Payments in Asia – Developments and Trends

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17 October 2012

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Trends and issues of the Asian Payments Market in 2012

1 Introduction

The overall payments landscape in Asia is one of great opportunity. Strong economic growth across the region, that has higher volumes of payment transactions, has provided opportunities for all kinds of payment service providers, whether they be financial institutions, payment brands / schemes, mobile network operators, mobile handset providers, technology vendors, and even technology start-ups. Research suggests that the Asia Pacific region is expected to experience the highest amount of growth in total payments revenue (i.e., income to payments providers) over the next 3 to 5 years, when compared to other regions, such as the Americas and Europe.

Total Payments Revenue by Region (2009 vs 2015)

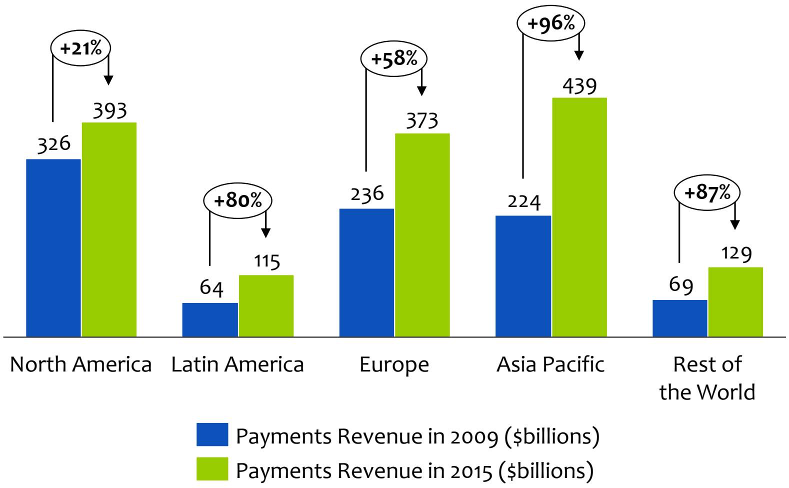

Figure 1 – Total Payments Revenue by Region (2009 vs 2015)[1]

As might be expected, payments growth in Asia differs from country to country, largely due to the different payment system environments that exist in each market. It is evident, however, that there is a shift in focus away from the historically dominant cash/paper-based payments systems towards electronic payments (e-payments), both in face-to-face and remote transactions. Key drivers include:

- The influence of Governments, Central Banks and Regulators on each of their respective markets;
- Advancements in technology from both incumbent technology service providers and up-and-coming new-market-entrants; and

[1] ACI Worldwide - "Replacing legacy payment systems" White Paper

- The improvement of economic conditions and consumer demand, particularly for the growing middle-to-upper class populations.

When considering payments trends in Asia, one must take into consideration cultural differences, the state of economic development, and the influence of the various market participants that exist.

This whitepaper explores the major issues being grappled with in Asian payment markets, in regard to:

- Payment issues and trends in Asia – P2B, B2B and P2P;
- Regulators – what the likely changes will be in the regulatory landscape;
- Technology – its influence and its impact; and
- The future of payments – a forward looking view of the payments market in Asia.

2 Payment issues and trends in Asia

2.1 P2B (Person-to-Business)

P2B payments (also known as Person-to-Business) are those made by a person/individual/consumer to a business entity/merchant. Cash remains the dominant payment method across Asia, due to historical payment behaviours, as well as the improved availability of ATM / Self-service devices deployed across the region. For example, Cash Withdrawals in Indonesia have seen strong growth, driven by financial institutions and ATM network operators (e.g., Arta Jasa), who have expanded their networks to typically serve a large lower and middle class population.

In contrast, in developed markets such as Singapore, the proportion of Card Based electronic payments (i.e., e-payments) has seen more rapid growth, due to a more affluent middle-to-higher class population, as well as the ubiquitous availability of electronic payment acceptance infrastructure that has been deployed throughout the nation. Indeed, established payment systems in Asia that have more mature POS payment acceptance infrastructure will likely be more agile when introducing payment innovation (e.g., Mobile, Contactless / NFC); albeit that some “un-wired” markets have the capacity to “leapfrog” technology deployments, and jump straight to mobile (e.g., Mobile SMS payments in the Philippines).

