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From Cash to QR Codes

Unpacking Southeast Asia's Diverse
Consumer Payments Culture.



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Introduction

As a wave of digitisation swept over the consumer payment landscape in Southeast Asia, the pace of evolution has been so rapid that most of the payment data and coverage of fintech service providers from just two ago is no longer valid.

Case in point, digital wallets in the region have experienced a wave of consolidation that resulted in each market having two to three players capturing upwards of 90% of market share (in terms of transaction value) and mindshare of the local population as they became household names. Attempts to enable easier access to credit have emerged in the form of Buy-Now, Pay-Later (BNPL), which took the region by storm and remains a controversial but highly impactful change.

Furthermore, in recent years, regulators across Southeast Asia have made strides towards a cashless society by developing roadmaps to transform and digitise the local payment and financial system. Bank Indonesia (BI) laid out its Payment Systems Blueprint in November 2019, and Bangko Sentral ng Pilipinas (BSP) launched its Digital Payments Transformation Roadmap (DPTR) in October 2020. These efforts have led to the deployment of domestic real-time payment rails and the adoption of domestic QR code payments, drastically shifting consumer preferences away from cash.

The changes mentioned above are just a small snapshot of the shifting dynamics in the region. Therefore, the purpose of this report, “From Cash to QR Codes”, is to analyse the payment cultures in Asia, pinpointing key shifts in behaviour and identifying the drivers behind these changes. Understanding payment culture is vital. It has positive implications for businesses and industries - including ourselves at Thunes, as we build a global payments infrastructure that is inclusive and local. However, continued innovation and re-invention are impossible without deep consumer insights, which this report aims to provide.

Southeast Asia's evolving consumer payment landscape

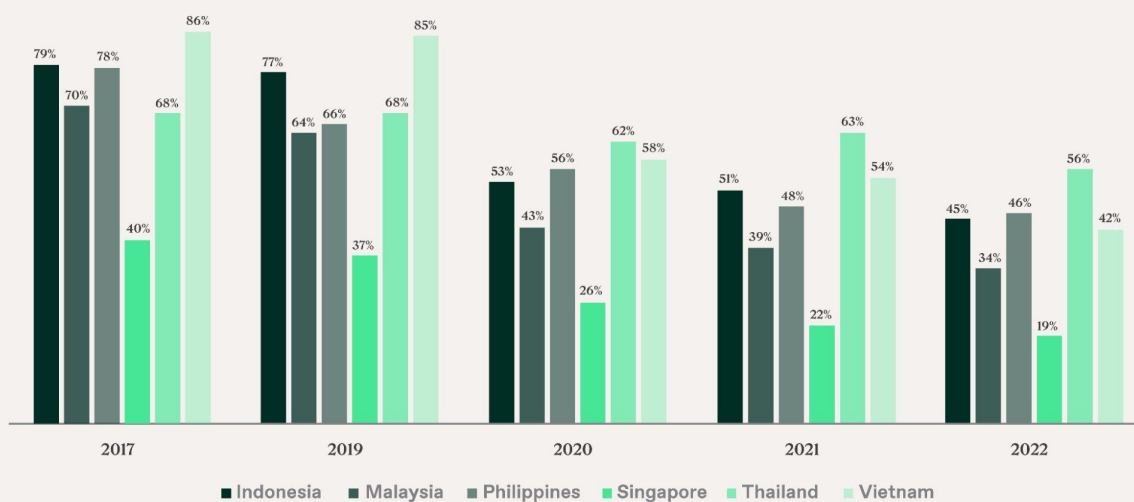
Overview

The evolution of consumer payments in Southeast Asia brings to light a unique dynamic shaped by the constraints of the region's financial ecosystem and opportunities from technological innovation. As the developed world shifted from cash to card payments, most of the population in Southeast Asia were left out due to lack of access to the formal financial system. Credit card ownership in Thailand is estimated to be around 30%. This drops to 11% in Vietnam and 6% in Indonesia.

As a result, alternative digital consumer payment methods arose, bypassing the traditional banking system. For example, stored-value digital wallets are the most used wallet type in Southeast Asia, unlike card-linked wallets found in more developed markets with higher card penetration. More recently, Buy-Now-Pay-Later (BNPL) options for eCommerce purchases have emerged as a viable payment option for consumers looking to spread out payments for bigger ticket items and, to some extent, act as a way to access credit for those without credit cards.

