

PAYMENTS REGULATION FOR ASIA PACIFIC A MODEL FOR INNOVATION & GROWTH

OCTOBER 2013



PayPal[™]

ebay inc[™]

PAYMENTS REGULATION FOR ASIA PACIFIC A MODEL FOR INNOVATION & GROWTH

CONTENTS

EXECUTIVE SUMMARY	3
INTRODUCTION	4
PART 1: CONTEXT. THE PAYMENTS LANDSCAPE	6
Use of Payments	8
Economic Impact of ePayments	9
Payment Innovations	12
PART 2: CHALLENGE. ASIA PACIFIC REGULATORY ENVIRONMENT	14
PART 3: SOLUTION. ADOPTING A NEW MODEL FOR EPAYMENTS	16
Implement "SMART" Governance	17
SMART Governance Cycle	18
SMART Governance Methodology Options	20
Seamless Governance	21
PART 4: ACTION. LEVERAGING NEW MODELS TO PRACTICE	24
Applying SMART Governance	25
Applying Seamless Governance	27
RECOMMENDATIONS	28
CONCLUSION	31
ACRONYMS	32
REFERENCES	33

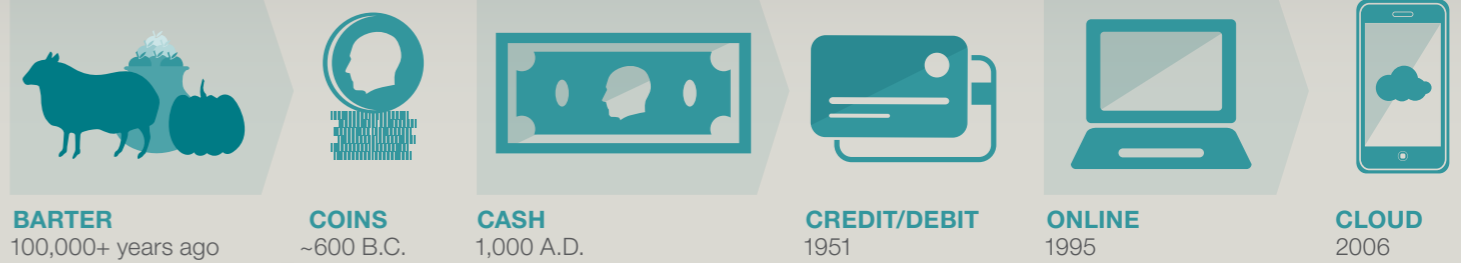
Why ePayments?

The direct economic impact of the ePayments industry in **Asia Pacific** is estimated to be **USD 11.4 billion***

11.4
billion*

Mobile payments globally **\$600B** in 2013
double the figure in 2011

INNOVATION IN PAYMENTS IS ACCELERATING



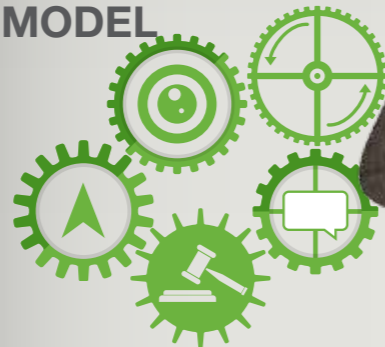
By **2015** Asia's purchasing volume is expected to be double that of the United States



Economic gains from eCommerce in **Asia Pacific** is estimated to be **USD 218 billion***

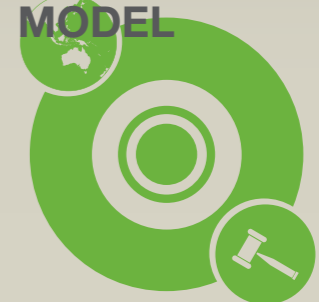
What to do?

THE SMART GOVERNANCE MODEL



Introduces to the regulatory process the same data analysis techniques and approaches to problem solving that are revolutionizing industry.

THE SEAMLESS GOVERNANCE MODEL



Provides frameworks that will improve regulation of the ePayments sector, these include initiatives such as specific ePayments legislation; regional harmonizations of ePayments; and a central body for ePayments.

