



CAMBODIA 2040

CULTURE AND SOCIETY

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Chapter 9 | Cashless Cambodia

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What is a cashless society? And how does it affect ordinary Cambodians? This is best illustrated by a day in the life of a student in 2040. She just left her hometown of Kandal to study at a university in Phnom Penh. It is the first day of the month and she wakes up to find that her early-riser parents have already transferred her monthly allowance into her bank account. Through the bank's mobile app on her phone, she takes two minutes to make rent payment to her landlord. Before leaving the house for school, she orders a cup of coffee online from her local café and pays for it with a credit card. She picks up the drink on her way to the bus stop. When the bus arrives, she pays for the fare by scanning a QR code with her mobile wallet app. Later in the day, during a class break, she makes plans with a few classmates to see a movie during the weekend. She buys tickets on the cinema's website and pays for them with her mobile wallet account. She then uses the app's bill splitting function to request the money her friends owe her for the tickets. After school, as it is raining, she skips the bus and uses her phone to order a taxi. The ride is automatically paid for with the credit card linked to her ride-hailing app profile. At home in the evening, she uses a food delivery app to order dinner. When the delivery person arrives, she pays by swiping her credit card on a card reader connected to his phone. While eating dinner, she receives a text from a friend asking to borrow \$50. She clicks on the request and uses her fingerprint to authorize the loan in several seconds. And just before going to bed, she arranges and pays for a cleaner to clean her house later in the week.

I. Cashless Cambodia: The Ideal Scenario

This situation may sound like a fairy tale, but the days of paying for goods and services with bills and coins are already over in many countries. In Sweden, 80 percent of all purchases are already paid for digitally. Payments via cards and apps are so common that many Swedes have stopped carrying cash (Sweden.se, n.d.). For the first time in 2018, debit cards were set to replace cash as the most frequently used payment method in the United Kingdom. While cash made up 62 percent of all payment transactions there in 2006, this share is projected to slide to just 21 percent by 2026 (Lyons et al., 2018). In India, cash use is decreasing and digital payment transaction turnover reached 7.85 times of GDP in 2017 (Reserve Bank of India, 2019).

Cambodia will be no exception. In 2040 digital payments will replace physical cash as the predominant medium of exchange.

This means two things: universal access to and significant use of digital payments by 2040. First, e-payments will be available to everyone through near-universal financial account ownership for individuals and near-universal acceptance by businesses. All urban residents and four in five of their rural counterparts will have at least one account with either a traditional financial institution (banks and microfinances) or an alternative payments service provider (mobile wallets and mobile money operators). Similarly, regardless of whether they conduct business online or in physical stores, 100 percent of urban-based merchants and 80 percent of those in rural areas will offer digital payment options. And second, both the number and value of digital payment transactions will exceed those of cash transactions.

It is useful at this point to clearly define digital payments. A payment happens when money changes hands. This can be between one person and another (splitting a restaurant bill with friends), from a person to a business (for goods or services), from a business to a person (private-sector salaries), from a person to a government (personal taxes), from a government to a person (public salaries and pensions), from a business to a government (businesses taxes), or from a government to a business (subsidies). Following the methodology developed by the Better Than Cash Alliance (n.d.), digital payments are transactions in which both parties (payers and payees) use digital

interfaces to initiate and receive payments through non-paper instruments. Non-paper payment instruments include, but are not limited to, debit and credit cards, stored-value cards, bank transfers and direct debits, and e-money. They do not include cash (bills, notes, coins), checks, and money orders. We use the terms cashless payments, non-cash payments, digital payments, electronic payments, and e-payments interchangeably.

II. Scenario Space and Key Factors for a Cashless Cambodia

To paraphrase a famous Bill Gates quote, we often overestimate what we can accomplish in two years and underestimate what can be done in ten (BrainyQuote, n.d.). If it is hard to picture Cambodia becoming a truly cashless society in the next 20 years, it may be helpful to reflect on the country's experience with mobile phone and social media adoption over the past 20 years.

At the beginning, things did not go smoothly for Cambodia's adoption of a major digital technology. Mobitel (now Cellcard) was launched in 1997 and became the country's first mobile network operator (Cellcard, n.d.b). It signed up just 15,000 subscribers by September 1998 (Nahano, 1998). Catering to even this small user base was challenging: up to half of calls between mobile phones and land lines were unsuccessful due to network congestion (Nahano, 1998).

About a year after Mobitel's market debut, this author's father bought his first mobile phone, a palm-sized Alcatel handset that cost several months of his public-schoolteacher's salary. Callrates were so high that he mostly used the phone to receive calls. Making calls were strictly reserved for emergency. Indoor service coverage was so unreliable that he had to place the unit in a plastic bag and hang it on a tree branch in front of the house where coverage was still spotty but significantly better than inside. When the phone rang, he had to run from whatever he was doing to answer the call before it dropped, which it often did. He had to dash faster still to collect the phone and return it to proper shelter if it started raining, clearly an untenable arrangement in a tropical country like Cambodia where it rains six months out of the year. He learned this the hard way one day when a sudden downpour soaked and damaged the phone while he was visiting a neighbor. If somebody had told him then that

someday he would be able to purchase a phone that is far better than the unfortunate maiden Alcatel for far less money and that he could have unlimited call for the price of a cup of coffee a month, he would likely have dismissed the suggestion with a laugh.