The challenges in deploying payment acceptance infrastructure have been addressed in different ways by each Asian market. For example, in the Philippines, payment acceptance is challenging as a largely unbanked population is widely spread across over 7,000 islands, which would all require underlying telecommunications infrastructure to support standard POS Terminal deployment. In fact, when measuring by point-of-sale terminals per 100,000 people, the Philippines is at approximately one-tenth the level of the more mature Asian nations, such as Japan and Singapore, let alone in comparison to Australia or New Zealand (Figure 2). With a population that comprises of low financial inclusion and is spread across multiple (small) locations, markets such as the Philippines have unique challenges when it comes to delivering payment infrastructure to provide access to and promote e-payments.

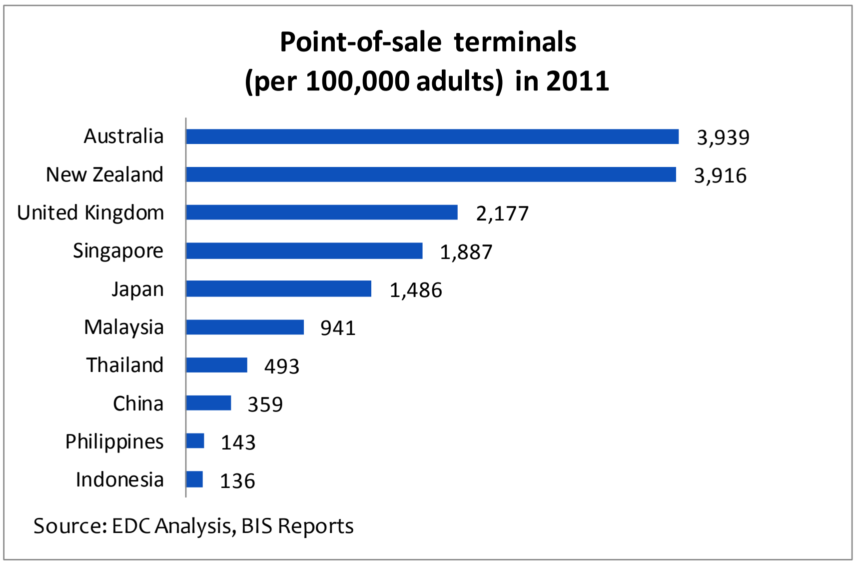

Figure 2 – Point-of-sale terminals (per 100,000 adults) in 2011

Despite the lower penetration of POS terminals in these markets, card-based (and other forms of electronic) payments have already begun to displace cash as a preferred method of payment at Point-of-sale. A key challenge for these markets is to encourage the use of card-based payment methods, particularly at Point-of-Sale (POS). Domestic debit networks (such as NETS in Singapore, MEPS in Malaysia) have established strong relationships with financial institutions and merchants to perform in-marketactivities that promote the use of their domestic debit brand at POS. Similarly, China UnionPay (CUP) has been very active in promoting cross-border use of its domestic debit and credit cards by partnering with domestic debit networks and merchant acquirers in other markets. It is expected that other Asian markets, such as Thailand, Philippines, Indonesia, and Vietnam will adopt similar strategies in promoting e-payments in their respective markets.

2.2 P2P Payments (Person-to-Person)

P2P payments (also known as Person-to-Person) are those sent by a person or individual to another person or individual. Within certain markets in Asia, payment methods originally targeted at the P2P sector can also impact the P2B payments landscape, particularly in markets that have a higher proportion of the population who are under-banked and unbanked.

For example, SMART and Globe Telecom, two large mobile-network-operators (MNOs) in the Philippines, identified early on that SMS payments between individuals could be served by their mobile telephony infrastructure, thereby bypassing the traditional electronic payment channels, such as ATMs and POS. By leveraging existing wireless telecommunications infrastructure, and charging low SMS rates/fees, mobile network operators are able to provide a variety of payment and mobile banking services that are attractive to consumers (the vast majority of whom already have a mobile phone, even in developing economies).