How to do it?



Establish pilot project within FATF that includes public and private organizations.



Apply SMART governance to Advisory Committees to reviews of AML/CTF legislation



Establish a Subgroup on ePayments within the APEC Electronic Commerce Steering Group



Establish Council of Financial Regulators within local jurisdictions chaired by central bank to provide regulatory oversight of ePayments



Introduction of ePayments specific legislation

* Based on estimations by Sidley Austin LLP, replicating studies by Deloitte, The economic impact of online payments; breaking barriers across Europe.



MESSAGE FROM TOD COHEN VICE PRESIDENT & DEPUTY GENERAL COUNSEL GLOBAL GOVERNMENT RELATIONS

ASIA IS A GLOBAL LEADER IN THE DIGITAL ECONOMY.

The region is home to almost half the world's Internet and mobile phone users; seven of the ten largest cities in the world; and five of the ten fastest growing economies.

By 2015, Asia's purchasing volume is expected to be double that of the United States.¹ Put simply, Asia is the world's engine for economic growth.

This rapid growth is magnified in the eCommerce sector.

Across Asia, eCommerce spending amounted to USD 332 billion in 2012, one third of the market globally.² As the rise of the digital economy continues, so does the impact of ePayments.

Electronic payments (ePayments) are becoming an increasingly important part of the purchasing volume in the digital economy, as smartphones and the Internet become ubiquitous.

Asia's higher transaction volumes have led to lower costs for customers and the region's rapid adoption of mobile has pushed payments infrastructure out to the most remote villages.

This report expands upon the rapid developments in industry, and demonstrates that for the industry to thrive, the regulatory process related to ePayments must keep pace.

The opportunity for ePayments is tremendous if innovative regulatory systems are put in place.

This report provides a fresh perspective into regulating ePayments to energize its future growth.

Tod Cohen
Vice President & Deputy General Counsel
eBay Inc.

EXECUTIVE SUMMARY

THE GLOBAL ELECTRONIC PAYMENTS (EPAYMENTS) INDUSTRY HAS EXPANDED SIGNIFICANTLY SINCE PAYPAL PROCESSED ITS FIRST ONLINE PAYMENT TRANSACTION IN 1998 AND CONTINUES TO BE ONE OF THE MOST DYNAMIC AND INNOVATIVE FINANCIAL SERVICES SECTORS GLOBALLY.

ePayments cover a range of payment methods including online payments, mobile banking, and credit card transactions.

Online payments for eCommerce activities is forecast to reach USD 31.4 billion globally in 2013, growing by a sustained 20 percent globally, and over 25 percent in the Asia Pacific per year between 2009-13.³

New players and business models are revolutionizing the industry and benefiting consumers. However, the regulatory environment supporting this industry and its consumers has been challenged to keep pace and adjust to this changing marketplace.

The key challenge for regulation is to balance the needs of protecting consumers, securing and building confidence, managing risk, providing regulatory oversight, and combating fraud while providing an environment for innovation in the industry.

Some regulations in financial services have been developed for traditional banks and assume a branch network where customers are met and identified face-to-face. Nowadays, Know Your Customer (KYC) requirements occur with banks, insurance companies, credit card companies, telecommunications sector – all separately identifying, verifying and screening the same customers.

This paper will specifically examine models that focus on technology and data for managing risk. "SMART" governance is aimed directly at driving innovation in regulatory decision making, which will create a more innovative and competitive marketplace, enabling the ePayments sector to continue the rates of growth achieved in previous years, maintaining regulatory oversight, meeting consumer protection objectives, and addressing limitations on current regulations.

In addition, this paper proposes the model of Seamless governance in Asia Pacific, creating frameworks that will improve regulation of the ePayments sector. These include initiatives such as specific ePayments legislation; regional harmonization of ePayments; and a central body for ePayments.

The reforms detailed in this paper will assist in the responsible growth of the ePayments sector.