But that is exactly what is happening today. A study in late 2017 showed that approximately seven in ten Cambodians between the ages of 16 and 65 owned a mobile phone (though only 5 percent owned a personal computer) (LIRNEasia, 2019, p. 23). Data from the Ministry of Posts and Telecommunications (MPTC) paint an even more striking picture. SIM card users numbered 19.4 million in 2018 or 120 percent of the population (Chea, 2019), putting Cambodia's mobile phone penetration rate among the world's top ten (Raintree & Mekong Strategic Partners, 2019, p. 8). Though this represents a dramatic rise in phone ownership from those pioneering 15,000 subscribers 20 years ago, the momentum is far from over: a full 45 percent of all mobile subscribers in 2017 only got connected in the last five years (LIRNEasia, 2019, p. 31).

Almost half of Cambodians who had a phone owned a smartphone (LIRNEasia, 2019, p. 28) and 88 percent of smartphone users connected to the Internet on their smart devices (LIRNEasia, 2019, p. 39). Furthermore, six out of ten mobile Internet users had access to fast broadband (3G and 4G) connections (DataReportal, 2019, p. 35). This is driven by two key factors: affordable handsets and cheap mobile data. A 4G-equipped smartphone now costs less than \$50 (Smart, n.d.). And for a dollar a week, subscribers can enjoy virtually unlimited on-net calls and up to ten gigabytes of mobile data (Cellcard, n.d.a).

Once armed with Internet-connected smartphones, Cambodian consumers have proven adept at embracing new digital technologies and services. A prime example is social media whose user base has exploded in the past several years. 8.4 million Cambodians had social media accounts in 2018, a 20 percent rise compared to just a year earlier (DataReportal, 2019, pp. 15-16). The biggest platform was Facebook with 8.3 million active monthly users (DataReportal, 2019, p. 26). Facebook is so pervasive in Cambodia that more than half of its users use it

not just for staying in touch with friends but also for looking up educational content and reading news (LIRNEasia, 2019, p. 55). In fact, according to a 2016 report, Facebook was the most important news source in Cambodia (surpassing television and radio) and users had a relatively high level of trust in information shared on the platform (USAID et al., 2016, pp. 18-19).

The breakneck speed with which Cambodia has embraced mobile phones, the Internet, and social media offers relevant lessons for its quest to become a cashless society: first, the country is not unaccustomed to technology leapfrogs and, second, the digital infrastructure for such a cashless future is already in place.

There are significant opportunities from the widespread adoption of digital payments. One of the biggest benefits to consumers is a sharp reduction in transaction costs. Being able to transact through digital channels allows Cambodians, especially those in rural areas, to avoid traveling great distances to a face-to-face meeting or a bank branch to make and receive payments. This saves them not only traveling expenses but also time which they can use for work or leisure. Furthermore, digital payment options offer alternatives to expensive and unreliable informal services. A 2013 impact assessment on Wing, a mobile money operator, estimated that customers of its domestic remittance services paid between \$0.5 to \$1 per transaction, a drop from the \$2.5 they would have paid to send money through money changers or taxi drivers. This reduced transaction costs for an average customer by \$19 a year (Hoffman & McVay, 2013, p. 20).

Just as importantly, broader financial inclusion enabled by digital technologies particularly benefit disadvantaged segments of society. Digital payments and e-commerce make it possible for women in China to start businesses and sell products from home, resulting in half of all online enterprises being women-owned, a higher proportion than their offline counterparts (Luohan Academy, 2019, p. 4). And Laku Pandai, a branchless banking initiative backed by Indonesia's financial regulator and some of the country's biggest banks, allowed 1.1 million new rural customers to save \$3 billion in deposits in less than a year (Oliver Wyman & MicroSave, 2017, p. 19).

And individuals are not the only ones to benefit from digital payments; governments and businesses do too. Cashless payments make possible a level of

accountability, transparency, and traceability that helps governments strengthen revenue collections and combat corruption. Last but not least, digitizing payments and signing up millions of previously unserved consumers present vast opportunities (and profits) for the private sector. Overall a report by the Asian Development Bank, Oliver Wyman, and MicroSave estimated that inclusive financial services enabled by digital technologies can boost Cambodia's GDP by as much as six percent (Asian Development Bank, 2017).

Realizing the ideal scenario of a cashless Cambodia requires developments within the spaces of five key factors:

1. Access to technology and the Internet;
2. Digital identification;
3. Proper regulatory frameworks;
4. Full government participation in digital payments; and
5. Market support initiatives.

These factors are necessary conditions for the ultimate success of cashless payments and policy solutions required to that end are developed in Section 3 below.

III. Policy Initiatives to Achieve the Ideal Scenario

We have just established that a cashless society is both possible and desirable. Now the question is, how do we get there?

There are good reasons why cash is king. According to Jesus Rosano of G4S, a multinational security company that provides cash handling services for banks: "People trust cash; it's free to use and readily available for consumers, it's confidential, it can't be hacked and it doesn't run out of battery power – these unique qualities continue to hold significant value to people living on all continents" (G4S, 2018). This is particularly true for Cambodians, for many of whom cash remains the only available form of payments.

In the next 20 years, the shift from cash to digital payments in Cambodia will be propelled by the convergence of four market forces: unmet consumer needs, ubiquitous uptake of mobile technology and the Internet, innovative approaches by

financial technology (FinTech) challengers to serve unbanked Cambodians, and efforts by incumbent financial institutions to defend their market positions. These forces will happen irrespective of policy choices; they will push Cambodia in a general direction of travel away from cash dependence.

