and one way to investigate issues across payment types, even when the rails behave differently.

Consider a simple scenario: customer makes a routine online purchase using a debit card stored in a wallet. Minutes later, the same customer sends a real-time A2A payment to a new recipient. If these payments sit in separate systems, they look unrelated. If they are seen together, the bank can let the low-risk purchase go through and pause the transfer for a quick check before the money moves. This reduces unnecessary declines and cuts losses that can't be recovered.

Banks don't have the luxury of running cards and real-time as separate businesses anymore. The gaps show up in fraud, disputes, and customer experience because decisions get made with partial context. The institutions that handle this well will have one view of the customer, consistent controls, and one way to investigate issues across payment types.

The requirement is straightforward: it's to build processing that can handle card and A2A payments, connect to multiple schemes and networks, apply consistent risk controls, and support new form factors, including tokenized credentials and agentic commerce. That infrastructure must also be precise about scope. Processing that powers issuing and acquiring is not the same as running an issuer's portfolio management, credit decisioning, or collections. Those remain core banking and issuer competencies, and the modern processing layer should integrate with them rather than replace them.

Built for what's next

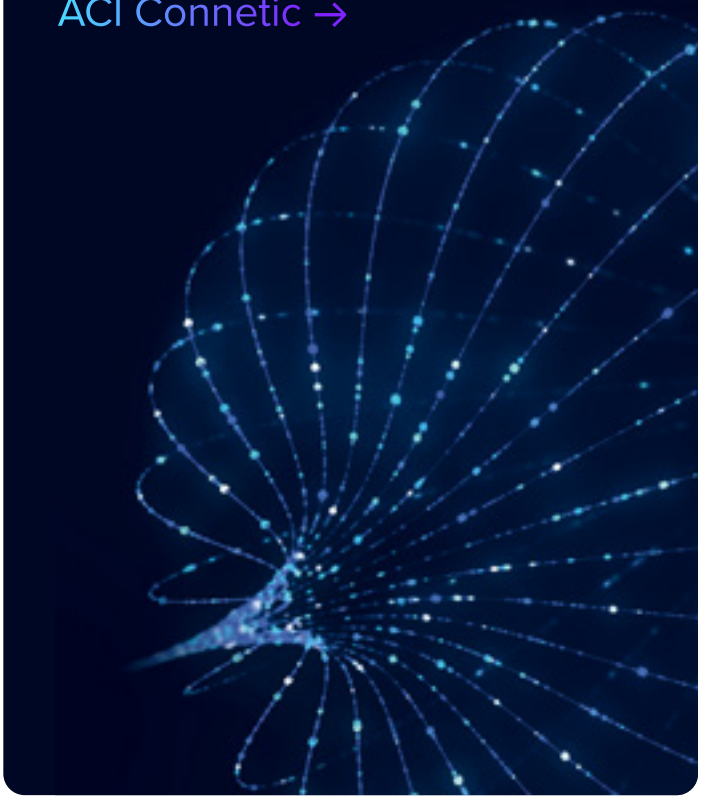
As the industry accelerates toward multi-rail operations, the next step is to understand how this model operates in practice.

How ACI can help

With ACI Connetic®, financial institutions manage cards and real-time A2A payments on one platform and strengthen fraud defenses, reducing complexity while improving control and delivering the consistency multi-rail models demand.

More information at:

ACI Connetic →



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