³ Capgemini & RBS. 2012. World Payments Report 2012

⁴ SMART governance is a five step process to deliver better regulation and more sustainable results. SMART framework is Securing data, using Machines to organize databases, creating Algorithms to derive insights, Reassessing results, and Targeting insights. The steps include: Observe, Organize Data, Analyze Data, Review and Re-Adjust Results and Target Insights.

¹ KPMG, The Great Payments Transformation, April 2012

² eMarketer, February 2013

INTRODUCTION

THE OBJECTIVES OF THIS PAPER ARE TO FOCUS ON A NEW REGULATORY DECISION MAKING METHODOLOGY THAT IS INNOVATIVE AND FLEXIBLE IN THE SAME WAY THAT MODERN PAYMENTS BUSINESSES ARE, AND OUTLINE GOVERNANCE MODELS THAT FOCUS ON TECHNOLOGY AND DATA FOR MANAGING RISK.

THIS PAPER WILL DISCUSS THE REVOLUTION THAT IS OCCURRING IN THE PAYMENTS INDUSTRY AND THE CHARACTERISTICS OF A REGULATORY REGIME THAT WILL BETTER PROTECT CONSUMERS AND PREVENT FRAUD WHILE FOSTERING INNOVATION AND ENABLING GROWTH.

The positive effects of global ePayment providers including increased productivity; increased transparency in economic activity; increased competition; and new products, are often overlooked by some observers who focus on the seemingly disruptive impact of ePayments.

It is critical to make a clear distinction between innovative and trusted payment providers and emergent services that do not have the same level of safety and security mechanisms in place.

With many transactions at small amounts, combined with not allowing anonymous accounts and having a closed looped system, organizations like PayPal can effectively address issues relating to Anti Money Laundering (AML) and Counter Terrorism Financing (CTF).

In that context, PayPal and other payment providers are requesting Know Your Customer (KYC) and Anti Money Laundering laws be updated, to reflect current and future innovation in payments, and to allow the sector to grow in a responsible manner.

Laws need to adopt a risk based regulatory approach and require a holistic view that takes into account multiple data sets.

The Financial Action Taskforce (FATF), an inter-governmental body, has principles to support a risk based regulatory approach to AML/CTF measures. FATF has been established to set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system. A foundational element of this is KYC. The basis of KYC is to identify customers, the nature and purpose of their business relationships and use this as a basis to identify suspicious behaviour and take appropriate action.

Appropriate action is largely to report suspicious activity through to regulators who convert information to intelligence for the purposes of law enforcement to then investigate the activity.

With increased technological innovation and growth of eCommerce, PayPal is of the view that there are many ways that the objectives of the FATF principles of AML/CTF can still be met and enhanced without imposing constraints on how KYC has been traditionally performed.

Customer behaviour is also critical. There needs to be a shift on the emphasis from customer identification towards customer behaviour and transaction monitoring. Analyzing the digital footprint of customers and monitoring a range of behaviour patterns, including the use of sophisticated algorithms. Physical evidence used for identification can be tampered with and result in fraud. There have been reports internationally of passports being tampered with, and in some instances allegations of them being used for intelligence gathering.

An emphasis on a risk based approach to fraud detection based on big data would better detect and prevent fraud related activity. The use of data and digital forensics has become the cornerstone of efforts to combat crime. This has been done through the use of mobile phones, GPS, social media accounts, and other digital records.

And in those instances, big data has been used to assess risk, analyze dangerous and suspicious patterns, and help develop profiles of individuals which otherwise would not have been possible.

Some have referred to this as the advanced use of biometrics, which is the identification of humans by their characteristics or traits. It is also used to identify individuals in groups that are under surveillance. Biometric identifiers are distinctive, measurable characteristics used to label and describe individuals, and can include but are not limited to facial recognition, voice and digital fingerprints.

In the United States, the Transportation Security Administration has opened up a voluntary plan to speed through airport screening in exchange for them pre enrolling into a program which goes through the passenger's data. Under the plan, a company would aggregate biographic and biometric data to generate an element of risk of the individual based on different data points including web browsing history, countries travelled, and other data sets used by officials to assess risk.