In the absence of coordinated policy efforts to address market failures and system-level challenges, however, market forces alone are not sufficient to move Cambodia to the ideal scenario described earlier. The government recognizes it has an important role to play and there is evidence that political will exists at the highest level to create an accommodative regulatory environment. The Royal Government of Cambodia's (2016) Financial Sector Development Strategy 2016-2025, for example, outlines a vision "to achieve a sound, efficient, diversified, and inclusive market-based financial system that can broadly fulfill domestic demand for financial services and is able to effectively support sustainable growth, raise people's income, reduce poverty, and align with regional and financial integration" (p. XI).

But getting to a cashless future is by no means a given. Political will must be translated into concrete policy actions. Government leadership has been absolutely indispensable to the success of the drive towards cashless society in countries such as India and Singapore, for example.

The Cambodian government can and must pull five needle-moving policy levers to accelerate the transition from cash to digital payments. As noted, these five key factors will ultimately determine whether Cambodia can truly become a cashless society in 2040. Their headline outcomes are as follows:

1. Universal phone ownership and Internet access, closing the access gap between urban and rural areas;
2. Some forms of digital legal identification for all Cambodians, enabling them to fully participate in the economic, social, and political spheres;
3. A supportive regulatory framework, particularly regarding consumer protection and interoperability, that fosters confidence in the financial system and reduces costs of adopting cashless payments options;
4. The government leading by example by enabling and encouraging digital payments in public revenue collections and expenditures; and

5. The targeted use of subsidies and tax incentives to encourage merchants, especially SMEs, to embrace digital payments.

Universal Connectivity

In 2016, MPTC introduced the Telecommunications and ICT Development Policy. One of the key objectives of the policy was to improve telecom infrastructure and usage in Cambodia through the expansion of mobile phone and Internet penetration rates. It set ambitious connectivity goals for 2020, including:

Table 1: Connectivity Goals by 2020

Indicators	2020 Goals
Broadband Internet coverage in urban areas	100%
Broadband Internet coverage in rural areas	70%
Mobile phone penetration rate	100%
Internet penetration rate	80%
Broadband Internet penetration rate	70%
Percentage of households with Internet access	30%
Percentage of households with personal computers	30%
Internet of Things (IoT) connection rate	10%

Source: MPTC, Telecommunications and ICT Development Policy, 2016

Despite some great strides, many Cambodians living in rural areas are still excluded from the rapid rise in mobile phone and Internet access.

As of June 2019, data from the Telecom Regulator of Cambodia (TRC, n.d.a, n.d.b) show that there were 19.5 million mobile phone subscribers and 13.9 million fixed and mobile Internet subscribers in Cambodia. This suggests penetration rates of 122 and 87 percent, respectively. These data rely on self-reporting from mobile network operators (MNOs) on the number of SIM cards sold, including those that are Internet-enabled. They do not take into account inactive SIMs and multi-SIM users and likely overestimate the total number of mobile subscribers and Internet users.

A more reliable source of data is the 2017 LIRNEasia study cited above as insights on phone and Internet use were extracted from face-to-face interviews of more than 2,000 households and individuals in a nationally representative survey. The results showed stark geographical gaps in mobile phone ownership and Internet use. Though eight in ten Cambodians living in urban areas owned a mobile phone, only six in ten of their rural counterparts did (LIRNEasia, 2019, p. 24). And a higher proportion of urban Cambodians (51 percent) used the Internet compared to rural Cambodians (31 percent) (LIRNEasia, 2019, pp. 37-38)

The first step towards becoming a cashless society is to ensure that all Cambodians, regardless of where they live, have access to the Internet. And since financial services are likely to be accessed through mobile devices, universal phone ownership is also a prerequisite.

The geographical inequality of access can be addressed by prioritizing improved funding for rural telecom infrastructure. While the private sector has plenty of incentives to connect and serve lucrative urban markets, they are often reluctant to allocate capital expenditure to sparsely populated areas. The government has a responsibility to correct this market failure.

A funding mechanism for this purpose already exists: the 2015 Law on Telecommunications requires telecom operators to contribute two percent of their annual gross revenues into a Universal Service Obligation(USO) fund to be used to build networks in rural areas and reduce the urban-rural access gap (Telecommunication Regulator of Cambodia, 2015).

The USO fund is, however, very small. In 2017, only 27 of 31 operators paid, resulting in MPTC collecting just \$9 million or 70 percent of target (Hor, 2018). Even assuming full compliance, total contribution would be less than \$13 million. For comparison Smart, Cambodia's largest MNO, spends \$80 million a year on network upgrade and expansion (Smart, 2018).

MPTC must start enforcing USO payments by all operators, though this action alone is not going to be adequate. The current funding model places the onus of universal service on telecom service providers (MNOs and ISPs) while letting other businesses (such as social media and e-commerce) that benefit from improved connectivity off the hook. The Cambodian government needs to change

this and drastically expand rural infrastructure funding from other sources of taxes and contributions. It should explore imposing a digital tax, along the line of what France recently introduced (Schulze, 2019), aimed at making Internet companies such as Facebook and Google pay a certain percentage of the revenues they generate in Cambodia. And in addition to taxing e-commerce firms on the same basis as their offline counterparts, the government should also introduce additional levies similar to US Oone-commerce transactions. While details of these taxes require careful consideration, the key design principle is to ensure that businesses who benefit most from the expansion of rural Internet connectivity will also bear some of the cost of that expansion.

Universal National Digital ID

The UN General Assembly set the goal of “legal identity for all, including birth registration” by 2030 as one of the targets of the Sustainable Development Goals (SDGs) (United Nations, 2016). However, according to the World Bank, one billion people around the world still face challenges in proving who they are (Desai et al., 2018).