Cash Usage at POS (estimated share of transaction value), 2017-2022

Source: Worldpay Global Payments Report * no data published for 2018



While preference for cash payments at point-of-sale is still relatively high, data from Worldpay shows that cash payments have almost halved across most markets in Southeast Asia since 2017. Alternative payment methods, including domestic real-time QR payments and stored-value digital wallets, have become prevalent to replace cash. The COVID-19 pandemic was also a significant factor that accelerated cashless payments, with many consumers discovering the safety and convenience of payment by digital wallet and contactless devices. Other drivers contributing to the shift towards digital payments include a rise in smartphone penetration, especially among the younger generation, improved internet connectivity from better infrastructure and eCommerce growth.

Undeniably, Southeast Asia as a region is a leader in the global push towards digital payments. Its unique country-level payment habits and preferences add diversity and demonstrate innovation. Digital wallets are often used as an example to illustrate this claim.

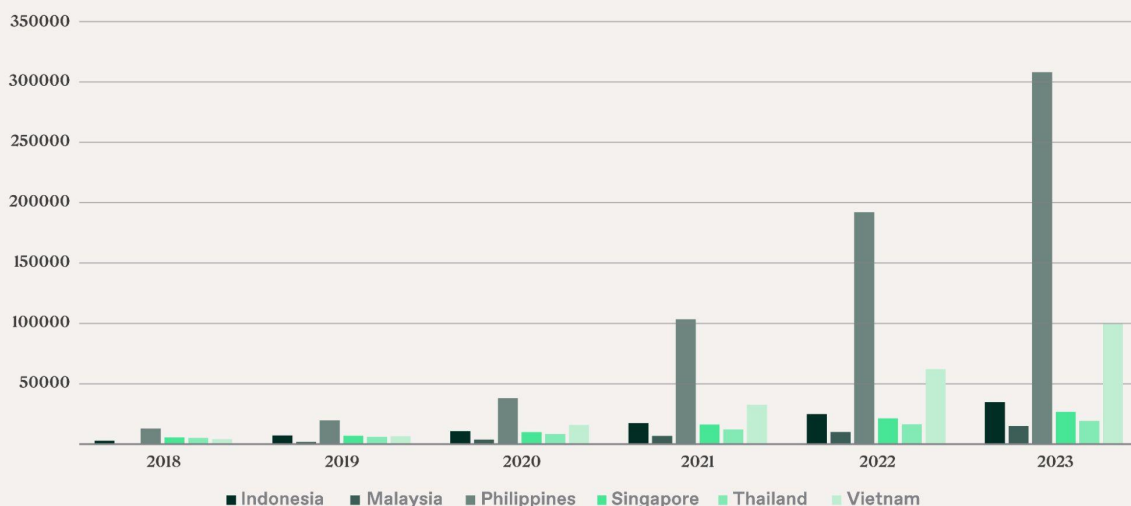
Digital wallets

Digital wallets have been available in Southeast Asia since 2013, but it was only around 2018 that transaction volumes reached any level of significance. Marketing and promotional campaigns played a major role in attracting more users with various rewards, including cashback and discount vouchers. Initially, digital wallet providers were predominantly local players that targeted the domestic market. However, regional players soon appeared, with super-app and eCommerce-linked wallets like GrabPay and ShopeePay.

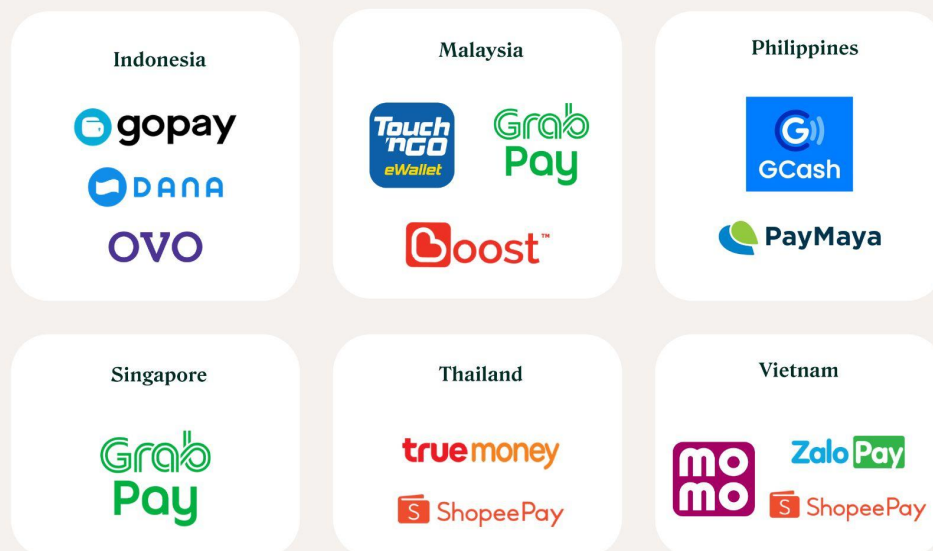
While there are many digital wallet providers in Southeast Asia, there are generally two types of digital wallets. First, there are wallets that require users to load value onto them before making payments, otherwise known as staged or stored-value wallets. Examples include digital wallets launched by super-app or fintech platforms such as GrabPay, GoPay, GCash, and MoMo. Next, there are pass-through wallets linked to a credit or debit card that utilise the consumer's card details to make payments. Apple Pay, Google Wallet and PayPal are examples of pass-through wallets in Southeast Asia. Given that card ownership remains low in much of Southeast Asia, pass-through wallets are less common in the region, having only gained traction in more developed markets such as Singapore and Malaysia.

