



## RESEARCH BRIEF

# Global Payment Innovations: A Research Brief for US Credit Unions

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This brief aims to deliver an in-depth report that compares leading payment innovations worldwide, analyzes the technological and regulatory drivers behind these advancements, and derives actionable lessons for US credit unions by examining models and regulatory environments from selected countries.

### OVERVIEW

The payments landscape is evolving rapidly worldwide, with countries like India, Brazil, Kenya, Sweden, and Indonesia driving initiatives in innovation, offering unique regulatory environments, consumer adoption models, and technological infrastructures.

**Understanding these diverse ecosystems can provide insights to US credit unions so they may adapt, partner with fintechs, and develop the services necessary to remain competitive in a dynamic digital era.**

This brief was developed using a combination of payment industry resources, including fintech and financial services journals, articles, and blogs, as well as key informant interviews with technology experts and credit unions from around the world.



Global payment systems are undergoing a profound transformation fueled by advances in technology, shifting consumer expectations, and public-private partnerships. From Brazil's lightning-fast Pix system to India's groundbreaking Unified Payments Interface (UPI), nations around the world are building more inclusive, real-time, and interoperable digital payment ecosystems. **These systems are not only reshaping domestic commerce but also enabling cross-border connectivity, expanding financial inclusion, and challenging traditional financial institutions to evolve their business models.**

The financial services landscape is being reshaped by this wave of payment innovations emerging from diverse global markets. Digital wallets, QR codes, instant payments, and open banking frameworks enable faster, cheaper, and more inclusive financial transactions. Nations such as India and Brazil have pioneered real-time payment systems that operate at massive scale, while countries like Sweden and Kenya are transitioning toward near-cashless or mobile-first financial ecosystems. These innovations have been driven by government policy, fintech agility, and consumer demand for seamless, secure transactions.

As digital payment systems scale rapidly, they also introduce new risks that demand proactive governance and investment. The rise of mobile wallets, real-time payments, and open banking has created more entry points for cyberattacks, fraud, and identity theft, often targeting the most vulnerable users. Sophisticated scams and social engineering tactics have surged, exploiting gaps in user awareness and platform safeguards. **Faster, less regulated payment channels can also be misused for illicit financial activity, such as money laundering or untraceable transfers.** At the same time, growing data collection, especially in systems lacking clear privacy protections, raises concerns about surveillance and misuse of personal financial behavior. In many emerging systems, consumer protections have not kept pace with innovation, leaving users with little recourse in cases of loss or fraud.

Credit unions in the United States have historically played a pivotal role in promoting financial inclusion and member-centric services. However, many now face competitive pressures from large banks and fintech startups offering instant, digital-first experiences. This brief provides a comparative analysis of global payment innovations, examining how different countries have modernized their payment infrastructures and what US credit unions can learn from these experiences. It synthesizes insights into a comparative framework and offers strategic recommendations to help US credit unions

strengthen their relevance and member value in a digital age. Likewise, **US credit unions that embrace innovation must also integrate robust risk-mitigation strategies that protect members' assets, data, and trust.**

The research highlights key success factors behind global payment transformations, including strong regulatory frameworks, collaborative ecosystems, and scalable technology infrastructure. This brief presents nine country case studies selected for their innovations, the breadth of coverage, and geographic representation. Several countries have very small or non-existent cooperative finance sectors, but they provide valuable ecosystem examples. Ultimately, the global payments story is one of transformation with equity at its center. **This is an opportunity for US credit unions to lead with their cooperative values while embracing technology that empowers members, reduces costs, and future-proofs their business models.**

**COUNTRY  
DEEP DIVES  
ON DIGITAL  
PAYMENT  
INNOVATION**

The United States remains the world's largest payments market by revenue, with a 2025 market size estimated at approximately USD \$23.24 billion<sup>1</sup>, and a key driver of global fintech innovation. Its payment ecosystem is shaped by strong card network infrastructure, deep venture capital investment, growing consumer demand for real-time services, and a dynamic competitive environment. Recent developments such as FedNow and The Clearing House's RTP network reflect ongoing modernization efforts. However, fragmentation, legacy systems, and uneven access, particularly among credit unions, pose ongoing challenges.

Credit unions face both constraints and unique opportunities within this evolving landscape. While many are beginning to pilot real-time payments, others are leveraging transaction data and member insights to guide innovation. Grounded in values of trust, transparency, and community engagement, credit unions are well-positioned to lead ethical digital transformation that prioritizes inclusion, member control, and financial resilience.