For Smart Money and G-Cash, customers can sign-up and create a prepaid wallet associated with their mobile phone service, without the need to separately establish an account with a Financial Institution. Users under this system are able to send mobile payments to other mobile phone users (on the same network) via SMS, as well as load or withdraw cash at thousands of merchant outlets across the country (see Figure 3 below). This allows SMART and Globe to provide financial services to those who are under-banked or unbanked, estimated to comprise 75% of the total population of the Philippines[2].

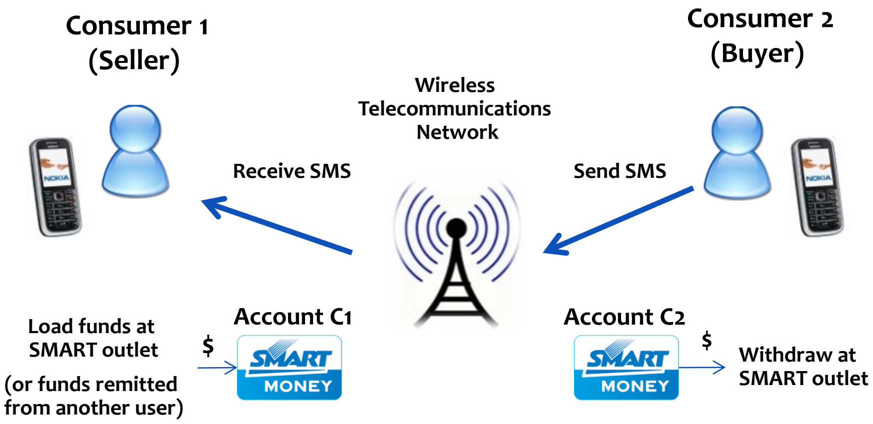

Figure 3 – SMART Money SMS payment, load, withdrawal flow

Some Financial Institutions and Payment Brands have formed strategic partnerships with selected MNOs in order to capture cross/up-sell opportunities. For example Banco de Oro Unibank (BDO) have partnered with SMART in the Philippines, in order to be their licensed Account/Card Issuer for a 'SMART Money MasterCard Prepaid Card'. Customers can sign-up for an open loop scheme prepaid card (which can be used on the internet) whilst having the ability to remit funds to other mobile subscribers using SMART's mobile network. The customer can then reload and withdraw from their account at any participating SMART Money agent / kiosk, as well as at BDO branches and ATM/Self-Service-Terminals (SSTs).[3] Many other developing Asian countries have also implemented similar SMS based Mobile money systems, such as Indonesia (Telekomsel), and India (Bharti Airtel).

The question for these markets is how each of the different value chain participants can extract their 'fair share' of value from the payments value chain. Financial Institutions, Payment Schemes, Technology Vendors and the like, must address challenges such as

[2] IFAD – The International Fund for Agricultural Development, GCash Network Activation Project

[3] Smart Telecom, SMART MONEY http://www1.smart.com.ph/money/use/

lack of e-payment acceptance at POS (although many merchants in the Philippines do accept SMS payments), as well as the prevalence of the under-banked and unbanked markets.

2.3 B2B (Business-to-Business)

B2B payments (also known as Business-to-Business) are those sent by one business to another. Unlike those of P2B and P2P, B2B payment trends deal primarily with the clearing and settlement of funds via Financial Institutions, typically governed by Central Banks, and central clearing house institutions, which also govern what kind of information is required to be communicated / transmitted along with the payment.

The types of trends in B2B payments are rather wide ranging, depending on the maturity of the payments landscape of each country. Unlike Europe, Asia does not have an equivalent of the SEPA code, and hence does not see as much activity in areas such as Payment Hub transformation projects, although there has been some success by vendors in this space. Instead, in recent years, there has been a focus on the implementation of real-time payments, in particular, the clearing of 'Higher Value' payments via Real Time Gross Settlement (RTGS) / GIRO payment systems.

RTGS systems are "funds transfer systems" where transfers of money or securities take place to/from financial institutions on a "real time" (or in some countries, near real-time, such as every 2 hours) and "gross" basis. Settlement in "real time" results in a payment that is not subject to any waiting period. In Australia, for example, settlement of payments between institutions traditionally occur through overnight 'batch' file processing, often performed 'same-day', or, in some cases, 'next-day deferred' basis, depending on the payment instrument and settling banks.