In Cambodia legal identity serves three crucial functions for individuals: economic (e.g. meet Know Your Customer or KYC process for financial services), social (e.g. qualify for subsidized health services), and political (e.g. voter registration) (International Telecommunication Union, 2016, p. 39). But in 2018 an estimated 2.1 million Cambodians had no recognized form of legal identity (World Bank, 2018). Coverage for the National Identity Card (National ID), them a inform of legal identity in Cambodia, is likely to be lower still. Only residents above the age of 15 are eligible and, though enrolment is free, citizens need to travel to their places of birth or permanent residency to apply, a process that is expensive or impossible for many migrant and foreign workers. Furthermore, obtaining the National IDs outside of sporadic nationwide enrollment drives is difficult.

This poses one of the biggest challenges to financial inclusion. Universal account ownership is impossible without universal identification. The National ID is one of the key documents required to open a bank account (ACLEDA Bank, n.d.b). In 2017, one in three Cambodian adults who did not have an account attributed the situation to the lack of proper identification documents (World Bank, 2017).

And universal account ownership is improbable without universal *digital* identification. Even when they have National IDs, many Cambodians are still unable to access financial services given the hassles of traveling in person to a financial institution branch to open an account or handle transactions. In 2017, there were only 7.5 bank branches per 100,000 Cambodian adults (World Bank, 2019). Thirty-one percent of those who did not have a bank account said they were prevented from getting one because financial institutions were too far away (World Bank, 2017).

Any national identity program needs to be well designed. To adopt the criteria defined in a McKinsey Global Institute (2019) report, “good digital ID” is identification that is “verified and authenticated to a high degree of assurance over digital channels, is unique, is established with individual consent, and protects user privacy and ensures control over personal data”(p. vii). A good example is India’s Aadhaar, a program that issues 12-digit unique identity numbers linked to demographic and biometric information to residents (Unique Identity Authority of India, n.d.). More than 99 percent of Indian adults enrolled in the program between its launch in 2009 and January 2017 (Special Correspondent, 2017). It has had significant impact on account ownership in the country: the number of bank accounts opened through Aadhaar-based digital KYC rose from 48 million in 2016–17 to 138 million in 2017–18 (Abraham et al., 2018, p. 19).

Not only will universal national digital identity drive financial inclusion, it will also unlock significant economic value for Cambodia. It will open up access to financial services to those who previously lack legal identification. Additionally, by making it possible to open and operate accounts through digital channels, it will encourage millions more Cambodians to sign up for accounts. The ubiquity of Internet-connected and camera-equipped phones will allow consumers to easily complete account opening forms and securely share and authenticate identity on the websites and mobile apps of financial and payments service institutions.

The MGI report cited above estimated that full digital ID coverage could unlock economic value equivalent to 3 to 13 percent of GDP in 2030 for the seven countries it studied in depth (McKinsey Global Institute, 2019, p. vi). In emerging economies, the economic potential could be 6 percent of GDP, much of which can be realized through authentication enabled by digital ID alone. Sixty-five

percent of this economic value accrues directly to individuals with the rest going to institutions (businesses, employers, and governments). If we assume that introducing universal national digital ID will contribute six percent of GDP in economic value in 2030, Cambodia stands to reap \$1.33 billion in economic benefit, a sum that is more than three times the combined net profit all commercial banks in Cambodia made in 2017.

Two Key Pillars of Regulations: [1] Consumer Protection

Due to Cambodia's recent history, consumers do not have high confidence in the country's financial institutions. The Khmer Rouge regime banned all forms of private property and commercial exchange and abolished the use of money during 1975-1979. The national currency Riel was reintroduced in 1980. But in the early years, with the still-fresh memory of the Khmer Rouge, people preferred the use of precious metals such as gold or even foodstuff such as rice and salt as mediums of exchange and stores of value. More recently, bank collapses in the aftermath of the 1997 Asian Financial Crisis wiped out deposits and savings of many Cambodians. These factors explain, at least partly, the low level of account ownership in Cambodia. When trust is lacking, stashing cash under the mattress becomes the default financial management strategy for many.

Since then the National Bank of Cambodia(NBC), the country's central bank and main financial sector regulator, has played an increasingly active role in promoting consumer protection among banks, microfinance institutions (MFIs), and other financial institutions. An updated Law on Banking and Financial Institutions was adopted in 1999. Furthermore, the NBC has on multiple occasions raised the capital requirements of different kinds of financial institutions, lowering risks of failures caused by financial shocks.

Despite this progress, the standards of consumer protection in Cambodia today remain woefully inadequate. To take just one example, consumers quickly realize that lodging, tracking, and resolving complaints is time-consuming and ineffective. In a prakas (regulation) on the handling of consumer complaints, the NBC requires every financial institution to publicly disclose its complaint management process on its website(National Bank of Cambodia, 2017, p. 6). A quick search of the websites of Cambodia's top ten banks by assets (National

Bank of Cambodia, 2019a, p. 35), however, shows that only one (ACLEDA) has a page with details on steps customers can take to have their complaints resolved (ACLEDA Bank, n.d.a). The other nine websites only provide generic contact information and/or web forms to collect complaints without clearly explaining how they are tracked and when consumers can expect them to be addressed. When the author made calls to ANZ Royal Bank (now J Trust Royal Bank) and ABA Bank call centers, the banks' employees were also unable to provide copies of complaint management processes or point out how to access them on the banks' websites.