Looking beyond US borders offers valuable perspectives. These country deep dives highlight diverse innovation pathways across various stages of digital maturity, regulatory frameworks, and institutional models, offering actionable lessons relevant to credit unions striving to adapt and thrive. **Global experiences highlight different pathways toward digital payment innovation.**

The United Kingdom, Sweden, and China are mature ecosystems that illustrate how payments can be seamlessly embedded into everyday digital life. The UK features robust open banking frameworks, consumer protection measures, and fintech-bank collaboration built on instant payment rails like Faster Payments. Sweden offers insights from its near-cashless society, supported by evolving public infrastructure and pilots like the Riksbank's e-krona. China represents a deeply integrated digital ecosystem where platforms such as WeChat Pay, Alipay, and the e-CNY have transformed everyday transactions through a combination of mobile innovation and strong state coordination.

Looking beyond US borders offers valuable perspectives. These country deep dives highlight diverse innovation pathways across various stages of digital maturity, regulatory frameworks, and institutional models, offering actionable lessons relevant to credit unions striving to adapt and thrive. Global experiences highlight different pathways toward digital payment innovation.

Brazil, Indonesia, and Ireland demonstrate interoperable and inclusive infrastructure. Brazil's Pix has rapidly scaled as a government-led platform offering free, instant transfers accessible to diverse socioeconomic groups. Indonesia highlights mobile-first solutions and proactive central bank efforts to build interoperable systems across a vast, diverse archipelago. Ireland demonstrates collaborative modernization, with credit unions adopting federated platforms, SEPA Instant payments, and regulatory support for digital ID integration.

Finally, India, Kenya, and Costa Rica exemplify access and financial inclusion. India has built one of the world's most advanced digital payment infrastructures, with UPI achieving scale and inclusion through digital public goods, real-time interoperability, and strong regulatory support. Kenya pioneered mobile money with M-PESA, showing how mobile-led innovation can drive financial inclusion in underbanked rural populations. Costa Rica demonstrates low-cost, state-led mobile transfers like SINPE Móvil, which expands convenience and reach to underserved communities.

**These case studies show how diverse ecosystems address challenges of interoperability, trust, digital literacy, and equitable access. For US credit unions, they provide strategic insights on how to modernize payments in ways that remain inclusive, ethical, and resilient.**

FIGURE 1: GLOBAL PAYMENT CASE STUDIES



#### EMBEDDING PAYMENTS INTO EVERYDAY DIGITAL LIFE

The United Kingdom, Sweden, and China demonstrate how integrating payments seamlessly into daily digital routines drives sustained adoption and engagement. Whether through China's super apps WeChat Pay and Alipay, Sweden's bank-backed Swish, or the UK's dynamic Open Banking and challenger bank ecosystem, these models emphasize convenience, trust, and real-world integration. **For US credit unions, the key takeaway is to prioritize user experience, adopt mobile-first strategies, and align payment services with member needs, while safeguarding inclusion and data privacy as they engage with evolving infrastructures like FedNow.**



## The United Kingdom (UK)

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The United Kingdom stands at the forefront of digital financial innovation, driven by a supportive regulatory environment, strong financial sector expertise, and a dynamic fintech ecosystem. Key advances include Open Banking regulations, the Faster Payments Service for near-instant money transfers, and the rapid growth of digital-first challengers such as Monzo, Revolut, Starling, and Wise. These firms deliver integrated financial services, mobile-first user experiences, and global payment capabilities. Monzo now serves over 12 million customers<sup>2</sup> with offerings spanning lending, insurance, and pensions, while Wise processes over £145 billion in international transfers annually<sup>3</sup>.

A major driver of this transformation has been the UK's forward-thinking regulatory stance. The Financial Conduct Authority (FCA) supports innovation through initiatives such as the regulatory sandbox, while London's status as a global financial hub and the government's fintech strategy foster collaboration among banks, fintechs, and policymakers. The Faster Payments Service, one of the world's most widely used real-time payment systems, processed 5.09 billion transactions in 2024<sup>4</sup>, making near-instant transfers the norm for UK consumers and businesses. These shifts are redefining financial services, setting new standards for speed, transparency, and user control. **The UK's experience demonstrates that fintechs operate not just as disruptors, but as essential partners in the financial ecosystem.**





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The UK mitigates key digital payment risks through a robust combination of regulatory oversight, technological safeguards, and consumer protections. Strong Customer Authentication (SCA), real-time fraud monitoring, and industry information-sharing help reduce cybersecurity and fraud threats. Rigorous AML and KYC regulations curb illicit finance, while UK GDPR enforces strict privacy and data protection standards.

Consumer rights are safeguarded by transparent fee and refund policies alongside accessible dispute resolution. Additionally, operational resilience frameworks ensure payment systems maintain critical functions during disruptions. These coordinated measures create a secure, innovative, and consumer-centric payments ecosystem.