The Australian Government has announced details of its Document Verification Service (DVS), a key element of the Council of Australian Government's National Identity Security Strategy. The service is in use in the government sector and being extended to the private sector. Under the scheme document matches would be made commercially available through the DVS to eligible private sector organizations. The Attorney General's Department is proposing that verifications of Australian government issued documents will be made available to commercial organizations through the DVS on a fee-for-service basis. Documents that can be verified include: passports; citizenship certificates; medicare cards; visas; and driver licences.

There may come a time in the future when Governments may wish to verify users online, using third parties' credentials (who have security and verified customer details). So when you log into a Government website to renew your license, one option may be to use the log in details of an innovative payment provider and make the transaction that way. Thereby bypassing the requirement of an ID card, while maintaining all the necessary security requirements.

One of the big data challenges that Government and regulators face is how can different government agencies integrate all their digital databases and information into a centralized structure so that the rights dots can be connected, be it detecting crime without violating citizen's privacy.

As Eric Schmidt and Jared Cohen articulate in their book - The New Digital Age:

"In the United States for example the FBI, State Department and CIA and other government agencies all use different systems. We know that computers can find, patterns, anomalies and other relevant signifiers much more efficiently than human analysts can, yet bringing together disparate information systems (passport information, fingerprint scans, bank withdrawals, wiretaps, travel records) and building algorithms that can efficiently cross-reference them, eliminate redundancy and recognize red flags in the data is an incredibly difficult and time consuming task."

Innovative payments providers have utilized modern data security techniques to provide new levels of security to their consumers.

ePayments regulators need to utilize similar modern data techniques to manage risk.

AUSTRAC KYC

According to Australia's regulator AUSTRAC, "Under certain AML/CTF legislation, KYC policy refers to documentation which sets out a business's approach to ensuring that it can effectively identify, verify and monitor its customers and the financial transactions in which they engage, relative to the risks of money laundering and terrorism financing.

Financial Service legislation also uses the term KYC, but this is not to be confused with KYC in AML/CTF. KYC in Financial Services legislation relates to the understanding of a client's financial position, not their risk of practicing money laundering/terrorist financing.

Key objectives of a KYC policy include⁵: ensuring that only legitimate and bona fide customers are accepted; ensuring that customers are properly identified and that they understand the risks they may pose; verifying the identity of customers using reliable and independent documentation; monitoring customer accounts and transactions to prevent or detect illegal activities; and implementing processes to effectively manage the risks posed by customers trying to misuse facilities.

The KYC policy elements⁶:

- Customer acceptance: The point at which a new customer is accepted or rejected is the easiest point at which the risk of dealing with illegal money can be avoided;
- Customer identification: By identifying customers effectively, the business is able to deal with them in the appropriate manner.
- Customer verification: Verifying that customers are who they say they are is vital to any customer identification procedure. Reliable and independent documentation should be used to support and confirm the identification details a customer provides. For example, citing an original primary photographic identification document such as a passport or drivers licence.
- Accounts and transactions monitoring: In an effective KYC policy, customer accounts and transactions are properly classified in terms of risk and are regularly monitored. Through checks and thresholds, unusual activities, activities by high-risk customers, or suspicious behaviour can be detected and reviewed.
- Risk management: To ensure that the risks posed by money laundering and other criminal activities are identified, mitigated and managed good risk management practices are essential.

Another objective of the KYC policy is to look past the appearance of the customer and obtain visibility into the sources of the customer's money."

PAYPAL'S RISK BASED APPROACH

PayPal's transaction monitoring program consists of leveraging a number of proprietary and vendor systems to support the monitoring of all PayPal transactions. PayPal has created behavioural models specific to ML/TF typologies, which are continuously monitored and modified to be effective. The risk based systems and controls deployed include:

- Behavioural models specific to ML/TF typologies;
- Profile of customers;
- Credit card authorizations checks;
- Risk controls;
- Fraud detection and monitoring;
- Merchant account management;
- Monitoring cross border payments to and from certain jurisdictions;
- Monitoring of compliance consistent with PayPal's policies.

