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GFTN

Strengthening Southeast Asia's Real-time Payments: Security, Trust and New Pathways to Financial Access

Nov 2025

About

The Global Finance & Technology Network (GFTN) is a Singapore-headquartered organisation that leverages technology and innovation to create more efficient, resilient, and inclusive financial systems through global collaboration. GFTN hosts a worldwide network of forums (including its flagship event, the Singapore FinTech Festival); advises governments and companies on policies and the development of digital ecosystems and innovation within the financial sector; offers digital infrastructure solutions; and plans to invest in financial technology startups through its upcoming venture fund, with a focus on inclusion and sustainability.

For more information, visit www.gftn.co

Nextrade Group founded in 2013 helps governments, donor organizations, multilateral development banks, and leading technology companies enable trade and development through technology. Our clients hire us to ideate, architect, and build policy-relevant data, analytics, and business solutions to accelerate the use of technologies in the global trade ecosystem, and develop policy ideas to promote digital commerce. Working on every continent, Nextrade has also created and built seven global public-private partnerships with leading companies, international institutions, and governments, aimed to further the use of technologies and standards to facilitate trade and ecommerce.

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The Visa Economic Empowerment Institute (VEEI) is a research and convening platform shaping the future of payments. VEEI produces unique, data-driven insights at the intersection of financial technology and public policy, engaging with global stakeholders to address key issues in the payments ecosystem. Its mission is to advance understanding and shape effective policy by serving as a leading source of research, dialogue, and strategic perspectives on the evolving digital economy.

For more information, visit: https://corporate.visa.com/en/sites/visa-economic-empowerment-institute.html

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1 Foreword by Visa Economic Empowerment Institute

Over the past half-century, countless payment systems have been launched, yet only a small fraction have endured—and the longest-lived are those that consistently meet the needs of end-users. Among these needs, security stands out as the most difficult to satisfy, a truth that has held in every era, from the rollout of bankcard networks in the 1960s, to the rise of online payment platforms in the 1990s, to today's instant and mobile payment platforms. The most successful payment systems over the long-run are also the most secure, because trust is the foundation on which adoption and sustained use are built.

The Visa Economic Empowerment Institute was established to advance the empirical study of payments innovation worldwide, and understanding end-user needs is a theme we return to across innovation cycles and geographic regions. Southeast Asia is a pivotal region in which to study this phenomenon because ASEAN countries have undergone one of the fastest digital transformations in commerce and payments anywhere in the world over the past several years. Driven by rapid smartphone adoption, expanding internet connectivity, and a surge in e-commerce activity, the region has become a proving ground for diverse payment innovations—from mobile wallets and QR code systems to real-time bank transfer networks.

Governments and central banks in Southeast Asia have actively promoted digital payment initiatives, while the region's entrepreneurs have introduced new platforms at a remarkable pace. This dynamic environment creates both immense opportunities and intense competition, making Southeast Asia an ideal setting to observe which payment systems can gain lasting traction. In such a rapidly evolving landscape, security and trust remain decisive factors that will determine which solutions survive and scale across this diverse and interconnected market.

Understanding South-East Asia can help inform business decisions and public policies everywhere, which is why the Visa Economic Empowerment Institute partnered with Global Finance & Technology Network (GFTN) to produce the present analysis. This report, led by Dr. Kati Suominen is informed by interviews with thousands of consumers and small businesses across six Southeast Asian markets. The experiences of these end-users make clear that successful payment innovation requires speed, convenience, and – above all – trust. The research also shows how end-user priorities evolve as new use-cases emerge.

We hope that this report will reinforce the importance of continued public-private sector collaboration. We encourage policymakers and industry leaders to consider focusing on building payment solutions that are resilient, interoperable, and responsive to the evolving needs of all stakeholders. Additionally, it is critical to avoid unintended consequences from a one-size-fits-all approach that views payments through a lens of uniformity. By fostering open dialogue and leveraging complementary strengths, Southeast Asia can continue to advance a payments landscape through investment and innovation that supports the needs of end users.

Todd Fox
President, Visa Economic Empowerment Institute

2 Foreword by Global Finance & Technology Network

The financial ecosystem of Southeast Asia is undergoing a rapid transformation, as digital technologies reshape the economy and cross-border connectivity. Real-Time Payments (RTP) have evolved beyond a nascent innovation to become a critical, foundational layer of today's digital economy – effectively powering commerce, advancing financial inclusion, and extending access to essential financial services for millions. In this increasingly complex and interconnected digital economy, the resilience and interoperability of payment infrastructure stand as a shared strategic imperative for all stakeholders.

This White Paper, a collaborative effort by the Visa Economic Empowerment Institute, Nextrade Group, and the Global Finance & Technology Network (GFTN), is timely and relevant. Based on a comprehensive study incorporating insights from over 7,500 consumers and small and medium-sized businesses (SMBs) across six ASEAN markets, it offers a detailed analysis of RTP adoption trends, highlights the priorities of consumers and SMBs, and identifies untapped opportunities within the RTP space.

The core findings establish a clear mandate: the future evolution of RTP must be firmly anchored in principles of enhanced security, seamless interoperability, and measurable value creation, with a particular focus on underserved segments of the economy. Achieving this transformative vision necessitates collaboration within the ecosystem to harmonize national strategies towards a cohesive and progressive digital economy. This paper aims to meaningfully contribute to the ongoing regional discourse on the future of digital payments in Southeast Asia, serving as a catalyst for a collective action toward building a more secure and accessible financial ecosystem.

Sopnendu Mohanty
Group CEO, Global Finance & Technology Network (GFTN)

Executive Summary

Government digitalisation agendas, fintech innovation, and smartphone adoption set the stage for real-time payment (RTP) systems to scale rapidly in Southeast Asia. Every economy in the region now offers RTPs, enabling instant account-to-account transfers often via QR codes. These systems are driving financial inclusion, powering daily transactions, and expanding digital access for millions of consumers and small businesses.

As RTP adoption grows, ensuring robust trust, security, and interoperability have emerged as key focus areas for future enhancements.

This white paper, developed by Nextrade Group in partnership with the Visa Economic Empowerment Institute (VEEI) and the Global Finance & Technology Network (GFTN), explores how RTP operators can respond to these evolving demands.

This paper first identifies key trends in RTP adoption through a survey of 5,500 consumers and 2,100 small and medium-sized businesses (SMBs) in six Southeast Asian economies. It then proposes solutions for Southeast Asian economies to meet objectives including financial inclusion, end-user security and systemic resilience.

The main findings from the survey are as follow:

- **RTPs are increasingly popular in daily transactions in Southeast Asia.**
  Nearly half of surveyed consumers across Southeast Asia use RTPs for everyday purchases like groceries and bills, both in-store and online. Uptake is highest among Gen Z and younger millennials. Adoption among SMBs is especially strong, with over 90% accepting RTPs in-store and 86% online, highlighting RTPs' growing role in the digital payment ecosystem.