**UK credit unions are gradually digitizing while preserving member-centric values.** Many now use online loan applications, automated underwriting, and messaging portals to boost efficiency. Partnerships with fintechs like INCUTO provide low-cost digital platforms, while programs such as the Future Finance Accelerator link credit unions with innovation resources. Open Banking tools are improving credit decisions and expanding digital reach, while some institutions pilot AI and blockchain for risk management and operations—reflecting broader adoption trends, with 75% of UK financial firms now using AI according to the Bank of England.

**The UK demonstrates how credit unions can modernize while maintaining member-centric values.**

KEY LESSONS FROM THE UNITED KINGDOM	
	<b>Leverage shared infrastructure.</b> Collaborative platforms can cut onboarding, underwriting, and IT costs while enhancing service quality.
	<b>Adopt digital tools gradually.</b> Incremental upgrades, combined with hybrid in-person and online options, ensure accessibility for all member segments.
	<b>Engage in ecosystem partnerships.</b> Active collaboration with fintechs, regulators, and accelerators helps credit unions shape the future payments landscape.
	<b>Anticipate shifting consumer habits.</b> With most UK consumers already comfortable going cashless, US credit unions must prepare for a mobile-first, wallet-free future.



## Sweden

Sweden is a global leader in digital payments, with a near-cashless economy driven by the Swish mobile payment system. Launched in 2012 as a collaboration among major banks and the Riksbank, Swish enables instant person-to-person and person-to-business payments using mobile phone numbers. In 2024, Swish facilitated over 1 billion payments, underscoring its widespread adoption. **Today, most Swedes use Swish regularly, and fewer than 1% of retail transactions involve physical cash.** This evolution has streamlined payments and reshaped expectations for convenience, speed, and transparency.

Several factors have supported Sweden's success. High levels of institutional trust, widespread broadband access, and digital literacy have enabled rapid adoption, while the country's relatively small, homogeneous population facilitated testing and scaling. **A strong culture of public-private collaboration between regulators, banks, and technology providers has further ensured security, usability, and compliance.**

The impacts of this transformation are evident across sectors, with merchants, government services, and even religious organizations increasingly operating without cash. At the same time, cybersecurity risks and the potential for system disruptions have prompted authorities to emphasize the continued availability of physical cash. The Riksbank, in coordination with the Defense Ministry, has highlighted the importance of cash reserves and distribution infrastructure to maintain resilience during outages or attacks.

**Sweden demonstrates how collaborative infrastructure and regulatory alignment can rapidly scale digital payments, while also showing the need for redundancy.**

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## KEY LESSONS FROM SWEDEN



**Leverage collaborative platforms.** Peer and association-based initiatives can help credit unions modernize efficiently.



**Adopt digital tools broadly but thoughtfully.** Embedding mobile and online payments improves convenience while maintaining inclusivity.



**Maintain alternative payment options.** Ensuring functional cash or offline mechanisms protects vulnerable and rural members.



**Balance efficiency with resilience.** Planning for system failures or cyber risks preserves trust and service continuity.

## China

China's digital payments ecosystem is one of the most advanced globally, driven by platforms such as WeChat Pay, Alipay, and the Digital Yuan (e-CNY), the Chinese central bank's digital currency. These innovations go beyond basic transactions, allowing users to pay bills, hail rides, book medical appointments, and send peer-to-peer transfers within a single environment. **Mobile payments now account for over 73% of all transactions in China<sup>5</sup>**, creating a frictionless experience deeply integrated into social and commercial routines.

Several factors have enabled this leap. Dominant technology firms like Tencent and Alibaba provide platforms that span messaging, e-commerce, entertainment, and investment, bypassing legacy card systems for mobile-native solutions. The Chinese government has supported this transformation with strategic guidance and oversight, particularly through e-CNY as a sovereign, programmable alternative to private wallets. High smartphone penetration, dense urban populations, and a willingness to experiment with new technology have further accelerated adoption and network effects.

The impact is a nearly cashless economy in urban centers, with **payments serving as gateways to broader services, including insurance, credit scoring, and micro-investments.** The e-CNY adds a secure, government-backed digital cash option that can operate offline and be distributed directly by the central bank to support policy goals such as financial inclusion and stimulus distribution.

**China illustrates how deeply embedding financial services into members' daily lives can increase engagement and convenience.**

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#### KEY LESSONS FROM CHINA



##### **Develop integrated, mobile-native solutions.**

Shared digital wallets and apps can provide seamless payments alongside additional services like insurance or credit.



##### **Leverage collaboration and scale.**

Partnering through CUSOs or cooperative networks helps credit unions deliver functionality comparable to larger platforms.