⁵ AUSTRAC, Know Your Customer, http://www.austrac.gov.au/elearning/pdf/intro_amlctf_know_your_customer.pdf

⁶ AUSTRAC, Know Your Customer, http://www.austrac.gov.au/elearning/pdf/intro_amlctf_know_your_customer.pdf

⁷ Cohen Jared and Schmidt Eric, The New Digital Age: Reshaping The Future, People, Nations and Business

PART 1: CONTEXT. THE PAYMENTS LANDSCAPE

- A. USE OF PAYMENTS
- B. ECONOMIC IMPACT OF EPAYMENTS
- C. PAYMENT INNOVATIONS

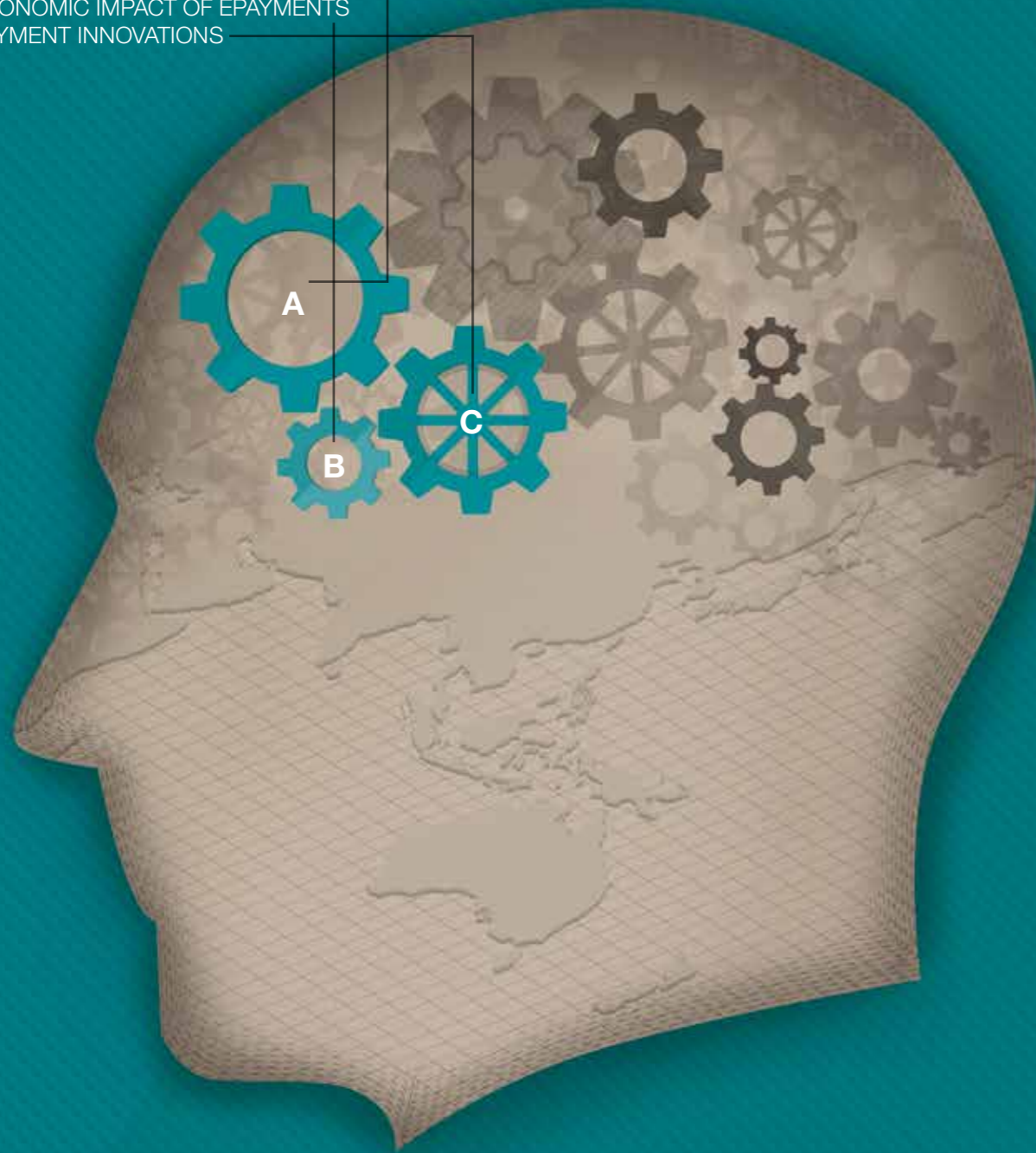
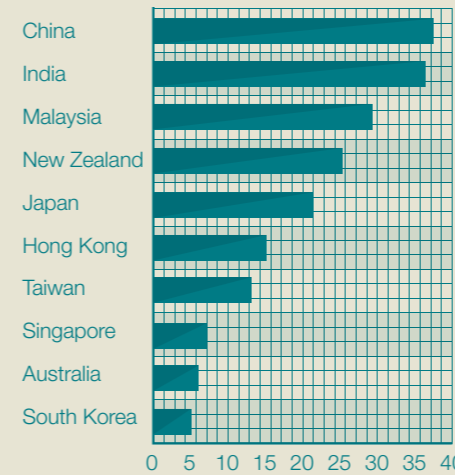