If their banks fail to resolve complaints, consumers will find the NBC not much help either. There is currently no way to submit complaints online to the regulator; its complaint procedure requires customers to call a phone hotline or submit letters. This poses a challenge to consumers who are illiterate or unfamiliar with how to write in the proper language so beloved by bureaucrats. Even if complaints are successfully submitted, the NBC seems to have no effective mechanisms to track those complaints and notify consumers of outcomes.

To gain consumers' trust in the financial system, the NBC must drastically step up its consumer protection efforts. An easy-hanging fruit is to encourage more effective self-regulations by financial institutions. A framework for this already exists in the form of the Code of Banking Practice that was voluntarily adopted by numerous banks and MFIs in 2015 (Ou, 2015). The Code's content is good, but implementation has been lackluster. There is no evidence that the Complaint Committee that is supposed to mediate disputes between financial institutions and consumers has ever been convened. Signatories also have not conducted and released results of the annual self-assessment of compliance with the Code that they committed themselves to (Association of Banks in Cambodia, n.d. p. 4). The NBC can improve the situation by doing two things. First, it should make compliance with the Code compulsory for all regulated financial institutions unless they opt out, in which case the NBC should name and shame them by publishing a list of the absconders. Secondly there must be strict enforcement of the Code.

Cambodia also needs a comprehensive consumer financial protection legislation. Though a law on health protection and false advertising is being prepared by the Ministry of Commerce and expected to be passed by parliament this year (Chea, 2019), a framework to safeguard the financial rights and interests of consumers does not exist yet. The NBC must take the lead in developing one. This new legal instrument should consider setting up, either as a department inside the NBC or a separate agency, a consumer financial protection body similar to America's Consumer Financial Protection Bureau (CFPB). The CFPB was created after the Global Financial Crisis and is authorized to write and enforce rules against abusive practices by financial institutions as well as to collect and track consumer complaints (Reuters Staff, 2010). One of the major innovations of the agency is its compilation and publication of hundreds of thousands of complaints in an online Consumer Complaint Database (Consumer Financial Protection Bureau, n.d.). This has the effect of encouraging banks and other firms to resolve problems raised by complainants and improving the overall financial marketplace by helping other consumers avoid the same issues.

A digital payments ecosystem can only thrive in an environment of trust and confidence. By implementing these necessary measures, the NBC will create a strong regulatory foundation to support a cashless future for Cambodia.

Two Key Pillars of Regulations: [2] Interoperability

Cambodia's financial sector is already a crowded field made up of 43 commercial banks, 14 specialized banks, 7 microfinance deposit-taking institutions, 74 MFIs, and 16 payment services institutions (as of April 2019) (National Bank of Cambodia, 2019b). But, despite this appearance of choice, fund transfers between banks are highly inconvenient due to fees and the time required to settle transactions (it currently can take days). Many banks do not even offer the option of online fund transfers to other banks. And it is pretty much impossible to move the balance between two different mobile wallets unless a customer physically cashes out the balance from one wallet and deposits it into the other.

The NBC has a key role to play in addressing this fragmentation by championing interoperability between different payment players, systems and technologies. Interoperability here refers to the ability of customers of any financial institution

to make and receive payments using the infrastructure of any other service provider. It is similar to the concept of interconnection in telecommunications where subscribers on one network can easily call or text subscribers on other networks. (Imagine if Smart users are barred from contacting Cellcard or Metfone users!)

According to CGAP (n.d.), a global partnership of development organizations working to advance financial inclusion, effective interoperability “requires good governance, practical economic agreements, and sufficient support from policy makers to ensure safe and reliable connections” among different service providers. Effective interoperability is a win-win: it lowers transaction costs and expands options for consumers as well as helps service providers avoid redundant infrastructure investments. All these factors can lead to enhanced competition and significantly higher account numbers and transaction volumes for the whole industry.

As Cambodians become more comfortable with digital payments and the number of service providers proliferates even further, the NBC needs to promote two aspects of interoperability. On the consumer side, it must make it possible for any user to move money conveniently, cheaply, and in real-time from her account to any other account even if it is held at a different financial institution. This can be done by mandating all payments service providers to join a national payment system with common technology and governance standards such as those that have been successfully introduced around the world, including India’s Unified Payment Interface, Singapore’s PayNow, and Hong Kong’s Faster Payment System. In addition to interoperability by design, these schemes also share common attributes like a mobile-first user-friendly interface for consumers, the use of phone numbers or virtual addresses (instead of hard-to-remember bank account details) for identification, secure API-based two-factor authentication, and the implementation of open technology standards that allow developers to easily build services and solutions on top of the payments layer.

And on the merchant side, successfully moving away from cash to digital payments may paradoxically create an unintended issue: being presented with too many e-payment options, confused consumers find it easier to just pay with

cash. Singapore's central bank has come up with an ingenious solution to this problem by introducing the Singapore Quick Response Code, the world's first common set of specifications for quick response (QR) codes (Monetary Authority of Singapore, n.d.). With SGQR, merchants only need to display one QR code that consumers can scan and pay with the app of any of the participating mobile wallets and banks. The NBC should develop similar unified QR standards. All parties in Cambodia's payments ecosystem will benefit from such a scheme: consumers will find it convenient to pay on their phones, merchants will save costs by adopting one solution instead of many, and service providers will be able to avoid duplication of efforts and share the costs of acquiring merchants.