##### **Pilot safely within regulatory frameworks.**

Using sandboxes or innovation programs allows experimentation with new technologies while maintaining compliance and member trust.



##### **Focus on user experience and convenience.**

Embedding financial services into daily routines strengthens engagement without compromising cooperative values.

Brazil, Indonesia, and Ireland have tackled fragmentation by creating interoperable, federated digital infrastructures that enable seamless, low-cost real-time transactions across institutions, large and small. Platforms like Brazil's Pix, Indonesia's BI-FAST, and Ireland's SEPA Instant empower cooperatives and fintechs alike to compete and collaborate. These examples highlight the shared digital ecosystem power, regulatory leadership, and public-private partnerships to enhance inclusion and efficiency. **US credit unions can apply these lessons by collaborating through CUSOs, advocating for FedNow access, and investing in shared fintech infrastructure.**

### Brazil

Brazil has become a global leader in digital payments through a coordinated, innovation-driven strategy led by the Central Bank of Brazil. At its core is Pix, a free, 24/7 real-time payment system launched in 2020 that enables instant transfers via phone numbers, QR codes, or email addresses. Mass adoption followed quickly, including by informal merchants and low-income users—thanks to its ease of use, zero-cost model for individuals, and mandated interoperability across banks and fintechs.

Pix's success reflects the Central Bank of Brazil's modernization agenda. The Bank designed and launched Pix while also requiring participation from large institutions, ensuring near-universal access.

A nationwide awareness campaign built trust, rapidly and comprehensively shifting the country's payments landscape. Pix is also part of a broader innovation ecosystem that includes Open Banking, which enables data-sharing across providers, and a pilot central bank digital currency (CBDC) to reach offline and underserved populations.


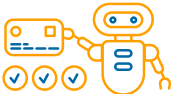



Cooperatives like Sicredi, one of Brazil's largest, played a key role in expanding Pix. **By redesigning systems, educating consumers, and aligning with regulation, Sicredi cut costs, increased digital usage, and broadened financial inclusion.** Its dual innovation strategy combines an internal team testing new tools (installment Pix, tokenized payments, Open Finance) with AI and automation that strengthen fraud detection, onboarding, and operations, balancing continuous innovation with risk management.

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Brazil's Pix system shows how real-time payments can achieve near-universal adoption when driven by strong regulation, cooperative participation, and a focus on trust and inclusion.

Since its launch, Pix has brought more than 17 million Brazilians into the financial system.<sup>6</sup> According the Central Bank of Brazil, **76.4% of the country's 211 million population now use Pix**, followed by debit cards at 69.1% and cash at 68.9%.<sup>7</sup> Multiple factors fueled Pix's success: a large unbanked population, intuitive mobile interfaces, and close collaboration among regulators, banks, fintechs, and cooperatives. Trust and safeguards were equally critical. Security features such as ID verification, biometric authentication, fraud alerts, and refund mechanisms reassured users, while a national data protection law and public education campaigns further built confidence. As a result, Pix is now embedded in daily life, from paying rent to shopping to ride-hailing, making digital payments familiar and trusted.

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KEY LESSONS FROM BRAZIL	
	<b>Ensure that systems like FedNow provide broad, low-cost participation</b> , particularly for smaller institutions and underserved communities.
	<b>Embed instant payments</b> in everyday use cases to boost adoption and relevance.
	<b>Pair real-time payments with robust safeguards</b> , fraud alerts, biometric authentication, refund mechanisms—and reinforce confidence through education.
	<b>Combine relationship-based service with digital innovation</b> to expand reach without losing identity.
	<b>Establish internal innovation teams or CUSO partnerships</b> to test, pilot, and scale new payment tools without disrupting core operations.

## Indonesia

**Indonesia's payment innovations have centered on interoperability and digital inclusion.** Key developments include QRIS, a unified QR code system that streamlines merchant payments across platforms, and BI-FAST, a real-time retail payment system launched by Bank Indonesia to facilitate low-cost, 24/7 transfers. Super apps like GoPay and OVO integrate payments into everyday digital experiences, while credit union federations such as PUSKOPCUINA extend services to underserved communities through centralized infrastructure and mobile wallets. Together, these innovations reflect a shift toward a more inclusive and efficient payment ecosystem.






Modernization is guided by Bank Indonesia's Payment System Blueprint 2025. Initiatives include expansion of BI-FAST (ISO 20022-compliant), modernization of BI-RTGS for large-value multi-currency settlement, and new tools such as Payment ID and BI Payment Info to improve traceability and oversight. Payment Service Providers (PSPs) are now classified into "primary" and "non-primary" tiers to streamline governance, and interoperability standards reduce market fragmentation. Cross-border QR payment links with Thailand, Singapore, and the UAE highlight Indonesia's regional integration efforts.