- **While RTPs offer speed and convenience, many users would like to see more emphasis on security.**
  42% of consumers and over a third of SMBs express concerns about fraud, scams, or misdirected payments in RTP transactions. These concerns reflect a growing awareness of digital risks and highlight the importance of strengthening trust and safeguards as RTP adoption continues to rise.

- **Although there is strong familiarity with using RTPs for domestic transactions, usage of RTPs for cross-border payments is less common.**
  Fewer than 15% of consumers currently choose RTPs for cross-border transactions, primarily due to concerns around fraud and reliability. Partnerships with private sector participants like global networks can increase consumer and SMB trust in secure, reliable cross-border RTP transactions.

- **Digital payments could be a path towards formal financing for SMBs.** More than 66% of SMBs in Indonesia, Thailand, and Vietnam indicated they are “very interested” in using RTP data to support credit scoring and improve access to finance.

Strengthening RTP systems to better serve Southeast Asian consumers and SMBs requires targeted efforts to address the concerns about fraud and scams, cross-border reliability, and limited access to finance. This can be accomplished through **deeper collaboration between RTP systems and other actors in the financial services ecosystem, including global payment networks, technology providers, and payment service providers**.

Key opportunities for partnerships include:

- **Enhancing fraud prevention** through the adoption of AI real-time risk scoring solutions to enhance fraud and scam detection.

- **Increasing consumer protection** with dispute mechanisms for consumers to enjoy safe payment experiences, and access to remediation when they encounter payment issues.

- As an added proposition, governments can accelerate the **expansion of access to finance** by leveraging diverse sources of payment data for alternative credit scoring and rewards. These sources, which may include data from global payment networks, offer rich insights and contain merchant-level details and supplier relationships, which can significantly enhance the precision of targeted financial services. These granular attributes make such data sources especially powerful in driving inclusive financial innovation.

Global networks excel at balancing modernisation and security at the ecosystem level and can play a complementary role to national RTPs. By partnering with global networks, policymakers seeking to advance policy goals through payment system development can enhance access to secure, fast, and user-friendly digital payments without compromising on security, connectivity, or inclusion. Their expertise in technology and, importantly, governance helps strengthen end-user security, while enabling local firms to expand their reach, thereby increasing utility for consumers and SMBs alike.

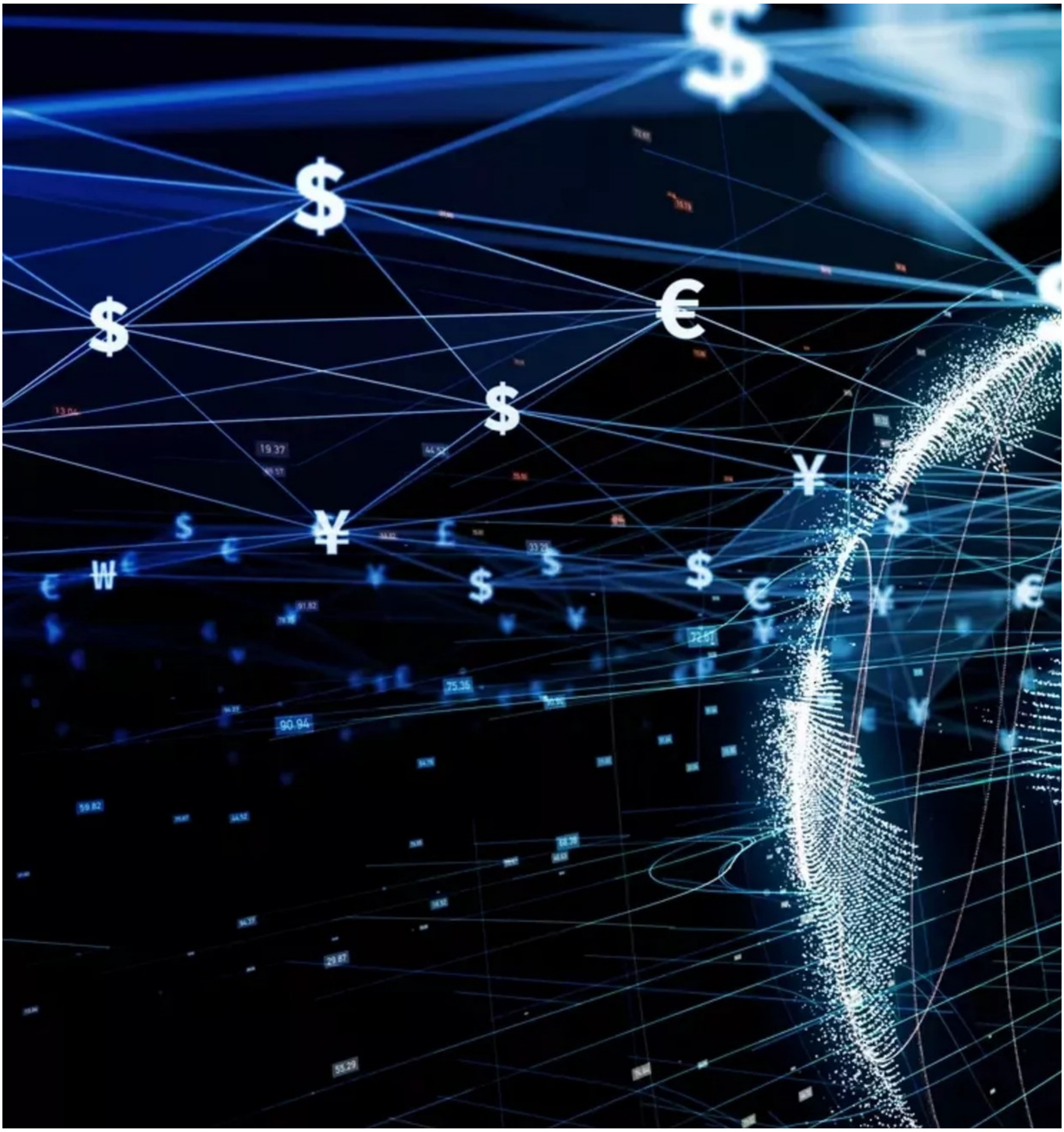
Collaborative solutions are already being pursued in these areas in Southeast Asia and around the world. The forthcoming ASEAN Digital Economy Framework Agreement (DEFA) offers a further, timely platform to advance interoperability, trust, and inclusive growth.

RTPs are a pathway to formal financial systems for millions. With the right partnerships and policy support, Southeast Asia can expand opportunities for mobile commerce, digital trade, and financial inclusion.

3 Introduction

Digital payments have grown rapidly across Southeast Asia over the past decade, fueling the growth of the region's mobile-based ecommerce. Real-time account-to-account transfers have been one important driver of the region's digital payments revolution. As of 2025, all Southeast Asian economies have implemented domestic RTP systems, while also supporting government regional payments connectivity initiatives such as Project Nexus.