In recent years, there has been a focus by regulators, both in Australia and across Asia, on developing and enhancing underlying payments infrastructure to support 100% same-day settlement – hence the movement towards RTGS. Key cost savings are in the form of freeing up funds available 'next-day' for immediate reuse, and by providing more accurate reconciliation between banks. These efficiencies, in turn, will then result in conditions for an efficient financial system that has higher productivity, thereby translating into higher profitability for the sector overall.

The maturity of RTGS (known in some Asian markets as Real-Time Interbank GIRO) varies from market to market. Thailand's BAHTNET promotes itself as a fully-featured RTGS that has been in market since May 1995[4]. It is also understood that Malaysia's Interbank GIRO (IBG) system, called RENTAS, is also being enhanced, as part of a recent acquisition of MyClear, by the Bank Negara Malaysia. Meanwhile, China has only recently refreshed its RTGS system to support liquidity management and cross-border trade settlements, helping to encourage foreign investment into China.

[4] Bank of Thailand – Bahtnet Systems Webpage

In 2005, the People's Bank of China (PBOC) developed a nationwide RTGS called the "China National Advanced Payment System" (CNAPS)[5]. This RTGS system sought to automate and improve the overall Chinese payments system, by handling and enabling instant inter-bank clearing nationwide and real-time interbank bond transactions, as well as facilitating cross-border real-time foreign exchange transactions. By the end of November 2011, China had conducted cross-border trade settlements valued at 2.4 trillion yuan ($381 billion) with 175 countries and regions, according to the PBOC. Analysts expect the volume of Yuan-settled trade to reach 3.7 trillion Yuan in 2012, accounting for 15 percent of China's total trade.

The introduction of the CNAPS system for China plays a vital role in enabling banks to clear Chinese Yuan (CNY) denominated trade settlements, which boosts the use of its currency world-wide. Whilst the push towards RTGS is a positive movement, there are still challenges that need to be addressed by China, such as pricing (CNAPS cross-border CNY transactions are reportedly higher in transaction costs than other major currencies, such as the US dollar), and compatibility issues with global international money messaging services, such as SWIFT.[6]

3 Regulators – what the likely changes will be in the regulatory landscape

Payment system regulators in Asia are perceived to be far more influential market participants than in any other region. In EDC's annual Global Payment Trend survey, 62% of the participants from Asia identified 'Regulators' as 'important' to 'very important', in stark contrast to the results of Europe (25%), Australia / NZ (26%), USA / Canada (18%) and the global average (32%). This is primarily due to the influential nature that regulators (typically Central Banks) have on matters such as credit card reforms, payment systems efficiency (in the form of domestic payment processing through national payment brands, such as China UnionPay, NETS Singapore and MEPS Malaysia, among others), payment fraud reduction initiatives, and overall financial stability.

[5] Asian Banker Research, "National and cross border payment systems infrastructure in Asia: Advances and perceived challenges", 2010

[6] China.org.cn "New System to Ease Payments", January 6 2012

In 5 years time, who do you believe will be the 3 most influential market participants in your country?

Market Participant	% Respondents who rated the product as 'important' or 'very important'				
	Global	Europe	USA / Canada	Asia	Australia / NZ
Consumers	38%	32%	49%	35%	40%
Telecommunications / mobile network operators	37%	42%	33%	43%	30%
Card issuers	32%	29%	30%	29%	40%
Payment associations / schemes	32%	34%	37%	17%	38%
Central banks / regulators	32%	25%	18%	62%	26%
Merchants	24%	29%	32%	15%	18%
Financial institutions - other than issuer / acquirer	23%	21%	16%	37%	20%
Payment processors / networks	19%	18%	22%	21%	17%
Mobile handset manufacturers	18%	17%	18%	9%	27%
Merchant acquirers	12%	12%	9%	9%	15%
System vendors / service providers	12%	14%	12%	11%	11%
Other government agencies	2%	2%	1%	6%	1%

Figure 4 – EDC Global Payment Trends Survey 2012 – Influential Market Participants

In terms of credit card reforms, some Asian central banks have issued regulations in order to toughen terms and conditions for owning a credit card in their respective markets. For example, Indonesia's Central Bank, Bank Indonesia, issued a regulation on 6 January 2012, that tightened the terms and conditions for owning credit cards. The new regulation overrode rules that had been in place since 2009, and now requires:

- Prospective cardholders earning less than Rp 10 million ($1,100~ USD) a month must apply for special assessments before they are allowed to take out credit cards from more than two issuers;
- Prospective cardholders earning less than Rp 3 million ($330~ USD) a month will be unable to apply for a credit card. Banks must cancel outstanding ones from the start of next year;
- Prospective cardholders aged 17 or older can apply for a secondary credit card in Indonesia if someone aged 21 or older bears the legal responsibility.