To ensure safe and inclusive expansion, QRIS incorporates strong consumer protections: KYC requirements, end-to-end encryption, multi-factor authentication, AML rules capping transaction and wallet amounts, machine learning-based fraud monitoring, and education for merchants and users. **The 2022 Personal Data Protection Law and regulatory sandboxes further enhance oversight, dispute resolution, and trust.**

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These reforms have produced a resilient, interoperable payments network with strong QR and NFC adoption, improved oversight, and expanding cross-border capabilities. **As of 2024, digital payment users in Indonesia are estimated at 144 million, with projected growth of 15% in 2025.<sup>8</sup>** Credit union associations like PUSKOPCUINA are advancing digital inclusion by connecting 45 institutions through real-time payments, mobile wallets, and secure apps. Its ESCETE platform, a cloud-based core banking system, mobile banking, and e-commerce solution, received the 2024 Digital Growth Award from WOCCU.

**Indonesia demonstrates how an interoperable, inclusive payment ecosystem can be built through coordinated infrastructure, tiered provider models, and strong consumer protections.**

KEY LESSONS FROM INDONESIA	
	<b>Provide real-time member-facing services systems</b> like FedNow and RTP® to, especially via CUSOs or fintech partnerships.
	<b>Embed payments in community-specific needs</b> , such as farmers' market QR payments or gig worker wage disbursement, to increase adoption.
	<b>Implement robust security and risk management</b> , including fraud detection, encryption, dispute resolution, and member education.
	<b>Connect multiple institutions via centralized infrastructure</b> and shared digital platforms by following the PUSKOPCUINA model.
	<b>Participate early in cross-border payments or CBDC pilots</b> to anticipate new service opportunities and experiment collaboratively through innovation hubs.



## Ireland

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In recent years, Ireland has pursued comprehensive payment ecosystem modernization through the Retail Payments Strategy 2022–2025, which **emphasizes reducing cash reliance, expanding digital options, and promoting financial transparency.** Central to this transformation is the adoption of the Single Euro Payments Area<sup>9</sup> (SEPA) Instant Credit Transfer (SCT Inst) scheme, which enables real-time euro payments and enhances interoperability across the EU and some non-European countries. These efforts are underpinned by broader EU regulatory frameworks such as SEPA and the Second Payment Services Directive (PSD2), which foster competition, open banking, and secure data sharing.

Ireland has cultivated a fintech-friendly environment that encourages innovation and experimentation, allowing both digital-first banks (e.g., Revolut, N26) and credit union associations such as Payac<sup>10</sup> to modernize service delivery. Through this coordinated approach, **combining regulation, infrastructure investment, and market readiness, Ireland has positioned itself as a leader in inclusive, interoperable digital payments.**

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According to the Banking & Payments Federation Ireland (BPFi) Payments Monitor (March 2025), **contactless payments accounted for 87.1% of all point-of-sale card transactions in 2024, highlighting customer preference for speed and convenience.** Digital banks and fintechs attract younger consumers with intuitive mobile apps and transparent fees, prompting traditional banks and credit unions to offer instant euro transfers and integrate Open Banking APIs to streamline onboarding and payment services.

**Smaller credit unions, serving local communities but lacking full-scale digital resources, have responded by forming strategic partnerships and adopting shared platforms.**



Payac’s initiative to onboard credit unions to the pan-European instant payment system improves efficiency, access to core banking upgrades, fraud detection, and real-time payments, while preserving local identity and cooperative ethos.

**Ireland illustrates how smaller credit unions can modernize and integrate real-time payments through federated platforms and strategic partnerships, while preserving their cooperative identity.**

KEY LESSONS FROM IRELAND	
	<b>Use CUSOs or shared networks</b> to implement real-time payments efficiently without large-scale internal infrastructure.
	<b>Balance digital transformation</b> with member control and local community mission.
	<b>Participate in open banking and digital ID initiatives</b> to influence innovation and interoperability.
	<b>Meet rising consumer demand</b> for convenient, secure, and mobile-friendly payment experiences.
	<b>Integrate shared platforms with tools for real-time fraud detection and compliance</b> to safeguard members and build trust.