Government-Led Adoption of Digital Payments

In Cambodia, government expenditure makes up nearly one-fourth of GDP (Ministry of Economy and Finance, 2019). Not only does it pay salaries and pensions to public employees, it also spends large sums on the construction of schools, roads, bridges, canals, and other public infrastructure (not to mention weapons and equipment for national defense). To pay for these, the government collects billions of dollars in taxes, customs and import duties, and other revenues from individuals and businesses.

The government has a critical role to play in moving Cambodia towards a cashless future by shifting as much of these public payments as possible from cash to digital. Its full participation in the ecosystem is important for two reasons. First, the sheer scale of payments the government makes and receives can add billions in transaction volume every year to the budding digital payments industry. And more importantly, by paying civil servants and pensioners across the country through digital channels, the government directly creates hundreds of thousands of new customers for financial and payments service institutions, making it commercially viable for them to expand services to rural areas where they would not have been able to serve previously.

The Royal Government of Cambodia is probably Cambodia's largest payer and payee in dollar terms. It can leverage this power to encourage digital payments on both ends of the transactions. On the receipt side, allowing citizens to make payments to the government through online or digital channels needs to be a

priority. In 2019 the government expects to collect close to \$2 billion in taxes, \$2.3 billion in customs and import duties, and \$0.9 billion in non-tax revenues (Ministry of Economy and Finance, 2019). Parts of the last category of revenues come from payments for public services and fines such as vehicle registration, official documents, and traffic violations. These small-value transactions touch the lives of a large number of Cambodians and should be digitized as much as possible. Similarly, major government-owned utility companies such as Electricity du Cambodge and the Phnom Penh Water Supply Authority serve millions of customers. They must collaborate with financial and payments service providers to make digital bill payments widely available, convenient, and cheap.

On the spending side, the government holds the strings to a \$6.8-billion purse (Kong, 2018). Of this annual budget, approximately \$4.5 billion is allocated for recurring current expenses (paying civil servant salaries, suppliers and contractors, and so on) and the rest for capital expenditure (building schools and roads, paying interest on debt, etc.). Since capital spending is likely already made through banks, the main opportunity for moving from cash to digital payments lies in the distribution of current expenditure.

The government has already made good progress on this score: beginning in 2014 it started paying civil servants and military personnel through accounts at formal financial institutions (Hul, 2013). The policy was responsible for bringing account ownership to hundreds of thousands of Cambodians for the first time. The Ministry of Education, Youth and Sport alone employs 111 thousand staff members (92 thousand teachers and 19 thousand non-teaching staff) (Ministry of Education, Youth and Sport, 2018), all of whom now have their monthly salaries paid directly into bank or mobile-money accounts. This is most probably the reason behind a huge increase in account ownership rate among Cambodian adults from less than four percent in 2011 to 22 percent in 2014 (World Bank, 2017). Account ownership then remained essentially unchanged between 2014 and 2017.

The government deserves plaudits for the success of the policy, but it can do even better by allowing government employees a choice of where to receive their salaries. Currently they can only get paid through ACLEDA, Canadia, or

Wing (Hul, 2013). Observations suggest that many civil servants immediately withdraw their salaries upon payments, leaving minimal balance in their accounts and making it very hard for them to save. A possible reason is that the distance to the nearest ACLEDA, Canadia, or Wing branch is too great for these government employees to make multiple trips for smaller but more frequent withdrawals. Whatever the real reasons, consumers are best placed to know which financial institution can provide services that most closely match their needs. Letting civil servants have the final say on where their salaries are paid will enable them to make the right decision for themselves while also promoting competition among service providers.

Government Initiatives to Drive Merchant Acceptance

Payments is inherently a two-sided market in the sense that any payments scheme or product is only truly useful when a large number of people are willing to use it (consumers) and accept it (merchants) *simultaneously* (Rysman, 2009). This is why cash is such a successful form of payments: it is used by all and accepted by all.

We made an observation earlier that many public employees in Cambodia immediately withdraw their salaries after they are deposited into their bank accounts. The inconvenience of making multiple trips to a bank branch that is too far away may be one reason. Another possible explanation is that their bank balance is not a useful medium of exchange as most businesses in Cambodia currently only accept cash. This illustrates one of the biggest challenges faced by any nascent payments system: not enough merchants are willing to accept payments through it.

Cambodia will no doubt experience this problem in the early days of its quest to become a cashless society. While initiatives such as universal digital ID and Internet access will enable many more Cambodians to adopt digital payments, extensive merchant acceptance will likely not happen automatically or will take a really long time to develop. In the absence of extensive merchant acceptance, consumers will not be able to use funds in their bank or mobile-money accounts to pay for goods and services, disincentivizing them from having those accounts in the first place. This will, in turn, lead to even fewer merchants willing

to accept non-cash payments.

The government must cut through this Gordian knot by playing a leading role in encouraging digital payments acceptance among Cambodian businesses, especially small and medium enterprises. Many businesses are unwilling to adopt new technologies or practices because of costs. The first thing the government should do is to remove these costs from the equation. Merchants who accept digital payments usually have to pay a transaction fee called the Merchant Discount Rate(MDR) to service providers. They may continue to accept only cash to avoid the fee. The government should help merchants defray this new cost, at least for a limited time at the beginning. An example is the Singapore government's initiative to reduce cash use at coffee shops and hawker centers across the island. To encourage café and restaurant owners to offer cashless options, the government agrees to bear the 0.5 percent MDR for three years (Wong & Heng, 2019). Additionally, the Cambodian government should consider tax incentives to reward those businesses that accept digital payments. One possibility is to impose a lower Value Added Tax (VAT) – say one or two percentage points below the regular rate of ten percent – on transactions that are paid for digitally, making it desirable for businesses to move as much of their sales as they can away from cash.