This white paper leverages new Visa survey data to (1) identify key trends in RTP adoption among Southeast Asian consumers and SMBs; (2) uncover pending challenges to RTP use, such as consumers' concerns about fraud and reliability; and (3) propose solutions for Southeast Asian governments to promote RTPs' security, resilience, and sustainability through collaboration.



4 RTP use in Southeast Asia

RTPs have diverse governance models. Some like Indonesia's BI-FAST are state-operated, while others, such as Singapore's FAST and PayNow and Thailand's PromptPay, are public-private partnerships. Regardless of the RTP's governance model, Southeast Asian governments have actively promoted RTPs as tools for financial inclusion, offering incentives like subsidies for merchants, and integrating RTPs into public disbursement and e-invoicing programs.

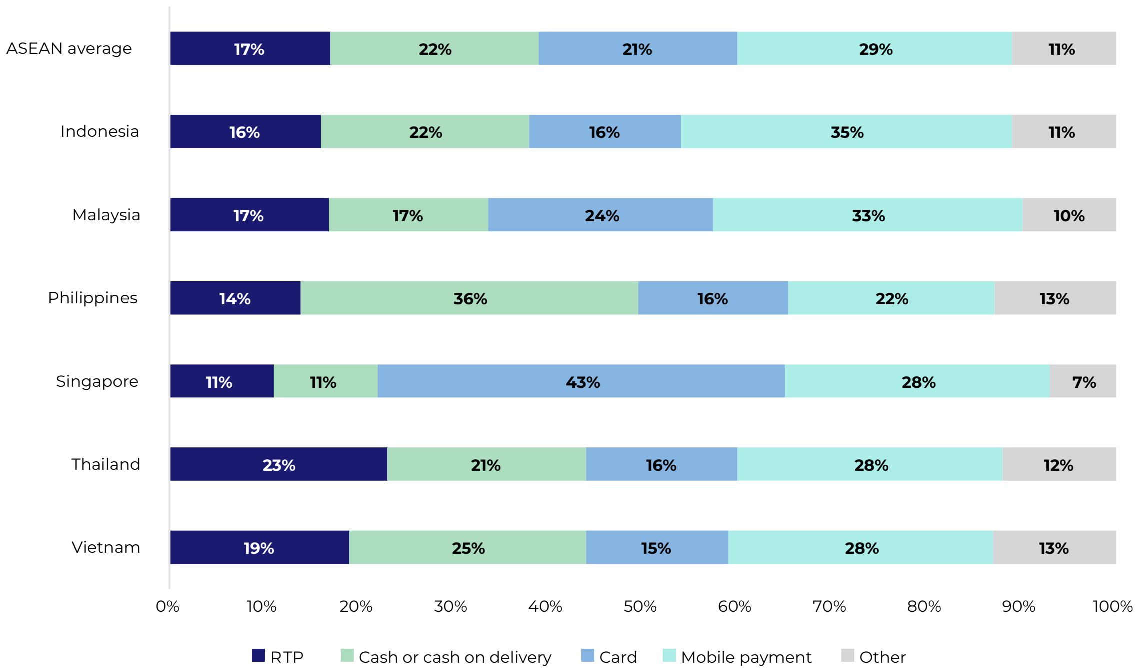
As RTPs continue to scale, key questions remain: Are they meeting user needs today and tomorrow? What gaps must be addressed to promote user experience and trust. And as RTP adoption and usage near saturation in early mover markets, how do RTPs remain relevant and provide new value for their users?

The following section draws on Visa's consumer and SMB survey to explore how RTPs are used and where opportunities for improvement lie.

a. RTP usage among Southeast Asian consumers

Between May and July 2025, Visa carried out surveys with 5,500 consumers and 2,100 SMBs across six Southeast Asian markets - Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. The survey explored the adoption and usage of real-time and digital payments, as well as the barriers faced by users. SMB respondents were senior decision-makers in customer-facing sectors, such as food services, tourism, wellness, retail, and hospitality.
The findings show that RTPs are becoming a key part of daily payments in the region: 48% of consumers use RTPs for in-store purchases, and 45% for online transactions. Usage is higher among affluent middle- and upper-income segments, particularly Generation Z and younger Millennials. RTPs now account for approximately 17% of monthly consumer spending (Figure 1).

Fig. 1 – Southeast Asian consumers' use of various payment methods in monthly consumption in 2025



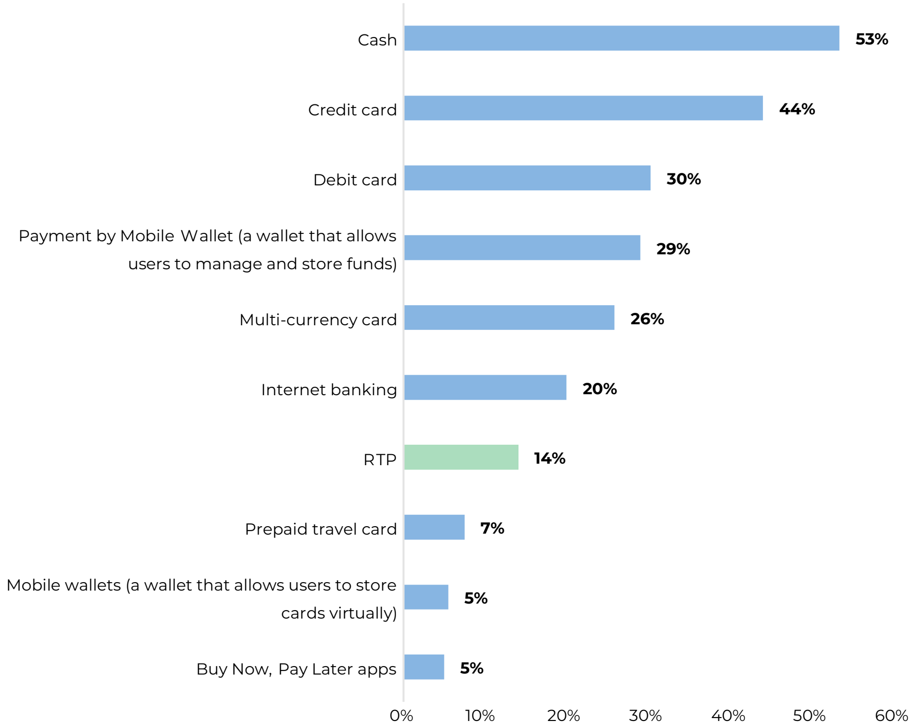
Source: Visa Green Shoots Radar study conducted in May - July 2025 with 5,500 consumers and 2,100 SMBs across Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

RTPs are now embedded in everyday life across Southeast Asia. A quarter of surveyed consumers use them for domestic travel and hotel stays, 24% for entertainment outside of home, 23% for retail purchases, 23% for content platform purchases, and 20% for eating out. Usage also extends to health and wellness (21%), bill payments (21%), and transportation services (19%). In eCommerce, 19% of consumers have used RTPs for online retail transactions. However, mobile wallets (44%), credit cards (32%), and debit cards (27%) continue to be the preferred payment method in this space.