In many countries, digital payment innovations have been driven by the need to reach financially excluded populations, particularly those in rural areas or the informal economy. **According to the FDIC, 4.2% of US households are unbanked and 14.2% are underbanked, equating to approximately 24.6 million households.**<sup>11</sup>

Countries like India, Kenya, and Costa Rica have focused on reaching financially excluded populations, especially in rural areas and the informal economy. These markets prioritize mobile-first designs, simple onboarding via phone numbers or national IDs, and agent networks that bring financial services to those with limited digital infrastructure. Innovations such as India's UPI, Kenya's M-PESA, and Costa Rica's SINPE Móvil exemplify how low-barrier, interoperable tools can rapidly expand financial inclusion. **US credit unions can learn from these models by investing in accessible payment tools, local partnerships, and real-time rails designed for underserved communities.**

## India

India's Unified Payments Interface (UPI) is a government-led, real-time payment system launched in 2016 and spearheaded by the National Payments Corporation of India (NPCI). Built on digital public infrastructure—Aadhaar (identity), Jan Dhan (bank accounts), and UPI itself—it has rapidly become the backbone of the country's financial ecosystem. **By 2024, UPI was processing over 18 billion transactions per month<sup>12</sup>, accounting for nearly 75% of India's digital payments (IMF, 2024). Its speed of adoption and zero-fee, interoperable design have made it a global model**, with countries such as Brazil (Pix) and Indonesia (BI-FAST) adapting elements of the framework.

UPI's success stems from a coordinated approach to digital financial inclusion. **By treating payment rails as public digital goods and adopting open standards, India enabled broad participation, including small cooperative and regional banks.** Regulatory sandboxes, open APIs, and

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strong government backing fostered a vibrant fintech ecosystem. UPI also capitalized on a smartphone boom and broad QR-code adoption, with more than 45 million merchants accepting UPI payments (NPCI, 2024)—making it easy for consumers and businesses to join the network.

The system has transformed India’s payment landscape. UPI transaction volume has grown at roughly 40% year-over-year, surpassing card payments and closed-loop wallets (IMF, 2024). Over 1,200 cooperative banks are now UPI-enabled<sup>13</sup>, expanding reach into rural areas. The zero-fee, real-time model has promoted inclusion, with small merchants and micro-enterprises benefiting from low-cost digital acceptance. Importantly, UPI demonstrates how aligned public infrastructure, regulatory support, and private innovation can achieve both scale and equity.

UPI underscores the potential of open, interoperable platforms to transform payments. Most importantly, India shows how ecosystem alignment, across banks, regulators, and fintechs, can accelerate innovation in ways that balance efficiency with financial inclusion. **US credit unions may not control national systems, but they can build regional or sector-based collaborations that promote inclusive innovation and expand access to affordable, real-time services for underserved members.**

#### KEY LESSONS FROM INDIA

While the United States lacks a centralized system, credit unions can:



**Advocate for and adopt real-time rails** like FedNow and RTP®.



**Use API-driven collaboration with fintechs and CUSOs** to reduce onboarding friction and integrate new services.



**Explore shared digital ID tools and tiered KYC models** to expand access securely.



**Consider cost-sharing mechanisms to deliver low- or zero-fee transfers**, drawing on cooperative principles to replicate UPI’s inclusivity without government subsidy.

## Kenya

Kenya's mobile money revolution began with Safaricom's launch of M-PESA in 2007, enabling deposits, transfers, and loan repayments through mobile phones. Operating in a regulatory grey area, it benefited from the Central Bank of Kenya's "test-and-learn" approach. **Mobile network operators—not banks—led the rollout, leveraging wide distribution networks to extend financial access, especially in rural areas where over 70% of Kenyans live.**

Building on M-PESA's success, Savings and Credit Cooperatives (SACCOs) have developed advanced digital ecosystems. Fintech platforms like Kwara now power nearly 200 SACCOs with digital wallets, mobile lending, core banking, USSD (Unstructured Supplementary Service Data) apps, and automation—all while preserving cooperative values. **Fintech partnerships have helped SACCOs integrate mobile wallets, APIs, and cloud-based services, often**

**through external developers, allowing even small institutions to adopt advanced digital tools without internal IT teams.** These collaborations have delivered widely accepted solutions and improved service delivery. For example, Unaitas SACCO launched an omnichannel app integrated with PesaLink, Kenya's interbank payment solution, enabling seamless payments across institutions. Similarly, TIMES U SACCO uses M-PESA, paybills, and USSD codes, and to further expand access, plans to join a shared SACCO payment platform.

Regulation has evolved from cautious oversight to active promotion of interoperability, consumer protection, and fintech experimentation. SACCOs highlight how new data privacy and security standards have driven continued tech development, demonstrating regulators' role in encouraging safe innovation.

The impacts have been significant. M-PESA alone processes transactions equivalent to over half of Kenya's GDP. Financial inclusion has surged: **FinAccess (2024) finds mobile money “narrowed the rural–urban divide,” with 77% of rural vs 89.7% of urban adults using mobile money.**<sup>14</sup> At the institutional level, Stima SACCO transacts more than KES 1.5 billion (USD \$11.5 million) annually via PesaLink, and its innovation hub fosters continuous improvement through member-led ideas and cross-team competition.