Figure 1.
World ranking - Global
ePayment adoption



Source: Economist Intelligence Unit, 2011
Government E-Payments Adoption Ranking

THE PAYMENTS LANDSCAPE IN ASIA PACIFIC HAS BEEN EVOLVING RAPIDLY.

MOBILE APP BANKING TOOK ONLY THREE YEARS TO REACH 50 MILLION USERS, WHEREAS THE INTRODUCTION OF THE ATM TOOK 14 YEARS TO REACH A SIMILAR USER BASE.⁸

The use of smartphones has grown substantially in Asia Pacific, and the transfer of this technology to mobile payments is on the rise.

According to Gartner research, more than 226 million mobile phones were sold to users in Asia Pacific in the first quarter of 2013, which helped the region increase its share of global mobile phones to 53 percent year-on-year.⁹

Indonesia has more than 230 million mobile phones,¹⁰ that is a 100 percent uptake. As smartphones uptake increases, more and more Indonesians will not only use their phones for calls, or social media – but also to transact, purchase, and use them to send or receive money.

India with a population of more than 1.2 billion people has more than 860,000 mobile phones in circulation, or more than 70 percent uptake. Thailand has more than a 100 percent uptake, Vietnam 80 percent uptake, and the list goes on.

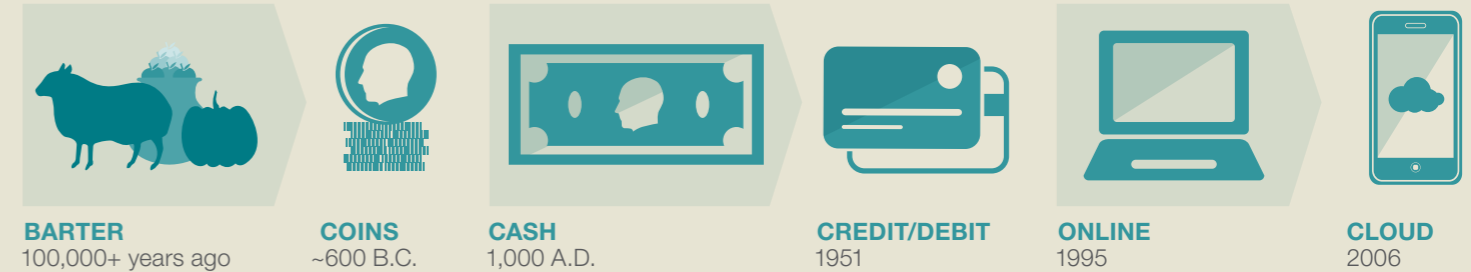
The Internet combined with mobile devices and the Cloud, have accelerated the rate of innovation in payments.