Digital wallet market size (2018-2023)

Based on payment value in USD Mil



Digital wallet usage has gradually consolidated into two to three popular wallets in each market. While a couple of factors have made this happen, the most important one was likely the success of promotional campaigns. The most popular wallets had highly localised promotions keenly attuned to consumer behaviour and purchase preferences. Customer acquisition enabled these wallets to raise more funds to grow their user base further. Noticing the unprecedented growth of digital wallets, regional governments took note of the urgency and importance of the digitisation of payments.



Card-linked wallets such as Apple Pay and Google Pay are more prevalent in Singapore

Government policies, regulations and infrastructure developments

Over the last seven years, most central banks and policymakers in Southeast Asia have developed a roadmap to digitalise the financial sector. Digital retail payments and consumer banking services are often at the top of the agenda. These regional central banks aim to meet three criteria: Real-time, person-to-person, and always available for retail payments. Thus, the first step for many Southeast Asian countries was to build a real-time interbank payment rail that enabled P2P transfers from within a bank mobile or web application. QR codes were chosen as the preferred interface for initiating the transactions. This technology holds more information than normal 1D barcodes, can be easily read by scanners, and has a significant error threshold, allowing them to work even when damaged.

In many countries in Southeast Asia, the development of domestic QR real-time payment rails has been initiated by the central bank in collaboration with key local financial institutions. For example, Bank Negara Malaysia has majority ownership of PayNet, the operator of DuitNow, and eleven other local financial institutions are joint shareholders. Similarly, Bank Indonesia and Bank of Thailand have been instrumental in launching BI-FAST and PromptPay as part of the national roadmap to transition to a cashless society.

The next step was to enable consumers to pay merchants on a real-time payment rail, making the user experience seamless to drive further adoption. Here, standardisation and interoperability became the primary focus as central banks and policymakers realised that handling multiple QR codes was impractical. Standardisation sets common guidelines on the appearance and features of the QR code, such as symbol size, type and amount of data and error correction level. Meanwhile, interoperability made it possible for merchants only to need one QR code to accept a wide range of digital wallets and domestic real-time interbank payments.

Additionally, many Southeast Asian regulators have recognised the potential for real-time payment infrastructure for cross-border transactions. Countries such as Indonesia, Malaysia, Singapore and Thailand have formed bilateral real-time payment connections to neighbouring markets—key trading partners and a source of significant inbound tourism. This cross-border QR payment interoperability allows local merchants to accept payments from foreign digital wallets connected to these domestic real-time payment rails. Southeast Asian regulators are looking beyond their borders to realise the full potential of real-time payment infrastructure and enhancing trade flow in the region.

Country	Payment strategy document	Target dates
Cambodia	Financial Technology Development Roadmap by National Bank of Cambodia (NBC)	2020 – 2025
Indonesia	Payment Systems Blueprint by Bank Indonesia (BI)	2019 – 2025
Malaysia	Retail Real-time Payments (RPP) initiative by Bank Negara Malaysia (BNM)	2016 – 2019
Philippines	Digital Payments Transformation Roadmap (DPTR) by Bangko Sentral ng Pilipinas (BSP)	2020 – 2023
Singapore	Singapore Payments Roadmap by Monetary Authority of Singapore (MAS)	2016 – 2020
Thailand	Payment Systems Roadmap by Bank of Thailand (BOT)	2019 – 2021
Vietnam	Scheme on Cashless Payment Promotion in Vietnam by State Bank of Vietnam (SBV)	2021 – 2025