Consumers are drawn to RTPs for their simplicity and convenience. Key drivers include a streamlined payment experience (61%), foregoing the need to carry physical wallets (52%), and acceptance at non-card-enabled merchants (39%).

Southeast Asia has made notable progress in RTP interoperability, with existing bilateral cross-border linkages, several ongoing bilateral pilots and regional initiatives like Project Nexus supporting cross-border connectivity. Yet, use of RTPs for cross-border payments remains limited, in part, due to consumer concerns about security and the irrevocable nature of the transactions. Where used, RTPs were primarily accepted in foreign department and boutique stores.

Fig. 2 – % of Southeast Asian consumers' use of different payment methods during their last trip abroad



Source: Visa Green Shoots Radar study conducted in May - July 2025 with 5,500 consumers and 2,100 SMBs across Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

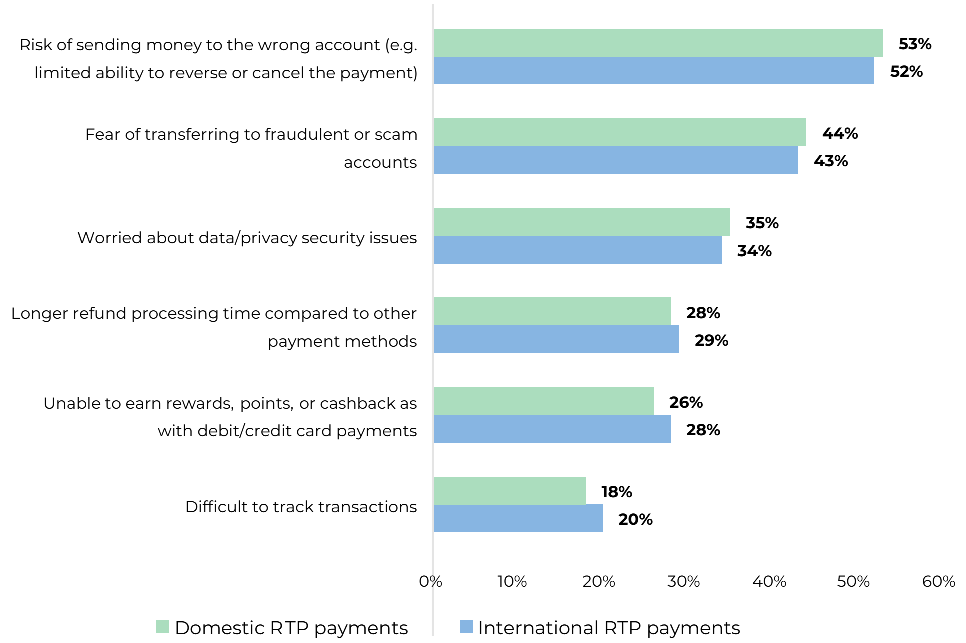
b. Consumers are seeking better security and data privacy protection

Southeast Asian consumers highlighted several considerations when using RTPs for domestic and cross-border transactions. In the domestic context, 53% expressed caution about inadvertently sending funds to incorrect recipients and 44% are mindful of potential fraud and scams, given the immediate and irreversible nature of RTPs.

Some 35% of consumers noted concerns about data privacy and cybersecurity.

Some users also pointed to differences in customer payment experience, for instance, in refund processing times compared to card payments (28%) and the absence of rewards or cashback features (26%) as factors influencing their payment choices. These same considerations, particularly around transaction certainty and security, may also influence lower RTP usage during international travel.

Fig. 3 – % of Southeast Asian consumers expressing concerns about using RTPs

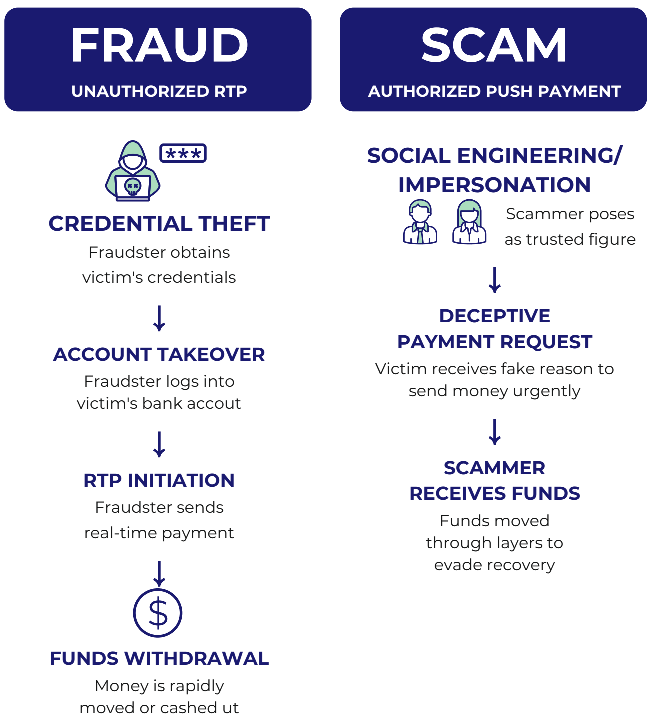


Source: Visa Green Shoots Radar study conducted in May - July 2025 with 5,500 consumers and 2,200 SMBs across Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

Respondents' sentiment around RTP usage is likely due in part to the fact that in recent years, the region has seen instances of both authorised and unauthorised fraud in the RTP space. Unauthorised fraud, such as those involving deceptive links or impersonation – can lead users to unknowingly initiate payments. Authorised push payment (APP) fraud, where individuals are tricked into sending money, has been particularly notable.

Unauthorised fraud typically involves access to sensitive account information without the user's consent, often through methods such as account takeovers, credential theft and malware-initiated transfers. These tactics can affect both consumers and SMBs, underscoring the importance of robust safeguards.

Due to the speed and finality of RTP transactions, there is limited time for intervention once a payment is initiated. The absence of standardised chargeback mechanism can make fund recovery feel protracted, reinforcing the need for proactive risk management and user education.