Although this regulation is aimed at reducing defaults among consumers, the Indonesian Credit Card Association predicted that as many as five million active credit card accounts in the country may be closed as a result of the central bank's new tougher rules on credit cards[7]. Clearly, when operating a card issuing business, it is essential to consider the influence of the regulator.

Meanwhile, the focus on domestic e-payment initiatives for many Asian markets has increased the overall payment system efficiency and stability. In the past, Northern Asia has seen remarkable growth in domestic switching and clearing systems, such as the likes of CAFIS in Japan, and China UnionPay. Today, there are many South-East Asian markets growing their domestic interbank ATM and POS payment switch footprints to support national e-payment initiatives promoted by their Central Banks. These markets

[7] The Jakarta Globe, "Indonesia's New Credit Card Rules May Snip Up", July 2012

have seen such remarkable transaction growth, that they have now established cross-border links to broaden their reach in the South-East Asian region. China UnionPay, now deemed largest Scheme card provider in the world[8], has even formed links with various regions outside of Asia, including Europe, North America (e.g., with Discover) and Oceania. Likewise, many South-East Asian markets have come together to form alliances under what is known as the Asian Payments Network (APN), which consists of members across 10 different markets, such as Banknetvn (Vietnam), MEPS (Malaysia), KFTC (Korea), National ITMX (Thailand), Arta Jasa (Indonesia), NETS (Singapore), Megalink (Philippines), and China UnionPay (China).

Perhaps a large reason for the growth of these domestic clearing and payment switches is due to the fulfilment of national objectives of each market's respective Central Bank (and Government). In general, these Central Banks have aimed to reduce the cost of processing and increase payment efficiency in the market, thereby promoting e-payments overall. In some markets, Central Banks have also operated domestic switching and clearing systems themselves, in order to further their individual e-payment agendas. In Malaysia, the Bank Negara of Malaysia acquired e-payment related systems from MEPS in September 2011, including IBG (Interbank GIRO system), FPX (online payment gateway), e-Debit (Direct Debit system) and the MyMobile (Mobile Banking) platforms. Through this acquisition, Bank Negara Malaysia intends to "introduce pricing structure that would encourage higher consumer adoption of e-payment services".[9]

Governments are also supportive of moving cash payments into e-payments (of one form or another), not only to gain the economic benefits of their lower cost, but also to improve the tracking of transactions for taxation revenue purposes.

Payment fraud remains a topic addressed by regulators and payment schemes throughout the South-East Asian region. Overall, there is a trend towards the use of EMV (Europay MasterCard and Visa) chip-based payment cards, adding further security to typical magnetic stripe only cards in card-present environments such as POS and ATM. Many markets in Asia have comparably lower fraud incidents, for POS and ATM, than Australia. In Malaysia, where an industry-wide migration to chip-based ATM cards and EMV credit cards occurred in 2006, overall fraud losses have remained negligible, accounting for approximately 10 cents per every $1,000 transacted in 2011[10]. Conversely, Australia has seen scheme credit, debit and charge cards fraud increasing from 58.9 cents per every $1,000 transacted in June 2010, to 74.3 cents in June 2011.