Domestic QR real-time payments (RTP)

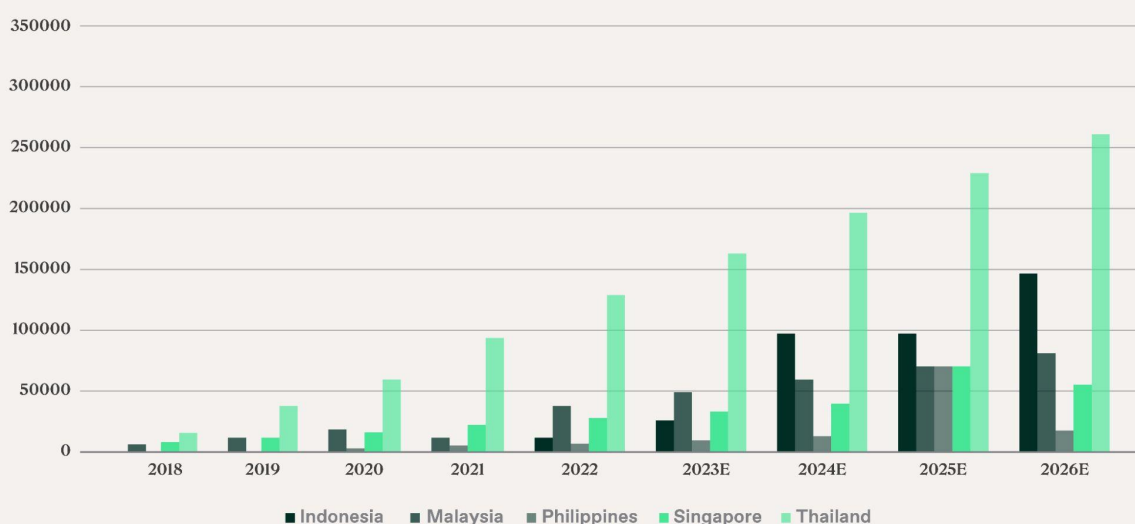
Government initiatives around digital payments are a vital driving force in the development of domestic real-time QR payments. These payments are executed through an interoperable QR code which can be scanned using a bank’s mobile app, with funds directly debited from a user’s bank account in real-time. Unlike a digital wallet, a user does not have to first load sufficient funds in to make a payment.

During the Covid-19 pandemic, many regional governments advocated increasing contactless payment methods. They encouraged micro merchants such as hawkers and roadside vendors to transact with domestic QR payments. This can be observed in the ~50% increase in RTP transaction value between 2020 and 2021 in Thailand, Singapore and Malaysia, countries with more mature RTP systems.

Country	Real-time payments network	Launch date	Operator	QR code standardization
Cambodia		October 2020	National Bank of Cambodia	
Indonesia		December 2021	Bank Indonesia	 QR Code Standar Pembayaran Nasional
Malaysia		January 2019	PayNet (Payments Network Malaysia)	
Philippines		InstaPay: April 2018 PESONet: November 2017	InstaPay: BancNet PESONet: Philippine Clearing House Corporation	
Singapore		July 2017	Banking Computer Services Private Limited a subsidiary of NETS	
Thailand		January 2017	National ITMX (Interbank Transfer Management and Exchange)	
Vietnam		June 2021	National Payment Corporation of Vietnam (NAPAS)	

From a merchant’s perspective, domestic QR offers several other benefits compared to other payment methods. First, the merchant fee for accepting domestic QR, or the merchant discount rate, is highly subsidised in almost all Southeast Asian markets. In many cases, the government has pledged to fully absorb the cost in the near term to drive adoption. In general, the goal of regulators has been to keep the fees for QR transactions as low as or lower than fees for debit card payments. In cases where digital wallet providers charge a transaction fee, domestic QR can offer a lower-cost alternative with similar features. Therefore, businesses using domestic QR can avoid the costs associated with POS terminal rentals to accept card payments, reduce the administrative costs of handling cash, and eliminate fees compared to specific digital wallets. Besides fees, domestic QR payment can make the settlement process more efficient with instantaneous funds transfer from the consumer to the merchant’s bank account.