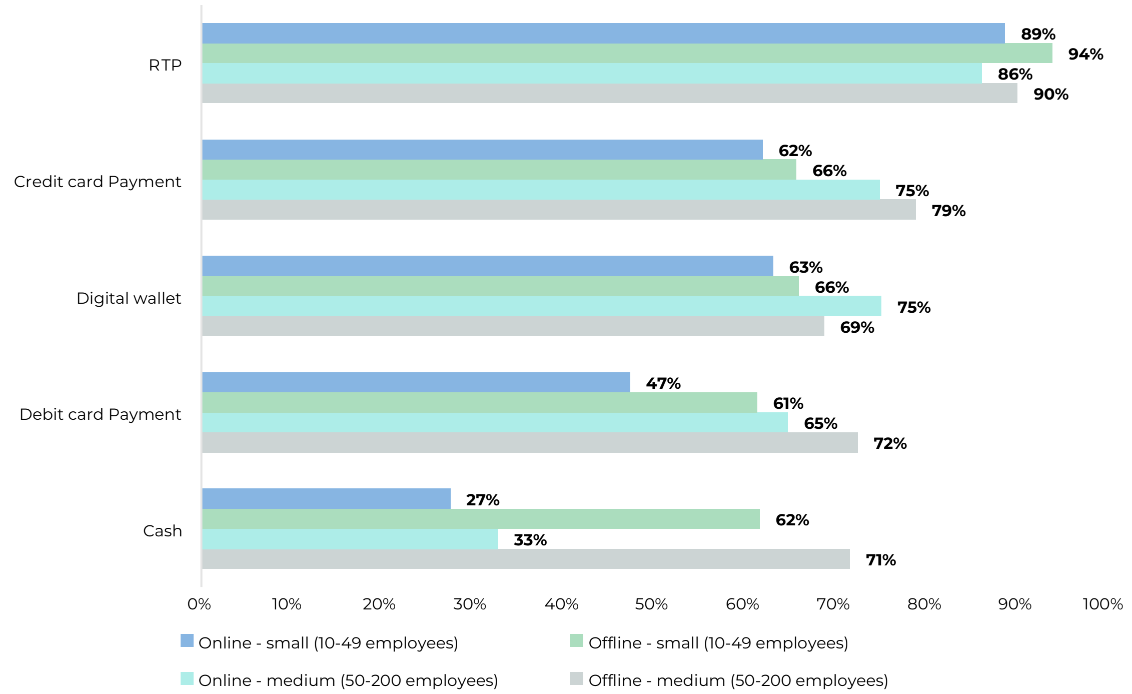
c. SMBs welcome RTPs but like consumers, they demand better security

RTPs have seen strong adoption among Southeast Asian SMBs, with over 90% accepting them for in-store transactions and 86% for online payments. This reflects growing confidence in RTPs as a reliable and efficient payment method across a wide range of business sectors (Figure 4).

SMBs across Southeast Asia recognise several key benefits of RTPs. Speed and operational efficiency were cited by 43% of small firms and 51% of medium-sized firms. In addition, 42% of small firms and 45% of medium firms noted reduced risk of errors or fraud as a value proposition.

At the same time, some SMBs reported operational challenges. Over one-third experienced instances where payments were not received despite customer confirmation, and 34% noted discrepancies in transaction amounts. Slightly over a quarter of SMBs indicated that payments were directed to incorrect accounts, and 21% reported fraud. Furthermore, 39% indicated that RTP transactions were not consistently reflected in their accounts in real time.

Fig. 4 – % of Southeast Asian SMBs that accept RTPs and other payment methods in online and offline transactions, by firm size

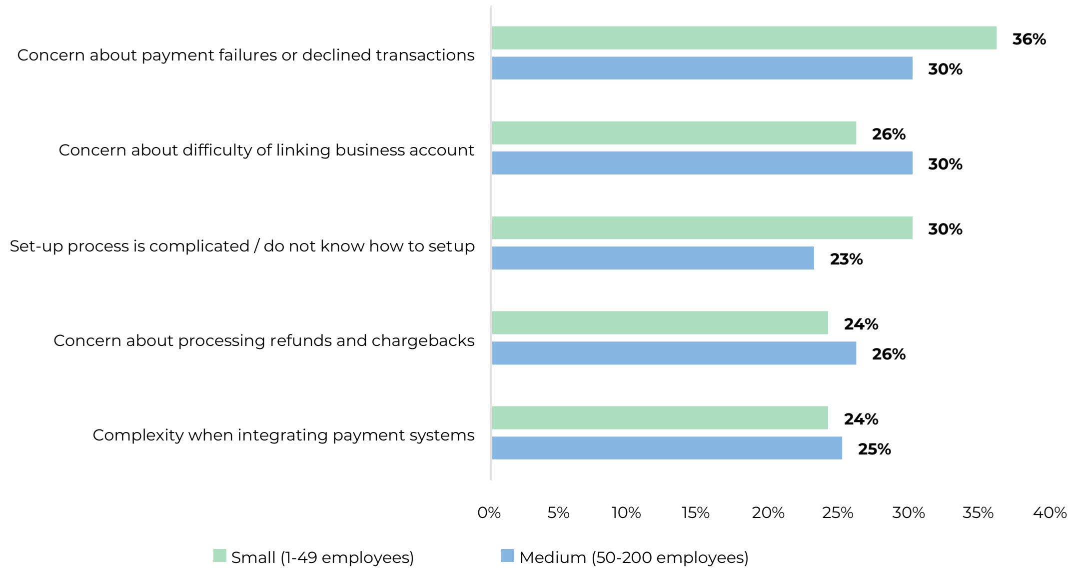


Source: Visa Green Shoots Radar study conducted in May - July 2025 with 5,500 consumers and 2,200 SMBs across Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

Other concerns include payment failures or declined transactions (reported by 36% of small firms and 30% of medium firms), difficulties linking RTP systems to business accounts, and the need for staff training (Figure 5 on next page). Addressing these issues will be important to ensure RTPs continue to support financial inclusion and digital payment adoption among SMBs.

Using global payment networks as an example, research has shown that businesses that leverage digital payments for commercial transactions have reported improvements in working capital efficiency, supported by more mature data models and robust infrastructure[1]. These data sources offer granular insights into merchant-level identifiers and supplier relationships, which are critical for constructing financial profiles. By integrating such rich datasets into credit assessment models, policymakers and financial institutions can unlock more accurate risk evaluations and extend access to underserved segments within SMBs.