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To remain competitive, SACCOs have embraced low-bandwidth tools like USSD and agent networks, along with mobile integrations that enable real-time payments and internet banking. They also offer adjacent services—such as health insurance, school fees, and agricultural finance—tailored to local needs. These innovations strengthen resilience, speed up remittances, and shorten credit cycles in underserved areas. While Kenya still lacks a fully cohesive policy framework, SACCOs have built locally relevant, resilient models that reach even users without smartphones or stable internet, supporting inclusion across informal and gig economies.

**The Kenyan case demonstrates that innovation and inclusion can go hand in hand—highlighting key takeaways for US credit unions.**

KEY LESSONS FROM KENYA	
	<b>Advocate for regulatory sandboxes and pilot programs</b> that enable credit unions to develop and test affordable, inclusive payment solutions for members underserved by traditional banking, similar to initiatives like FedNow, RTP®, and Zelle®.
	<b>Partner with nonprofits, tribal entities, or public agencies to reach remote communities.</b> Tools could include mobile units, pop-up branches, and hands-on support for setting up digital wallets or instant payment tools.
	<b>Collaborate with fintechs, CUSOs, or vendors to adopt APIs, cloud infrastructure, and payment solutions</b> —reducing the need for large internal IT teams.
	<b>Integrate services into everyday needs</b> (school fees, healthcare bills, emergency loans) to boost member engagement and relevance.
	<b>Use feedback and transaction data</b> to ensure innovations are inclusive, trusted, and responsive to members' real financial challenges.



## Costa Rica

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Costa Rica has made significant strides in digital payments through a coordinated, state-led approach. At the center is SINPE Móvil, a mobile payment service operated by the Central Bank of Costa Rica (BCCR), enabling real-time, low-cost person-to-person and person-to-merchant transfers using only a phone number. This service builds on the broader SINPE infrastructure, which supports interbank and real-time payments across financial institutions. To expand access, the Central Bank introduced QR-code payments for retail and informal merchants, while commercial banks and cooperatives have integrated digital wallet functionality into mobile apps and public service portals.

**The country's progress has been fueled by strong regulatory leadership, high mobile and internet penetration, and deliberate efforts to digitize the informal economy.** The BCCR positioned SINPE Móvil not merely as a technical tool but as a public good, complemented by financial education campaigns and digital ID infrastructure to foster trust and adoption.






Importantly, Costa Rica's cooperatives—many of them credit unions—have played a central role. All regulated cooperatives are mandated by the BCCR to participate in SINPE and SINPE Móvil, ensuring full interoperability with banks and fintechs. According to the Alliance for Financial Inclusion, institutions such as Coocique and CoopeAnde No. 1 offer direct SINPE Móvil integration in their apps and web portals, allowing members to send and receive real-time payments and even access SINPE via USSD for those without smartphones.<sup>15</sup> Some cooperatives have also trained rural members and merchants on QR-code acceptance, supporting financial inclusion in less-connected areas.

**The country's progress has been fueled by strong regulatory leadership, high mobile and internet penetration, and deliberate efforts to digitize the informal economy.**

**Costa Rica's experience demonstrates how a central bank-led, interoperable payments system can extend digital financial access across socioeconomic groups, even without smartphone apps.** The inclusive design of SINPE Móvil, paired with cooperative integration and mobile-friendly channels, ensures usability for older, lower-income, or digitally hesitant users. By late 2024, 76% of Costa Ricans aged 15 and older

were active SINPE Móvil users, using it for utility bills, social transfers, school fees, and payments to informal vendors. By promoting SINPE as public infrastructure, the BCCR has created a level playing field among banks, cooperatives, and fintechs, stimulating innovation and competition.

**Costa Rica’s SINPE Móvil illustrates how real-time payments can drive inclusion when designed for everyday needs and supported by cooperative values.**

KEY LESSONS FROM COSTA RICA	
	<p><b>Work through leagues and CUSOs to ensure broad participation</b> in FedNow and promote simple, low-friction payment tools such as P2P interfaces or mobile-friendly platforms that do not require app downloads.</p>
	<p><b>Identify community-specific needs</b>—school payments, local vendor sales, informal wages—where real-time payments deliver immediate, tangible benefits.</p>
	<p><b>Pair new payment tools with financial education and targeted support</b>, particularly for rural, older, or digitally cautious members.</p>
	<p><b>Form public-private partnerships</b> to create cooperative digital infrastructure (e.g., CUSO-backed wallets, shared KYC tools).</p>
	<p><b>Work with regulators and local governments to expand digital access</b> in underserved areas, positioning real-time payments as a public good aligned with the credit union mission.</p>



## CONCLUSION

The global payments revolution shows that **innovation and cooperative principles are not only compatible but mutually reinforcing**. Across diverse markets—from India’s Digital Public Infrastructure enabling small institutions to Brazil’s Pix system driving rapid financial inclusion and Ireland’s credit unions modernizing via federated platforms—successful transformations prioritize accessibility, interoperability, and user-centric design, all core to credit union missions.