RTP Transaction Value (USD Mil) in Southeast Asia, 2018-2026E



Interestingly, the benefits of reduced fees and instant settlement have prompted leading eCommerce marketplaces in the region, such as Shopee and Lazada, to offer small discounts to customers choosing to pay with domestic QR. Customers in Singapore can receive a 0.5% to 1% discount up to a maximum of SGD3 by using PayNow, with savings from transaction fees passed on to the consumer. eCommerce platforms also get additional benefits as they receive the funds instantly. This reduces receivables and streamlines the complex payout process to multiple sellers on the eCommerce platform.

BNPL (Buy-Now, Pay-Later)






















Gaining access to credit is challenging in Southeast Asia. Almost 50% of the population remains unbanked, and credit card ownership has traditionally been low. Given that, one can see how Buy-Now, Pay-Later (BNPL) have rapidly gained popularity.

There are generally three types of BNPL operators in Southeast Asia: Pure-play, eCommerce-linked and Fintech-linked. The main difference between these is where a consumer can use the BNPL solution and the surrounding ecosystem of services and features available for the user. Pure-play operators tend to partner with a wider range of physical brick-and-mortar merchants, especially those that sell higher-value goods or services, such as home design and furniture shops or beauty

and aesthetics clinics. Conversely, eCommerce-linked operators typically offer BNPL as part of their marketplace platform, where consumers can opt for this payment method across most merchants on the marketplace for almost any transaction size. Fintech-linked operators, however, offer BNPL as part of a suite of financial services, usually including a digital wallet.

The acceleration of eCommerce spending during the pandemic helped push BNPL to the forefront of consumer awareness. So much so that eCommerce and BNPL have become inextricably linked. Many eCommerce retailers feel pressured to offer some form of BNPL to their customers, leading to partnerships between eCommerce marketplaces. Also, pure-play or Fintech-linked BNPL operators have become more common. For instance, Zalora, a popular fashion eCommerce marketplace, allows users to choose from multiple BNPL options, including Atome, Shopback PayLater or Grab PayLater.

Consumers in Southeast Asia are also drawn to BNPL because of the promotions, reward programmes and quick approval process, which can happen in as little as 15 minutes. However, there are still concerns about hidden charges, late payment fees and how using BNPL can make it harder to control spending.

	Pure-play BNPL operators	eCommerce-linked BNPL operators	Fintech-linked BNPL operators
Multi-market	    	 	  
Single market	    	     	   

Micro-merchants fueling a wave of digital payment adoption

Micro, small and medium-sized enterprises (MSMEs) are the backbone of Southeast Asian economies. This is especially true in developing markets such as Indonesia, Vietnam and the Philippines, where the micro-merchant segment can account for upwards of 98% (according to WEF) of all MSMEs. Also known as warungs in Indonesia, mamak stores in Malaysia, and sari-saris in the Philippines, these micro-merchants generally serve tier-two cities and rural villages far from major metropolitan centres. As such, their customers have very different needs and purchasing habits. For instance, these consumers often prefer buying in small quantities to meet short-term needs. Micro-merchants also tend to have close relationships with their regular customers. These businesses are hyper-aware of purchase cycles and aim to stock their inventory accordingly.

A recent trend has been the digitisation of micro-merchants, the more common types being small family-owned convenience stores (similar to bodegas), eateries and cafés. Startups such as Warung Pintar (meaning “smart kiosk”) in Indonesia and GrowSari in the Philippines have developed innovative ways to “supercharge” micro-merchants by offering technology, including water

dispensers, a WiFi connection and phone-charging stations as incentives. Many consumers gather here, using the WiFi and buying snacks and drinks. The merchants, in turn, only have to download the fintech app and purchase supplies through it.

By encouraging micro-merchants to shift their day-to-day operations to these platforms, accepting cashless payments made much more sense. Furthermore, the resulting digital transactions were recorded by MSMEs' accounting systems, eliminating human errors and reducing the administrative costs of handling cash. Merchants have been further incentivised to go digital due to other value-added services on the app for inventory tracking, billing, invoicing and accounting. More importantly, micro-merchants are often cashflow-constrained. Startups such as Warung Pintar can facilitate loans based on an analysis of the merchant's transaction history and sales cycles. Micro-merchants who have embarked on this digital transformation remain in the minority, but the future looks promising as more learn about the benefits of going digital.