Fig. 5 – SMBs' top 5 concerns to accept and use RTPs, by firm size

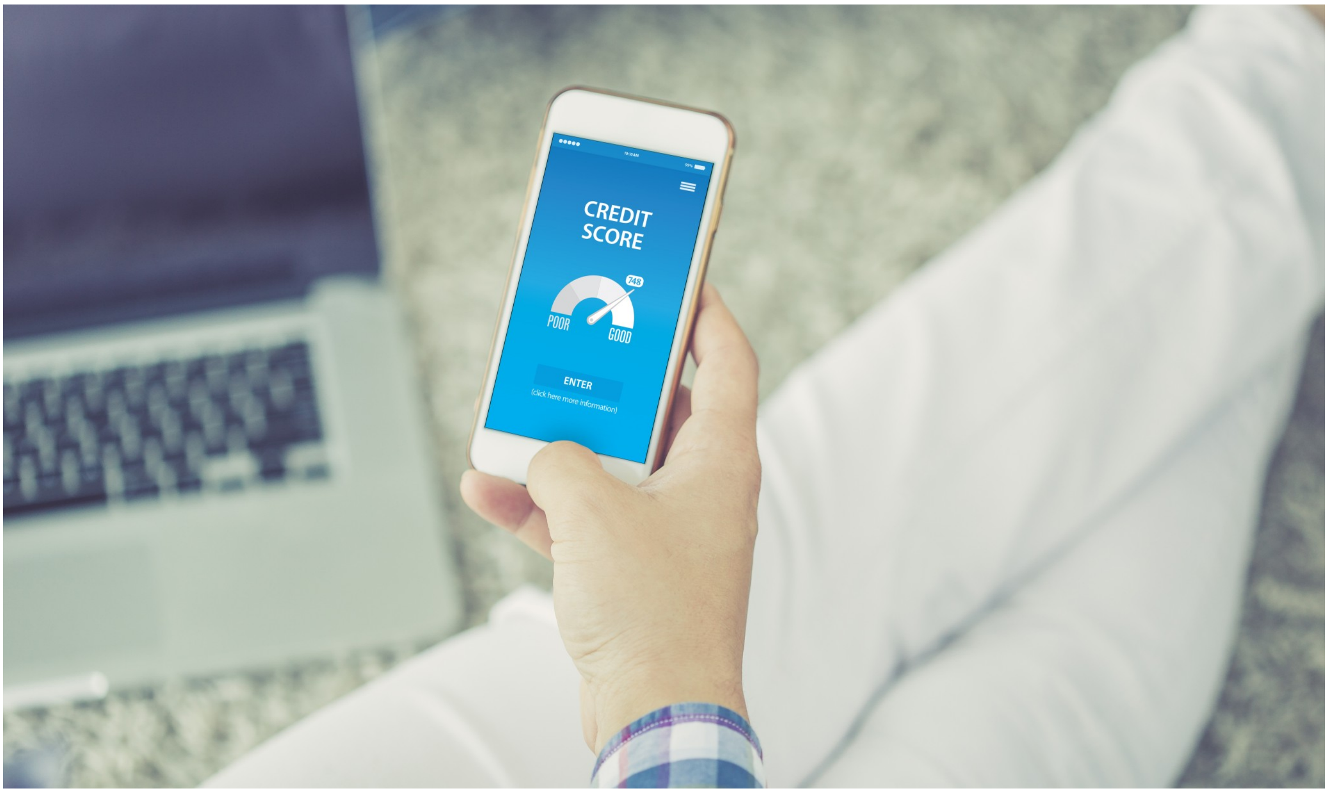


Source: Visa Green Shoots Radar study conducted in May - July 2025 with 5,500 consumers and 2,200 SMBs across Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

d. Untapped potential: using RTP usage data for credit scoring

While RTPs are widely adopted for payment acceptance, access to formal financing remains a challenge for many SMBs that rely solely on RTPs. The surveyed SMBs reported that suppliers and digital platforms are their most common sources of financing; only a quarter report using bank loans. In contrast, SMBs that accept card payments are more likely to access traditional credit channels, including bank loans and credit cards.

Importantly, there is strong interest among SMBs in leveraging RTP transaction data to build credit profiles. More than two-thirds of SMBs in Indonesia, Thailand, and Vietnam indicated they are "very interested" in using RTP data to support credit scoring and improve access to finance. While RTPs offer transactional ease, current data models are less mature than those found in global payment networks which can enable more sophisticated spend categorization and management tools. This presents an opportunity to enhance RTP data capabilities to better support financial profiling and inclusion.



5 Enhancing RTP's value proposition through partnerships

RTPs have strong adoption across Southeast Asia and are helping expand opportunities for financial services that benefit both consumers and SMBs. However, survey findings indicate that opinions around fraud, misdirected payments, and limited access to financing may be constraining broader usage domestically as well as in cross-border use cases.

While RTPs have yet to fully unlock financial access for SMBs, many firms express strong interest in leveraging RTP data to support credit scoring and financing solutions. RTP networks can strengthen their value proposition across the region by collaborating with global payment providers to enhance security, enable trusted cross-border payments, and expand access to credit.

a. Fraud and scam prevention

As digital payment methods evolve, fraudsters continue to explore vulnerabilities across the ecosystem, including in RTPs. Unlike card-based systems, which typically offer consumer protections such as chargebacks, dispute resolution processes, and regulated liability frameworks, RTPs, which are positioned as being push-based, are irrevocable, and often do not have standardised refund mechanisms.

Across ASEAN, governments have taken proactive steps to address scams through legislation, capacity building, and cross-border cooperation. The 2023 ASEAN Summit reaffirmed regional commitment to tackling fraud, with enhanced collaboration involving law enforcement.[2]

Further solutions include structured fraud prevention frameworks and collaborative public-private initiatives:

Shared liability frameworks such as Singapore's Shared Responsibility Framework (SRF) distribute accountability for fraud losses across financial institutions, intermediaries, and users, based on their respective roles and controls (Table 1 on next page)[3]. These frameworks help balance consumer protection with institutional responsibility.

While progress has been made in strengthening RTPs' security, further efforts are needed. One promising avenue is collaboration with global payment networks, which leverage decades of experience and advanced technologies to prevent fraud.

Global networks have developed robust tools such as AI-driven risk detection to help prevent fraud before it occurs. For example, Visa's Scam Disruption initiative leverages deep expertise and partnerships to protect consumers and businesses, contributing to over $40 billion in global fraud prevention annually.[4]

The Visa Protect for Account-to-Account Payments solution operates at the speed of RTPs, providing continuous AI-based risk scoring and transaction monitoring. In a recent pilot with the UK's Pay. UK RTP system, the solution successfully identified 54% of fraudulent transactions that had already bypassed existing bank and PSP detection systems, demonstrating its potential to enhance RTP security in real-time (Case 1).