Finally, financial stability is a core focus for the regulator. In particular, payment systems reliability and resilience is an area where many payment service processors (vendors, switches, PSPs, and the like) have concentrated efforts in recent years. In July 2010, DBS Bank in Singapore experienced a 7-hour outage of its Branch, ATM, Internet and mobile banking services[11] due to technical difficulties. In response, the Monetary Authority of

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[8] Retail Banking Research Group

[9] Bank Negara Malaysia, "Payment and Settlement Systems 2011"

[10] Bank Negara Malaysia, "Payment and Settlement Systems 2011". Fraud represents 0.001% of total value of retail payment transactions in 2011

[11] DBS, "DBS and IBM Detail Findings of 5 July Outage", August 2010

Singapore (MAS) criticised DBS and IBM for the outage, and ordering the bank to redesign its online and branch technology and reduce its reliance on its vendor (IBM). Furthermore, MAS required DBS to apply a multiplier of 1.2 times to its risk-weighted assets for operational risk, which translated into the bank having to set aside an additional amount of approximately SGD 230 million in regulatory capital, in order to mitigate any potential fraud that could occur in the future should a similar event occur. DBS and its technology provider, IBM, have since published a detailed account of the events that occurred, promising to enhance reliability and resilience throughout their core payment systems.

4 The influence of technology, and the impact looking forward

According to EDC's Global Payment Trends Survey conducted at the end of 2011, the payment technologies that are expected to have the greatest growth in importance in Asia over the next 5 years were Internet based technologies (63%), Contactless / NFC technology (60%), and Non-NFC Mobile based technology (42%). Payment hubs (38%) have also increased in importance since 2010, resulting in a higher score than the global average of 22%.

Which 3 payment technologies will experience the greatest growth in importance in your country over the next 5 years?

Product	% Respondents who rated the product as 'important' or 'very important'				
	Global	Europe	USA / Canada	Asia	Australia / NZ
Mobile based technology (excluding NFC)	64%	76%	60%	42%	72%
Contactless / NFC technology	64%	56%	62%	60%	75%
Internet based technology	48%	54%	36%	63%	41%
Security / authentication technology	33%	32%	39%	37%	27%
Payment hubs (shared payment infrastructure)	22%	16%	17%	38%	20%
Fraud detection technology	20%	20%	23%	17%	19%
Contact chip technology (including display, key pad)	19%	14%	24%	18%	19%
Virtual Cards	17%	21%	20%	11%	18%
Credit evaluation / risk assessment technology	8%	4%	11%	11%	6%

Figure 5 – EDC Global Payment Trends Results 2011 – Payment Technology Importance over the next 5 years

Mobile Payments

Mobile payments (and mobile banking) have seen rapid growth in Asia, partly due to the overall improved availability of mobile broadband services provided by mobile network providers. However, in order for the adoption of such online / mobile payment technologies to be adopted, there is a need to encourage the use of e-payments in general, especially for markets that have a high number of under-banked / unbanked consumers. Generating trust in online/remote payment methods is still a key challenge for many of the developing markets, although the Philippines is clearly an example of what can occur once "break-through" and "critical mass" are reached.

For a glimpse at what the future of mobile payments could look like across some South-East Asian markets, we may well look to activities in North Asian markets, such as FeliCa Networks in Japan. Although the contactless technology used by FeliCa was actually first utilised by the Octopus Card in Hong Kong, Japan has leveraged its innovative technology sector to expand Felica Networks to not just the card-form factor, but also to mobile devices.

Since the early 2000's, consumers in Japan have been able to use their mobile smartphones to perform payment in a variety of ways, including at Point of sale and at Self-service-terminals, as a coupon redemption device at a quick service restaurant, as an e-ticket for all major railway smartcard systems across Japan (e.g., JR networks, Edy, Suica, among others), and even as a form of Identity for building access. Other markets with a high penetration of contactless smartcards (and acceptance devices) are likely to follow suit, moving towards a dual form factor of both card and mobile.

In fact, in August 2012, a consortium comprising partners such as Citibank, DBS, EZ-Link (transit), mobile network operators M1, SingTel and StarHub, and French technology vendor Gemalto launched a mobile payment service for NFC enabled smartphones in Singapore. SingTel and EZ-Link have recently announced the launch of its "SmartWallet" service which allows users to make cashless payments by tapping supported handsets at payment terminals at over 20,000 points island-wide that accept EZ-link payment, from taxis to supermarkets.