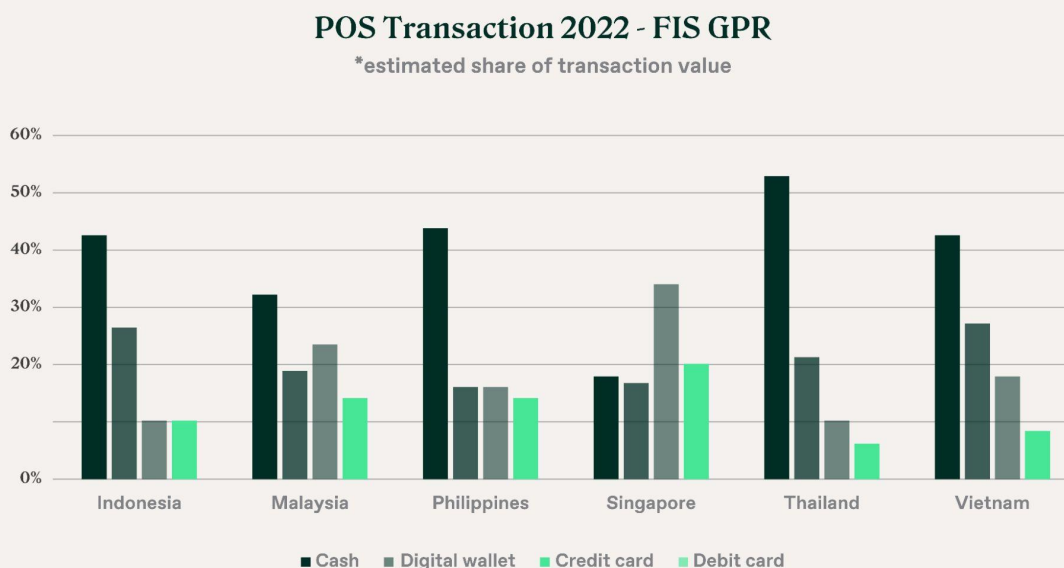
Five things to know about consumer payment culture in Southeast Asia

The diversity of local payment methods and consumer behaviors can create complexity as well as opportunities for companies looking to enter or expand in Southeast Asia. From our research, we have identified five aspects of consumer payment culture in Southeast Asia that need to be considered when exploring opportunities in the region.

#1. Cash still plays a pivotal role in POS payments

Cash still plays a pivotal role in most Southeast Asian economies, indicating a parallel rather than a replacement trend. Data from the 2022 FIS Global Payments Report reveal that while digital wallet adoption has increased, cash is still the most used payment method at Point of Sale (POS). Digital wallets only account for less than a third of total transaction value.

Two outlier markets for this are Singapore and Malaysia, with an unbanked population of 2% and 8%, respectively, and much higher card ownership.



Even in markets with super-app wallet providers such as Indonesia (GoPay), Thailand (TrueMoney) and Vietnam (MoMoPay), the transition away from cash has happened only very gradually. This is because, in markets where banking penetration is low, merchants face high card acceptance fees. Also, many digital wallet providers charge merchant fees opaquely, which is confusing for small businesses and slowing adoption. Finally, the tradition and habit of handling physical cash is prevalent among MSMEs and difficult to change.

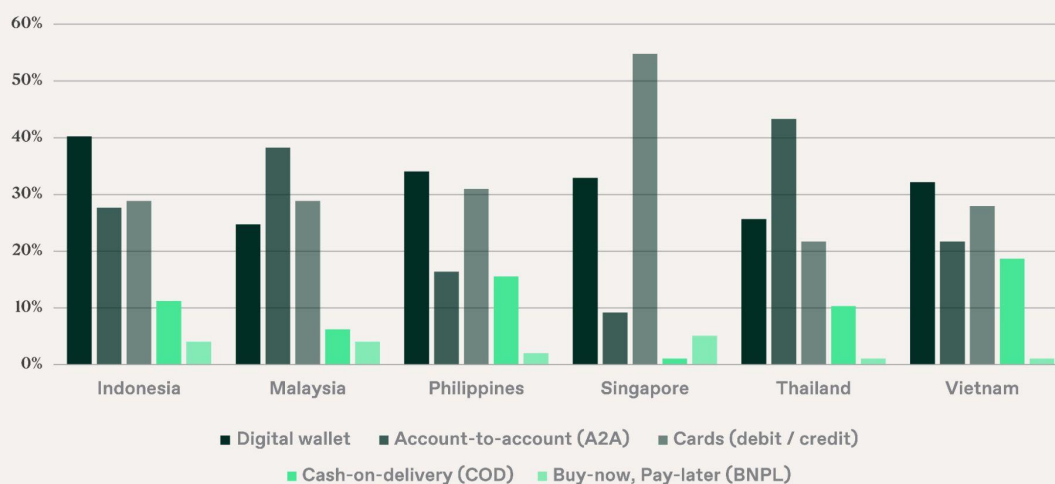
However, cash may not reign forever. The rapid growth of digital wallets at POS may lead to a tipping point and overtake cash payments. Achieving this requires a coordinated effort from policymakers and wallet providers to incentivise consumers and merchants to transact with digital wallets. Nonetheless, progress in markets such as Indonesia and Vietnam is promising and can provide valuable lessons to other countries.