Table 1 – Select scam prevention frameworks

Aspect	United Kingdom (UK)	Singapore	Australia	Taiwan
Name of framework	Faster Payments Authorized Push Payment (APP) scams reimbursement requirement	Guidelines on Shared Responsibility Framework (SRF)	Scams Prevention Framework (SPF)	Fraud Crime Hazard Prevention Act (FCHPA)
Regulatory Body	Payment Systems Regulator (PSR)	Monetary Authority of Singapore (MAS) and Infocomm Media Development Authority (IMDA)	Treasury, Australia Competition and Consumer Commission (ACCC)	Ministry of the Interior, Financial Supervisory Commission, Ministry of Digital Affairs, National Communications Commission
Effective Date	October 2024	December 2024	January 2025	July 2024
Definition of scam	An APP Scam involves a victim authorizing a payment to an account they believe belongs to a legitimate payee but is actually controlled by a scammer.	A scam involves seemingly authorized transactions where the consumer is deceived into making payments or giving personal information.	An attempt to deceive a consumer into making a payment or giving personal information to a scammer using a regulated service, is considered a scam even if unsuccessful and does not lead to a loss.	Reference to Criminal Code Art. 43. Art. 44. And Art.339-7.
Scope (coverage)	Covers APP scams processed on Faster Payments and Clearing House Automated Payment System (CHAPS)	Covers phishing scams with a digital nexus (i.e., where consumers are deceived into clicking on a phishing link and entering their credentials on a fake digital platform, thereby allowing for unauthorized transactions to be performed from the account) and a Singapore nexus.	All scams falling under the SPF definition. Excludes fraud that involves dishonestly obtaining a benefit without any consumer action, cybercrime, transactions involving faulty products and transactions performed under the threat of imminent violence.	Covers organized scams, impersonation scams and digital scams.
Scope (applicability)	Applies to all Payment Service Providers (PSPs) in the UK, including those using the Faster Payments System (FPS) or CHAPS.	Applies to FIs and telcos in Singapore, covering transactions that seem authorized by consumers.	Initial launch applies to banks, telcos, and digital platforms, with other sectors expected to be added over time.	Applies to FIs, Virtual Asset Services Providers (VASP), telcos, digital platforms, eCommerce merchants, and third-party payment services providers.
Who is liable?	PSPs are liable for reimbursement, unless the consumer was found to be acting with "gross negligence.	FIs and telcos are liable if they fail to meet their obligations under the SRF.	Banks, telcos and digital platform providers are liable if they fail to meet their obligations under the SPF.	Digital platforms and online advertisers will be jointly liable if they do not meet their obligations under the FCHPA.
Cost-sharing element	Reimbursement can be split 50:50 between sending (the victim's bank) and receiving (the recipient bank used by the fraudster) PSPs.	Losses are shared based on whether FIs and telcos have fulfilled their duties ("waterfall" approach). Outlines detailed workflows for reporting authorized transactions and loss-sharing.	Obligations are enforced through civil penalties for non-compliance, and the collaborative approach aims to distribute responsibility across sectors.	Digital platforms and online advertisers will be jointly liable if they do not meet their obligations. Non-compliant platform operators may also face additional traffic management measures, access restrictions or domain-blocking measures to prevent ongoing harm.
Intelligence sharing	Consumers should, after making a reimbursement claim, and upon request by their PSP, consent to the PSP reporting to the police on the consumer's behalf, or request the consumer directly report the details of an APP scam to a competent national authority.	FIs and telcos are expected to share scam-related information to mitigate risks.	Requires businesses to share actionable scam intelligence with the ACCC, which will be able to distribute it to other businesses, law enforcement and international partners so they can take action to prevent, detect, and disrupt scams.	FIs and VASPs are required to respond to the inquiries of any other FIs and quasi-FIs for the purpose of preventing fraud and scams.
Obligations of stakeholders	- Reimburse victims up to £85,000 (max. level, in line with Financial Services Compensation Scheme) within 5 business days. - No minimum threshold for claims, but there will be a claim excess of £100 at the discretion of the PSP. - Provide clear communication to consumers about risks of APP fraud and their rights under the reimbursement policy.	- FIs and telcos must implement specific safeguards, such as fraud monitoring, real-time alerts, and SMS anti-scam filtering. Detailed obligations of responsible FIs and consumers are set out in the "E-Payments User Protection Guidelines". - Share scam-related information. - Follow operational workflows for reporting scams.	- Comply with sector-specific codes of conduct. Detailed obligations are outlined in the Treasury's "Scams Mandatory Industry Codes" - Businesses that do not meet their obligations under the SPF can face fines of up to A$50 million.	- Mandatory removal of fraudulent ads within 24 hours upon notification from law enforcement - Implement robust identity verification measures - Enhanced information disclosure in ads - Establish and implement a fraud prevention plan and publish an annual fraud prevention report. - Non-compliant FIs and VASPs may be penalized up to NT$2 million.

Case 1 - Pay.UK fraud detection pilot improves fraud detection by 54 percent with Visa Protect for Account-to-Account Payments

Pay.UK is the operator and standards body for the retail interbank payment systems in the United Kingdom (UK), including Faster Payment System, the country's RTP.

Pay.UK processed 11.5 billion transactions in 2023, amounting to £9.5 trillion in payment volume.[5] At the same time, the UK has experienced some of the highest levels of authorised push payment scams globally with £459.7 million lost to APP scams and £151.8 million lost to unauthorised remote banking fraud in 2023.[6]

One in three UK consumers have fallen victim to an APP scam, but only 25 percent of APP scams cases are identified by banks.[7]

In June 2023, Visa was selected by Pay.UK as one of three industry partners to participate in a pilot for fraud prevention. Leveraging AI, Visa analysed more than 50 percent of the annual account-to-account transactions in the UK, to detect and prevent emerging fraud and APP scams, using AI-based fraud detection models.

The results of the pilot across the three partners were published in May 2024, showing an average 40 percent improvement in fraud detection at a 5:1 false positive rate, with Visa identifying 54 percent of fraudulent transactions that had already passed through sophisticated bank and PSP fraud detection systems.[8]

Regulators and/or RTP operators could adopt a layered fraud prevention framework that includes real-time transaction monitoring, promotes shared liability models, and institutionalises structured public-private collaboration.

b. Trusted cross-border payments

The Visa survey indicates that fewer than 20% of consumers used RTPs during their most recent regional trip, with concerns around fraud and reliability influencing payment choices.

To strengthen trust and usability in international transactions, RTP networks could benefit from partnerships with private sector providers. For example, global payment providers could serve as overlay networks, enabling secure, interoperable transactions across diverse platforms including RTPs, digital wallets, cards, the automated clearinghouse system, Buy Now Pay Later schemes, and stablecoins.

As one example, Visa's QR Connector initiative links domestic QR payment schemes to Visa's global network, allowing consumers to scan and pay across borders using their local wallets.

Visa also operates as a "network of networks", enabling the movement of money across a broad set of payment forms in addition to card-based payments. These include:

1. **Card-based Payments** – Visa's global network, VisaNet, facilitates secure, fast, and reliable transactions across credit, debit, and prepaid cards.
2. **Account-Based Payments** – Facilitates bank-to-bank transfers through domestic and cross-border ACH or RTP systems.
3. **Digital Wallet Transactions** – Supports transactions to and from digital wallets such as GrabPay and PayPal.
4. **Push Payments** – Enables real-time fund transfers via Visa Direct to eligible cards, bank accounts, or wallets.

Visa has the capability to intelligently route transactions to determine the most appropriate processing path based on factors such as destination, currency, and use case.

Unlike traditional card transactions, which operate on a "pull" model where merchants initiate fund collection, Visa Direct – Visa's real-time push payments platform – enables a "push" model, which allows funds to be sent directly to recipients' eligible cards, bank accounts, or mobile wallets.

Visa Direct also integrates with domestic RTP systems through API connections via Visa's network of partner banks. In Southeast Asia, Visa Direct is linked to RTP platforms in countries including Singapore, Malaysia, Indonesia, Thailand, Vietnam, and the Philippines. Global payment networks offer several attributes that support cross-border RTP adoption: consistent security standards, low error rates, refund capabilities, and resilience to disruptions.[9] These features can help deliver a more predictable and trusted payment experience for users.