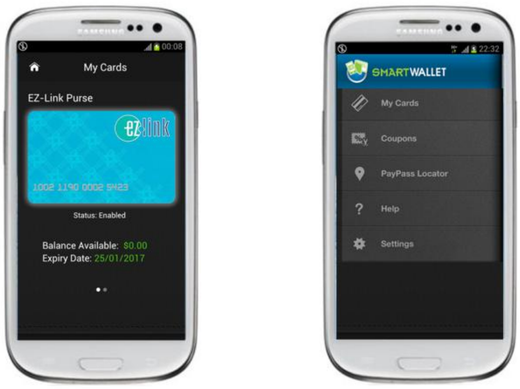

Figure 6 – StarHub / DBS / MasterCard / EZ-Link SmartWallet Purse Screenshots[12]

In a similar move, the Hong Kong Monetary Authority has recently appointed Gemalto for the provision of consultancy services for its development of NFC Mobile Payment Infrastructure in Hong Kong[13]. No doubt we shall see this convergence across Asian markets that have high smartphone penetration, contactless EMV point-of-sale deployment, and contactless ticketing for transit. Meanwhile, for developing markets, such as the Philippines, relatively lower penetration of contactless acceptance will see

[12] Singapore Hardware Zone, "StarHub Unveils SmartWallet in Collaboration with DBS, EZ-Link and MasterCard", August 2012

[13] Hong Kong Monetary Authority, Notice of Award Contract, September 2011

mobile network operators to continue their growth in P2P and P2B payments, serving the under-banked and unbanked population.

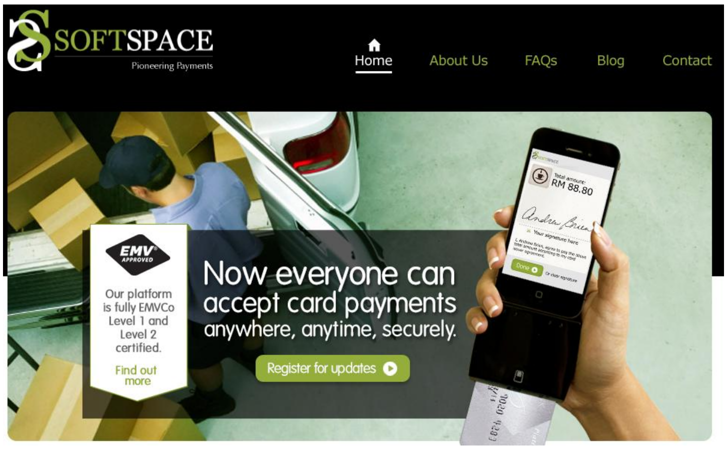

Figure 7 –Soft Space: EMV Level 2 Certified Mobile POS Acceptance Device

New market entrants to mobile payments are also attracting attention with high user growth, albeit originating from a low base. In Singapore, where mobile broadband and smartphone penetration is higher than other South-East Asian counterparts, there have been some mobile payment / loyalty card start-ups that have captured the attention of early adopting consumers. Swiff, a mobile POS vendor start-up, provides white label Mobile POS solutions to Acquirers in the form of a magnetic-stripe card reader for smartphones.

Similarly, MOL AccessPortal has partnered with Soft Space to form a Joint Venture called 'MOL Cube', in order to roll out an EMV (Chip) Compliant Mobile POS Terminal for smartphones. With approval from MyClear in Malaysia, and significant backing from the Berjaya Group, MOL Cube expects to sign-on 1-2 financial institutions and 50,000 merchants to its service by the end of 2012.[14]

Other technology start-ups in Asia have also developed smartphone loyalty / payment applications that provide the ability to earn and redeem points at select merchants (e.g. Squiryl App, Perx App). It is evident that the start-up community will influence the payments landscape in Singapore, however the incumbent provider of contactless ticketing / mobile wallet transit solutions (e.g. FeliCa, Octopus) usually become the 'top-of-wallet' solution for consumers over time. Hence some market convergence and acquisition activity in this space is to be expected.

Online Payments (i.e. "E-Commerce")

Meanwhile, online payments is a strong area of growth in most Asian market, particularly for those countries with a growing middle class and higher internet broadband penetration.

Indonesia, for example, is one key market that is expected to experience such growth. Key to this growth are the younger consumers, who are early adopters of online

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[14] MOL Global Media Release, "MOLCube targets 50,000 merchants by year-end", 5 October 2012

technologies, such as Facebook andTwitter. With over 50% of Indonesia's internet users under the age of 20, and a city (Jakarta) that ranks second in the world for number of Facebook users by city, we can expect to see numerous online payments solutions vying to capture their share of the market.