#2. eCommerce growth continues to drive digital wallet adoption

In the early days of eCommerce in Southeast Asia, consumers were not accustomed to paying online. Marketplaces resorted to alternative and more familiar offline payment touch points (such as convenience stores and ATMs) to help consumers feel more secure. Eventually, eCommerce marketplaces added escrow features and an acknowledgement step to inform customers of successful payments. This has helped to build trust and boosted consumer utilisation.

Payment Preference for eCommerce Transaction 2022 - FIS GPR

*estimated share of transaction value



Payment processes were seamless, and the cashback, points and other rewards were very attractive to consumers and, in many cases, merchants as well. Furthermore, the usability of digital wallets attracted a wider demographic of users. As such, the market size of digital wallets in the region flourished. Many Southeast Asian markets observed a 50% increase in digital wallet transaction value between 2020 and 2021.

Today, digital wallets account for around 30% of eCommerce transaction value across Southeast Asia, and that share will only increase. Many digital wallet providers have teamed up with eCommerce marketplaces to offer special discounts for consumers who choose to pay with their partner digital wallets. Fintech-linked BNPL providers have also contributed to the growth in wallet transaction value, with recurring monthly payments deducted from the stored value on the digital wallet. Moreover, eCommerce in Southeast Asia has primarily been domestic-focused, except for a few regional players such as Shopee and Lazada. As cross-border eCommerce starts to pick up, digital wallets will likely play an even more dominant role.

#3. Consumer loyalty to digital wallets remains low but an ecosystem approach can help address this

Across Southeast Asia, rewards such as cashback and points drive digital wallet usage and reflect the cultural importance of bargain hunting. Consumers who use digital wallets often hop from one to another based on whichever discount or promotion is running.

Wallet providers can lessen their dependence on discounts as incentives by adding financial and other value-added services to their platforms. This can be done through partnerships with financial services companies and other industries, including healthcare, insurance, travel, hotels, and entertainment. These services are often highly localised. For example, MoMo in Vietnam expanded into movie and flight tickets to differentiate its value proposition. In contrast, Grab offered home-based health screenings in Singapore, one of Asia's most rapidly ageing societies.

Meanwhile, GCash has quickly become essential to consumers' day-to-day lives in the Philippines by offering accessible and innovative digital financial services such as wealth-building tools, GFunds and GStocks PH.

In any case, this ecosystem approach can help reduce consumers' dependence on discounts by providing convenience and other locally relevant value-added services. As users spend more time and transact within the ecosystem, data from customer interactions enables the wallet ecosystem provider to offer even more personalised rewards, which can further increase customer retention and loyalty.

#4. Sachet / micro-payments economy spending habits influence features in payment and financial services

The sachet economy and its related consumer purchasing habits are another feature in Southeast Asia. A sachet economy refers to the practice where consumers prefer to buy products in smaller, affordable packs than in bulk. This concept can be applied to retail products and services such as mobile data and talk-time, where consumers desire a pay-as-you-go approach. Sachet markets in Southeast Asia include Indonesia, the Philippines, Thailand and Vietnam.

Digital wallets in sachet markets don't have a minimum amount for top-ups, transfers, spending or funds that must be stored in the wallet. Micro-transactions are also encouraged in the form of discounts offered for small value items, such as a P30 discount on a P150 (~US\$2.60) cup of coffee or bag of chips. Similarly, many BNPL providers in Southeast Asia enable their service for low-value purchases. For example, one can use SPayLater on Shopee Indonesia for an IDR200,000 (~US\$13) pair of shoes. Fintechs that offer retail investing have taken a similar approach. Consumers can buy mutual funds or stocks from as low as P50 (US\$0.88) on the GCash app in the Philippines. Likewise, users of MoMo in Vietnam can buy micro-insurance for their motorbikes from as low as VND66,000 (US\$2.70).

These features and discounts can be hyper-localised to target consumers in a specific city. The end goal is to drive more frequent and personalised engagement with consumers.