Regulators and/or RTP operators can address consumer and SMB concerns about trusted cross-border payments by partnering with global payment networks and technology companies to provide secure and resilient global overlay network capabilities that enable users to transact across borders, payment methods, and platforms.

c. Access to formal financing for SMBs and consumers

Southeast Asia's fintech sector has expanded significantly over the past decade, with a growing number of platforms offering embedded finance solutions such as online lending, peer-to-peer financing, and crowdfunding.[10] Despite this growth, research indicates that many SMBs across the region still face challenges in accessing formal credit.

When data from RTP systems and global networks come together, it has the potential to expand financial access by leveraging deeper transaction data to support credit assessments. The regional and global financial ecosystem can play a key role in this effort – such as by helping build comprehensive credit profiles for SMBs that accept both RTPs and cards. For example, Visa is working with fintech partners in Latin America to apply AI-driven underwriting models for SMB credit evaluation.[11]

Similar opportunities exist for consumers. RTPs are frequently used for small, everyday purchases such as groceries and fuel. By partnering with global payment providers, RTP networks could offer value-added features such as cashback, loyalty rewards, and access to credit, which are similar to those available through card-based payments.[12] These enhancements could also help RTP networks differentiate themselves in a competitive payments landscape.

Regulators and/or RTP operators could increase RTPs' value propositions for their users by leveraging payment data to offer cashback and other rewards and develop credit scores conducive to access to finance.

d. ASEAN Digital Economy Framework (DEFA)

Southeast Asian economies are currently negotiating the Association of Southeast Asian Nations (ASEAN) Digital Economy Framework Agreement (DEFA), a landmark initiative aimed at advancing regional digital trade and economic integration through forward-looking policies. DEFA presents an opportunity to establish consistent, interoperable, and secure payment standards across the region.

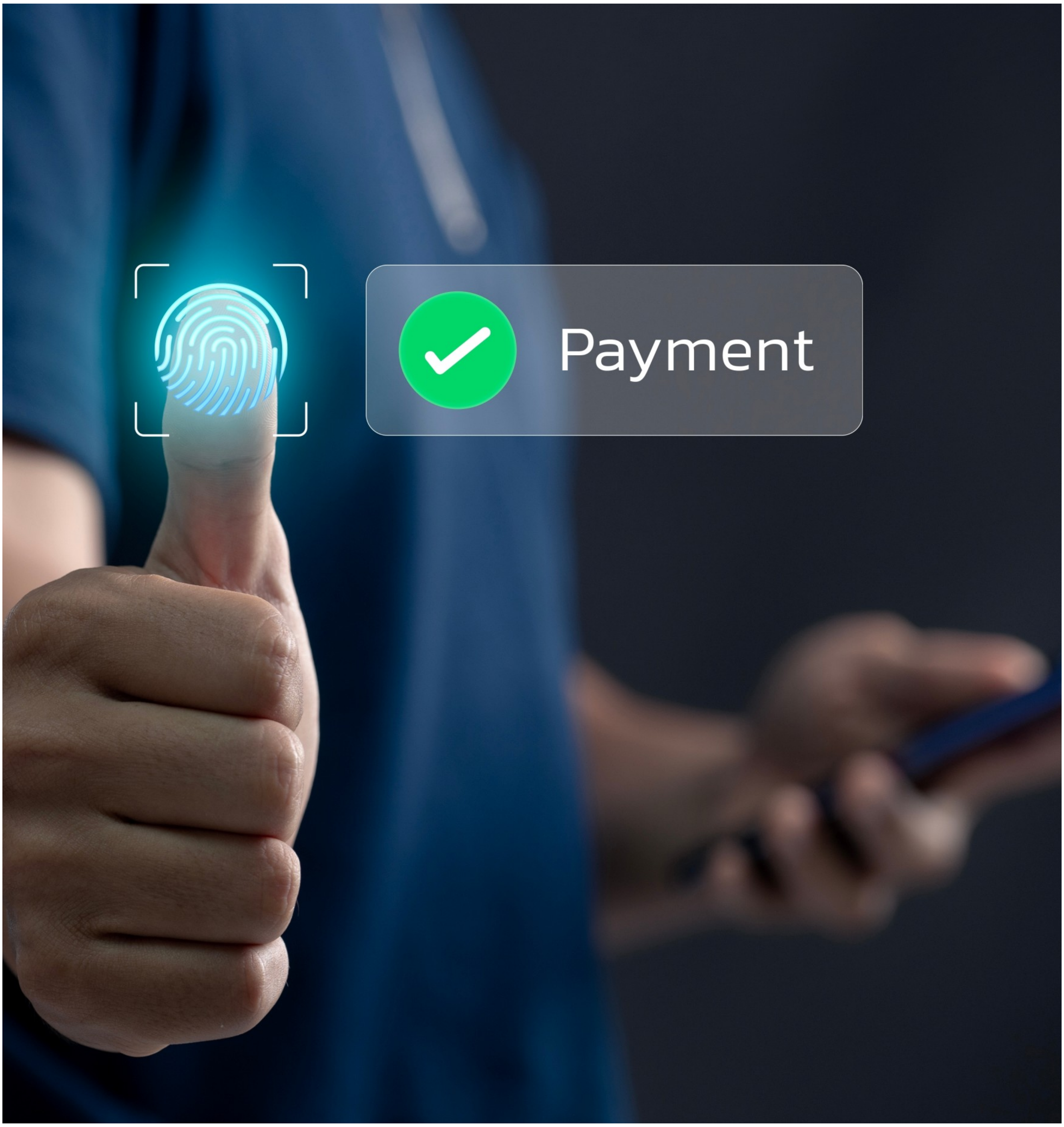
To support implementation, DEFA's payments chapter could encourage voluntary, industry-led adoption of globally accepted standards that foster innovation and interoperability. DEFA could also set up a public-private partnership to operationalise its provisions and facilitate collaboration between RTP systems, global payment networks, technology companies, and payment service providers.

Ultimately, RTPs' success depends not only on technical infrastructure but also on broader efforts in merchant onboarding, digital education, and trust-building across the ecosystem. The Visa survey highlighted a continued need for financial literacy among Southeast Asian SMBs. Capacity-building initiatives and education campaigns remain essential to help businesses navigate digital payment options. These efforts can be complemented by upskilling programs, which support SMBs in managing cash flow, digitising operations, and optimising financial decision-making.

6 Conclusion

RTP systems are increasingly recognised as key enablers of digital commerce in Southeast Asia, offering instant settlement, convenience, and seamless integration with QR-based checkout experiences.

This white paper highlighted key trends in RTP adoption, areas for improvement, and practical solutions to enhance RTP systems through proposed collaboration with global payment networks, technology companies, and payment service providers. These strategic partners can strengthen RTPs' trustworthiness and security, increase consumer and SMB trust in cross-border capabilities, and support users' access to finance, which ultimately help RTPs to deliver greater value to consumers and SMBs across the region.



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