According to a survey by Mastercard¹¹ in 2012 on the global mobile landscape, Asian consumers are well placed for mobile payments. Mastercard uses a Mobile Payment Readiness Index (MPRI) that measures the level of readiness for mobile payment adoption on a scale of 1 to 100 in each country. Singapore tops the list for being the most ready country in consumer acceptance of mobile payment, followed by Canada, and the United States. According to the survey, Singapore leads in infrastructure, with a mobile penetration index that is higher than the average at 100 percent of the population covered by a mobile network, followed closely by China. Singapore also leads for its regulatory system.

The projections for the global ePayments market are extremely strong. The combined market for all types of mobile payments is estimated to reach more than \$600 billion globally in 2013, which is double the figure in 2011.¹² The steady migration to ePayments within Asia Pacific has had a significant impact on growth in overall consumption and therefore GDP. According to Payvision, mobile payments in Asia Pacific are estimated to exceed USD 1 trillion by 2015 while mobile commerce may reach \$119 billion by 2015.

This global growth cannot be ignored and should be harnessed within Asia Pacific. Global ePayments providers are key enablers for local business to become more efficient, effective and competitive on a global scale.

INNOVATION IN PAYMENTS IS ACCELERATING



Source: Euromonitor

⁸ King, Brett, Bank 3.0: Why banking is no longer somewhere you go, but something you do

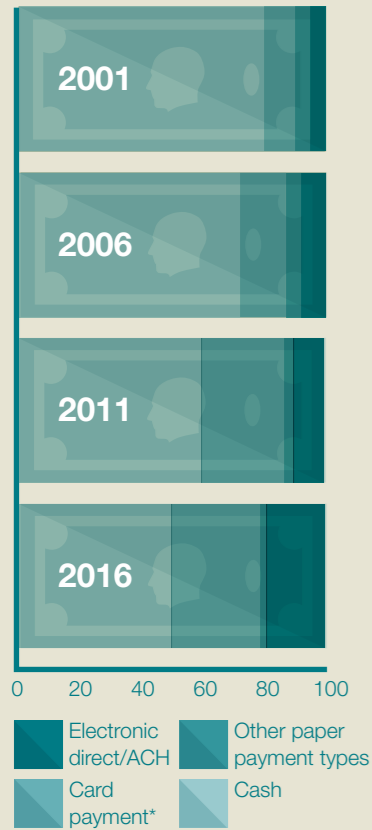
⁹ Gartner Press Release, Gartner Says Asia/Pacific Led Worldwide Mobile Phone Sales to Growth in First Quarter of 2013, May 14 2013, <http://www.gartner.com/newsroom/id/2482816>

¹⁰ CIA World Factbook

¹¹ Mastercard Mobile Payment Readiness Index 2012

¹² Juniper Research, Mobile Payments Markets: Strategies and Forecasts 2008-2013,

Figure 2. Consumer Payments by Volume 2001 - 2016



*excluding commercial

Source: Euromonitor International

A. USE OF PAYMENTS

Electronic payments are still in their relative infancy in Asia Pacific with varying levels of usage throughout the region. In India, for example, eCommerce service Flipkart reports that 60 percent of their orders are paid for by cash on delivery. Economies of North Asia and Australia have a demonstrably higher credit card penetration and usage than their Asian neighbours.

Many economies still rely on cash. Credit card penetration in China, Thailand, Vietnam, India and Indonesia is less than 10 percent. Penetration of debit cards in these markets is higher, but these debit cards are still being integrated into the payments system.

Cash is expected to remain the most popular type of consumer payment in Asia Pacific until at least 2016. However ePayments are growing rapidly as consumers shift away from cash payments. McKinsey reported in 2011 that Asia Pacific would account for more than 50 percent of the global payments revenue growth over the subsequent five years.¹³

REMITTANCES

Asia is the source of nearly 60 million migrant workers who sent almost USD 260 billion to their families in 2012.¹⁴

This represented 63 percent of global flows to developing countries. An estimated 70 million Asian households are recipients.