#5. Rural vs. urban divide and level of domestic socio-economic development affect consumers' motivation for cashless payments

Safety and convenience seem to be obvious considerations that motivate Southeast Asian consumers to use cashless payments. However, taking a deeper look, we observe that there are nuances that differentiate consumers between urban and rural areas.

In urban areas, the drivers for going cashless include the convenience of not carrying cash around and the faster and simpler process of card or QR code payments. Identifying suspicious activity as all transactions are tracked is an additional benefit. Consumers in urban areas tend to be more

financially literate and aware of how to maximise rewards from cards or digital wallets as well as utilise personal finance management features.

Drivers	Situation in urban areas	Situation in rural areas
Safety	<ul style="list-style-type: none"> • Fear of cash getting lost or stolen • Easier to identify suspicious activities as all transactions are tracked 	<ul style="list-style-type: none"> • Fear of cash getting lost or stolen
Convenience	<ul style="list-style-type: none"> • Don't have to carry cash or physical wallet around • Faster and simpler than paying with cash • Get an e-receipt 	<ul style="list-style-type: none"> • Unable to get access to cash easily; not many ATMs and often run out of cash • May have to travel long distances to a bank branch or ATM to get cash
Rewards / Features	<ul style="list-style-type: none"> • Earn points, cashback, discounts • Utilize personal financial management tools 	<ul style="list-style-type: none"> • May not make transactions as often or make large enough purchases to benefit significantly from rewards • Low levels of financial literacy so PFM tools not well utilized

Consumers in rural areas have different pain points when it comes to cash. Access to cash can be limited by the lack of ATMs or bank branches. Also, ATMs may not be replenished regularly with physical banknotes. Earning rewards from cashless payments is a weaker motivator for rural consumers. They tend to make purchases with less frequency and for smaller amounts, and cannot qualify for special discounts.

Top 3 categories going fully cashless - VISA CPA 2023



According to a consumer survey by VISA, Southeast Asian consumers believe that bill payments (for utilities, tax, and education) are best placed to be digitised. This is not so surprising given that government-related entities or agencies are often on the receiving end, benefitting from improved efficiencies, reduced errors and enhanced data collection from cashless payments. Consumers also benefit from the convenience of paying bills through a mobile app or online rather than having to

travel to a physical location to wait in a queue to pay. Bill payment is already available through most regional super-apps and digital wallets in Southeast Asia.

For taxi and ride-sharing, going cashless is more likely in markets with super-apps that have ride-hailing as a core business. Grab, founded in Malaysia and now headquartered in Singapore, is a good example of this. A similar observation can be made in Indonesia, where Gojek's ride-hailing service is ubiquitous. Aside from these countries, cash payments are still widely used and preferred by many taxi drivers as card payments have high fees. Drivers also worry about settlement time when accepting digital wallets.

The future of Southeast Asia's consumer payment culture

Innovation in consumer payments in Southeast Asia has evolved at a pace that has surpassed the expectations of many industry observers. Regulators have also been supportive of driving forward the digitisation of payments. Overall, the market and infrastructure for digital payments, especially online payments, are maturing and driving long-term positive macroeconomic changes inside the region.

From our vantage point, Southeast Asia's consumer payments culture is on the cusp of significant transformation. While the past few years have focused on building the foundation for digitising domestic consumer payments, moving forward we expect to see an acceleration in the adoption of digital payments, especially outside of urban areas. Usage of staged wallets will continue to outpace other digital payment methods, especially in markets where bank account ownership remains low, such as Indonesia, Vietnam and the Philippines. We expect to see many digital wallet providers adopt an ecosystem approach to create 'one-stop shop' super-apps by embedding a range of value-added services. This gives us further reason to be optimistic, as it will improve access to financial services for underbanked people in the region.

More attention has recently been placed on unlocking the potential of domestic QR real-time payments. Ironically, the most promising use case appears to involve bilateral cross-border payments that enable foreign visitors to pay local merchants using the domestic payment rails. This trend is picking up pace with regulator-led initiatives such as ASEAN's Regional Payment Connectivity (RPC) initiative and the proof-of-concept, interoperable Singapore Quick Response Code Scheme (SGQR+) from MAS. We expect that developing cross-border consumer payment solutions will top the agendas of Southeast Asian policymakers as they seek to bolster regional trade. Underpinned by innovative solutions and supportive governments, the future of consumer payments in Southeast Asia is more promising than ever.

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