One industry in Asia that is expected to grow rapidly is online gaming[15], an industry primarily targeted at the youth market. Some industry forecasts suggest that by 2015, there will be more than 100 million 'gamers' throughout Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam, generating nearly $1 billion in revenue[16]. Whilst young online gaming consumers have historically purchased physical vouchers at newsagency / kiosk locations, these consumers are now shifting toward internet based re-load activity via the online channel, thereby requiring online payment capability.

The online payments landscape in Asia varies greatly from country to country. Some Asian markets have Central Bank e-payment systems that serve online merchants direct, such as MyClear in Malaysia (via their FPX online payment service), as well as independent service providers, such as NETS in Singapore (via their eNETS solution). International online payment market entrants, such as Cybersource (Visa), MasterCard (via MiGs), PayPal and Google, have all seen some success in markets across Asia; however their success can sometimes be limited by domestic regulations. For example, Paypal currently operates with Chinese companies engaged in cross border trade, however has yet to operate domestically in China, due to trade restrictions governed by the PBOC. It is understood that PayPal are still awaiting approval from government entities in order to trade domestically in China. Meanwhile, Alipay, a third party payment provider similar in functionality to PayPal, has more than 700 million registered accounts, which exceeds Paypal, who have 113 million active accounts[17]. Alipay is expected to see exponential growth, as business to business activity increases within the Chinese economy within key e-commerce merchants, such as Taobao and Alibaba (Alipay's parent company). In addition, Alipay is keen to expand its services outside China and become a payment mechanism for those wishing to purchase from merchants/suppliers within China.

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[15] NB. 'Online Gaming' is quite distinct and different from 'Online Gambling'.
[16] Niko Partners, "2011 Southeast Asian Game Market Regional Report", 2011
[17] Yahoo Singapore, " China's Alipay Has 700 Million Registered Accounts, Beats Paypal?", September 2012

5 The payments market in Asia, looking forward

Overall, the development of payments-landscape in each market in Asia indicates strong growth in electronic payments over the next three to five years. It is likely that users of traditional paper-based payments, such as Cash and Cheque, will slowly migrate to e-payment systems, which will come to form a greater and greater part of their payments mix. The adoption of e-payments will be driven by a large and ever growing youth market, which is interested in utilising debit based card products and mobile/online services, as well as by regulators (and their Governments), who have recently focussed on promoting e-payments and payment system efficiency.

Many regulators (Central Banks) in Asia have announced national e-payment objectives, aiming to create more cost efficient payment systems, and to continue their focus on improved financial stability as the use of e-payments increases over time. Regulators are also expected to focus on monitoring and managing the risk of fraud, given the rapid growth in online payments. Hence, the influence of Central Banks and regulators is fundamental to the developments that will occur across the Asia Pacific region.

Non-regulator payments market participants are expected to focus on their core payment operations, whether these are Card-based payments for financial institutions or mobile-based payments for MNOs. There may be some strategic partnerships forming between these two industries in order to bring payment innovations to market, however these are likely to be in the form of field trials, until a prevailing business model develops for each participant to gain their fair share from the payments value chain. Smaller / more concentrated markets, such as Singapore and Hong Kong, will test each of their mobile payment collaboration models, aiming to have a pervasive "form-factor independent" payment eco-system similar to that of Japan. Meanwhile, China UnionPay will see further growth/expansion and would be expected to deliver innovation, given its large market share for card-issuing and payment-acceptance availability.

Online payments will continue to grow across the region, as consumers become accustomed to performing payments over the internet, whether it be e-commerce via a PC / laptop or m-commerce via mobile handsets. Internet penetration will continue to grow for markets such as the Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam and China. Likewise, as mobile broadband 3G networks expand across the region, mobile broadband will provide large opportunities for technology innovation within these developing markets. However, innovation in the online / mobile channel must consider legacy payment behaviour and cultural nuances that exist within each market.

In summary, the historic dominance of cash in the payments markets of most Asian markets will begin to be challenged by an array of electronic payment methods, with the support of the Governments and regulators in the region.

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