Over the past several decades, in an effort to foster financial inclusion, governments around the world have given a lot of support to the branchless banking model of mobile money operators. An important component of this model is the substitution of expensive branches of traditional financial institutions with smaller, more cost-efficient third-party agents. In Cambodia, the most successful company using this service model is Wing who claims to have a nationwide network of over 6,000 agents(Wing, n.d.). These are valuable service points, but they still require consumers to handle cash to agents over the counter to make remittances or pay bills. Now is the time to shift focus from cash-in and cash-out points (like Wing agents) to promoting acceptance points where consumers can easily pay with their bank accounts or mobile wallets. Cambodia can become a truly cashless society only when hundreds of thousands of businesses start accepting digital payments.

IV. Cashless Cambodia Under the Baseline Scenario: Business as Usual in 2040

Knowing what the future looks like and how we can get there, let's step back to the present for a moment.

Despite rising smartphone and mobile broadband penetration as well as consumers' increasing comfort in using digital products and solutions, progress remains slow in Cambodia in improving access to financial services in general and the adoption of digital payments in particular. The most comprehensive dataset on financial inclusion is the World Bank's Global Findex database (World Bank, 2017). Through a triennial survey covering 140 countries, the database records how adults (defined as people above the age of 15) make payments, save, borrow, and manage risks. According to the 2017 survey, only 22 percent of Cambodian adults reported having an account of some sort, virtually no change from the last survey in 2014. This is far below the world average (69 percent) and compares unfavorably with countries in East Asia and the Pacific (74 percent) and peers in the lower-middle-income group (58 percent).

This low level of account ownership appears to be a result of the failure of traditional financial institutions to provide what consumers want. The three key reasons Cambodian respondents gave for not having an account were insufficient funds (likely because the minimum balance required to open a bank account is beyond what most respondents could set aside), a lack of necessary documentation (possibly because the know-your-customer process during account opening is too onerous), and the distance to the nearest financial institution. Without a basic bank account, it is no surprise that only a very small proportion of Cambodian adults had access to traditional payments and credit products such as debit cards (7.19 percent) and credit cards (0.55 percent).

What is more surprising is that, despite the gap between current customer needs and what traditional financial institutions are able to provide, alternative payments service institutions such as mobile money providers are no more successful at signing up a meaningful share of unbanked Cambodians. Only 5.7 percent of Cambodian adults had a mobile money account in 2017. Moreover, even though the uptake of social media in Cambodia has been nothing short

of phenomenal, Cambodian consumers are still reluctant to adopt mobile banking and digital payments. In 2017 just six and two percent of Cambodians aged 15-65 reported using e-commerce and payments apps, respectively (LIRNEasia, 2019, p. 48).

While comprehensive statistics on cash vs. non-cash transactions in Cambodia are absent, available data suggest that current use of digital payments is negligible. The value of mobile payments in Cambodia was approximately \$3 billion or just 14 percent of GDP in 2017 (Chea, 2018, p. 9). For comparison, digital payments totaled \$41.5 trillion in China in 2018, an amount equivalent to almost 300 percent of GDP(Caixin Global, 2019). Furthermore, though a significant portion (42 percent) of Cambodian adults send and receive domestic remittances, the vast majority of these transactions (63 percent) still occur over-the-counter in cash. Very few Cambodians make or receive payments through their mobile phones (see Table 2).

Table 2: Cambodian adults using their mobile phone for different kinds of transactions in the past year (%)

Access Accounts	Domestic Re-mittances		Paid		Received		
	Sent	Received	Utility Bills	School Fees	Wages	Government Payments	Payments for Agricultural Products
5.91%	2.07%	3.43%	0.87%	0%	0.22%	0.06%	0.17%

Source: Global Findex database (2017)

If these trends continue, Cambodia will still be a predominantly cash-based economy in 2040 and a significant portion of the population will be excluded from the formal financial sector. A straight-line extrapolation of account ownership between the early 1990s and 2017 is illustrative.

The early 1990s is a natural starting point as it was then that financial regulators began issuing commercial banking licenses for fully private-owned banks again after the fall of the Khmer Rouge. For ten years after 1979, Cambodia remained a socialist republic with a command economy. A new constitution in 1989 legalized the privatization of state-owned companies and once again allowed private enterprises, marking the beginning of Cambodia's transformation into a market economy. In 1992, there were only two commercial banks – the Cambodian Commercial Bank and the Canada Gold and Trust Corporation. Both were public-private joint ventures with the NBC holding a 30 percent stake. By then, however, the NBC had approved 45 applications to start new banks, and at least seven had plans to open imminently (World Bank, 1992, p. 32). We can safely assume that account ownership rate among Cambodians were close to zero in that year.

And 2017 was the year the latest Findex survey was conducted. It showed 22 percent of Cambodian adults had accounts with either traditional financial institutions or mobile money providers. We already discussed how account ownership increased sharply between 2011 and 2014. But that was most likely as a result of a one-off event, i.e. the 2014 government policy to pay public salaries through banking channels. With only organic growth driving it, account ownership stagnated between 2014 and 2017.