Evidence from multiple countries demonstrates that financial cooperatives can lead digital transformation. Indonesian credit union federations, Irish credit unions, and Kenyan SACCOs show how shared infrastructure, mobile-first solutions, and collaborative strategies expand access while strengthening cooperative values.

For US credit unions, this global experience signals both urgency and a clear path forward. **Incremental upgrades alone will not suffice; credit unions can modernize at speed when they have the right infrastructure, partnerships, and supportive policies.**

### KEY STEPS FOR CREDIT UNIONS

- **Advocate for policy and infrastructure** that safeguards members while enabling innovation.
- **Build shared platforms through CUSOs** to achieve scale and cost efficiency.
- **Pair technology with education and inclusion strategies** to ensure adoption across all member segments.
- **Embed payments into members’ daily routines** to enhance engagement and loyalty.
- **Lead with security, resilience, and a cooperative identity** that distinguishes credit unions from other providers.

To learn more about the future of payments, read [\*SIMPLE Payments: Six Consumer Payment Trends Credit Unions Must Embrace\*](#), which highlights six important trends reshaping how members pay and interact with money.

[FILENE.ORG/650](https://www.file.org/650)

**By taking these steps, US credit unions can not only participate in the evolving payments ecosystem but help shape it to reflect their mission: accessible, affordable, and community-driven financial services for all.**

## COMPARATIVE FRAMEWORK

Country	Key Innovations	Drivers	Impacts on FIs	Lessons for US CUs
<b>UK</b>	Open Banking, Faster Payments, challenger banks (Monzo, Revolut)	Regulatory sandbox, FCA innovation support, fintech-bank collaboration	6M+ Open Banking users; CUs partner with platforms like INCUTO	Incremental digitalization with hybrid models; engage proactively with regulators and fintechs
<b>Sweden</b>	Swish mobile payments, near-cashless economy	High institutional trust, digital literacy, public-private collaboration	<1% cash transactions; but renewed focus on physical backup systems	Collaborate on modern payment systems while maintaining redundancy for vulnerable members
<b>China</b>	WeChat Pay, Alipay super apps, Digital Yuan (e-CNY)	Tech giant platforms, government oversight, mobile-native solutions	66% of transactions mobile; payments embedded in daily life	Embed financial services in members' digital lives; leverage CUSOs for shared wallet ecosystems
<b>Brazil</b>	Pix (free 24/7 payments), Open Banking, Digital Real CBDC pilot	Central bank mandate, inclusion focus, consumer education campaigns	120M users (70% of adults) within 18 months; transformed small business cash flow	Establish innovation teams; invest in user-centered design and financial literacy; leverage FedNow for instant, low-cost transfers
<b>Indonesia</b>	QRIS unified QR codes, BI-FAST real-time system, cooperative federations	Payment System Blueprint 2025, MSME inclusion, tiered service models	PUSKOPCUINA connects 45 CUs through shared digital infrastructure	Adopt tiered CUSO models; engage in innovation hubs; pursue cross-border payment readiness
<b>Ireland</b>	SEPA Instant payments, contactless dominance, federated CU platforms	EU regulatory frameworks and service standards, fintech-friendly environment	87% contactless POS transactions; CUs use shared platforms	Form strategic technology partnerships; adopt shared platforms while maintaining local autonomy
<b>India</b>	UPI, Aadhaar stack, Digital Public Infrastructure	Government DPI leadership, regulatory sandboxes, tech talent pool	Banks and MFIs partner with fintechs; 18B+ monthly transactions, 75% of digital payments	Build shared API-based infrastructure with fintechs; participate in FedNow; create cooperative KYC platforms
<b>Kenya</b>	M-PESA mobile money, SACCO digital platforms, USSD services	Test-and-learn regulation, mobile-first innovation, agent networks	SACCOs digitize with low-bandwidth tools; expand beyond savings to health insurance, agriculture	Advocate for regulatory sandboxes; partner with community organizations; embed payments in everyday needs
<b>Costa Rica</b>	SINPE Móvil (phone number payments), QR codes, interoperable infrastructure	Central bank commitment, high mobile penetration, formalization drive	76% adoption rate; digital payments become norm for small merchants	Advocate for equitable FedNow access; create simple P2P tools; form public-private partnerships for digital infrastructure

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