The rise in account ownership from zero in 1992 to 22 percent in 2017 implies a growth rate of less than one percentage point per year. At this rate, only four in ten Cambodians would have an account in 2040. This would clearly be an unacceptable outcome. Cambodia would fall far behind neighboring countries. In Thailand, 82 percent of adults already had accounts in 2017 (World Bank, 2017). And a major government cashless initiative in Vietnam (Fintechnews Singapore, 2017) is driving up account ownership and digital payment adoption (Fintech- news Vietnam, 2018). But most importantly, this would be a tragedy as more than half of Cambodia's population would still lack access to even the most basic financial services.

If the five key factors discussed earlier are not achieved, it is highly unlikely that Cambodia can become cashless in 2040. Without innovative funding

mechanisms for infrastructure development, last-mile access to the Internet in rural areas will remain a critical issue, locking millions of Cambodians out of digital payments and the digital economy more broadly. In the absence of a significant overhaul, the existing national ID program will continue to struggle to provide the most basic forms of legal identification, let alone digital identification for all Cambodians that serves as the backbone for inclusive financial services and inclusive growth. Short of some very bold thinking, the current regulatory framework cannot support a financial system that is robust and trust-based. And without active government support for the burgeoning digital payment ecosystem, the private sector on its own is not be able to overcome the challenges and costs of adoption.

The role of the government is clear. A useful but imperfect analogy is city planning. Once the municipal authority has built basic infrastructure (roads, water, electricity, sewage, waste collection, and so on), developers will take care of the design, financing, construction, and sales of real-estate projects. Similarly, with the support of a comprehensive public policy program that incorporates the five key factors examined in this chapter, consumer demands and market forces will move Cambodia towards financial inclusion and a cashless society by 2040. This is by no means easy, but the most challenging undertaking offers the biggest payoff. And as the story mobile phone adoption shows, twenty years is plenty of time for big changes to happen.

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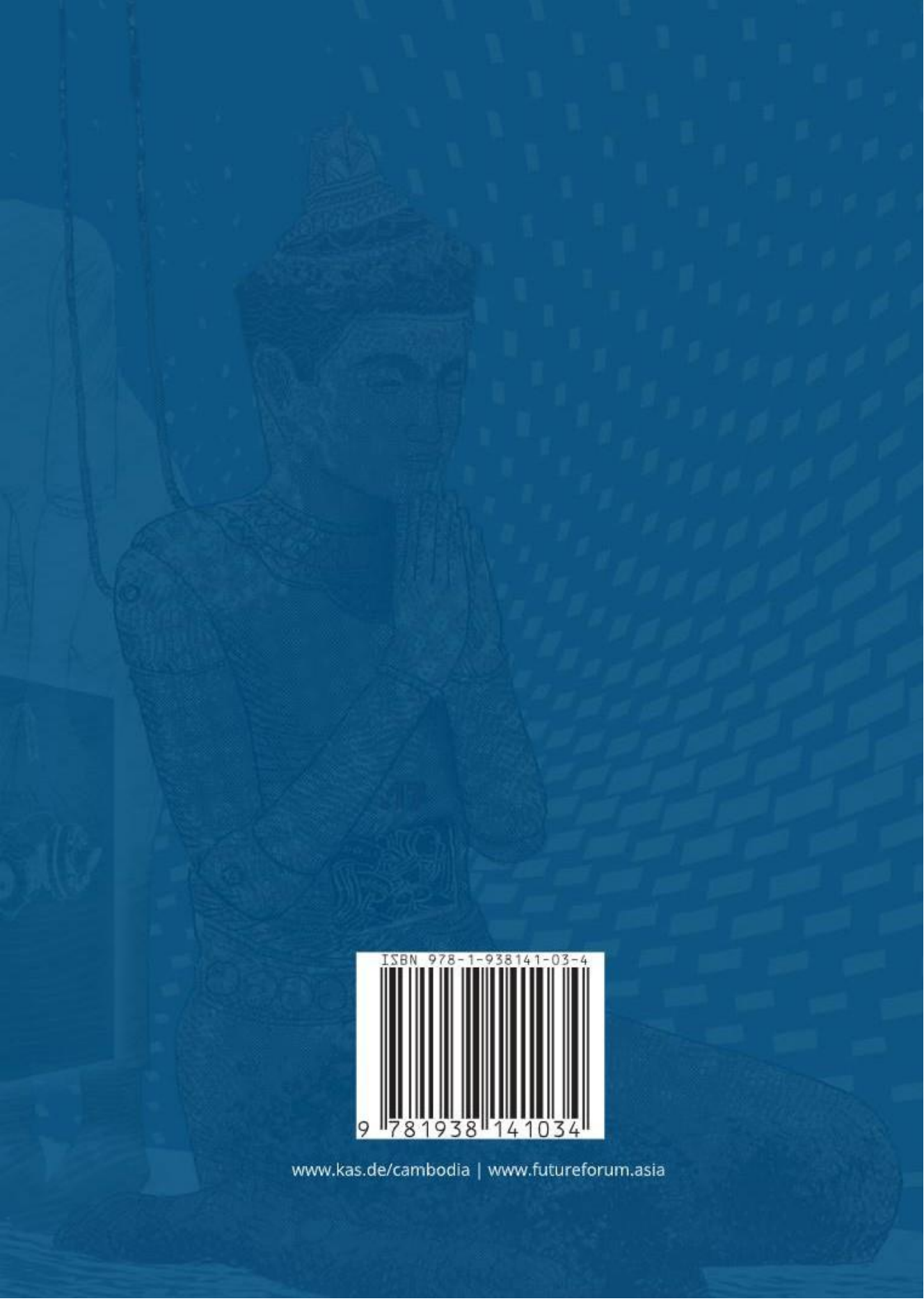
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