Seven out of the top ten remittance-receiving countries are in Asia: India, China, the Philippines, Bangladesh, Pakistan, Vietnam and Indonesia (in order of magnitude). More than half of the population in these countries is rural.

There is a significant opportunity to broaden the technology outreach to many of these workers, who often send their remittances in cash, and at times expose themselves to significant commissions impacting in loss of revenue.

Many of these households also are outside of the world's financial systems and as a result have limited financial instruments available to them.

Providing remittance-receiving households with more options for using their money will also leverage the development impact of remittances on the communities where they live and regulations need to consider this growing demographic in Asia.

Just imagine an Indonesian worker in Singapore, sending remittances to their village through the use of their mobile phone, when they want, where they want, no longer having to rely on businesses that rely on heavy commissions. Bypassing traditional methods is more convenient and productive.

B. ECONOMIC IMPACT OF EPAYMENTS

ePayments provide a significant contribution to the overall economy. Together with conventional payment systems, they facilitate e-commerce, particularly cross-border transactions.

A study by Deloitte¹⁵ sheds some light on the magnitude of the economic impact of ePayments. The study quantifies such gains for the European Union. However the estimated economic gains can be applied to Asia Pacific, measured as a percentage of national income (GDP). The Deloitte study identified several channels through which the ePayment industry can contribute to the overall economy. The industry: employs large numbers of people, including highly skilled staff; invests heavily in IT infrastructure; invests in marketing; and research and development; all of which triggers additional effects on the economy. The Deloitte study estimated the size of this direct economic impact of the industry as being around USD 8.7 billion per year for the European Union.

These calculations were replicated by Sidley Austin LLP. Assuming the gain is the same as a share of GDP as in Europe, the direct economic impact of the industry is estimated 30 percent higher in Asia Pacific at USD 11.4 billion.¹⁶

Deloitte estimated that the overall effect of current eCommerce is a one percent increase in GDP.¹⁷ In absolute terms, this translates into gains of USD 166 billion in the European Union. Assuming that similar gains would occur in countries in Asia Pacific, the region wide economic gain estimated by Sidley Austin would be USD 218 billion.

The opposite table (Fig. 3) shows such gains for a number of countries in the region, and the region as a whole.¹⁸

Not all of these economic gains from eCommerce can be attributed to alternative payment systems because at least some online retail would also take place if only conventional payment systems were available. The report Modern Spice Routes²⁰ showed PayPal to be the most popular payment method for cross-border purchases, with 79 percent of respondents having used PayPal for a cross-border transaction in the past 12 months, indicating the impact of ePayments particularly for cross border transactions.

Economic gains derived from ePayments are likely to be even higher in Asia Pacific than in Europe or North America, at least in developing and emerging economies within the region.

The reason is that fewer people in such countries have access to conventional payment systems. In most EU countries, as well as in countries such as the US, Australia or North Asia, an overwhelming majority of consumers have access to a bank account and own a credit or debit card.

Figure 3. Economic gains from eCommerce in Asia Pacific countries¹⁹

Country	GDP effect (USD billion)
China	82.3
Japan	59.6
India	15.2
Australia	15.2
Korea	11.3
Taiwan	4.5
Hong Kong	2.6
Singapore	2.7
Asia Pacific	217.8

¹³McKinsey & Company, McKinsey on Payments, September 2012 http://www.sibos.mckinsey.com/download/MoP15_Asia-Pacific%20Payments%20map.pdf

¹⁴International Fund for Agricultural Development (IFAD), Sending Money Home to Asia, 2013, <http://www.ifad.org/remittances/events/2013/globalforum/resources/sendingmoneyasia.pdf>

¹⁵Deloitte, The economic impact of online payments: Breaking barriers across Europe, May 2013

¹⁶The estimate for the EU was USD 8.7 billion (Euro 6.6 billion). The GDP of the Asia-Pacific region is 30 percent higher (based on World Bank data)

¹⁷Deloitte, The economic impact of online payments: Breaking barriers across Europe, May 2013

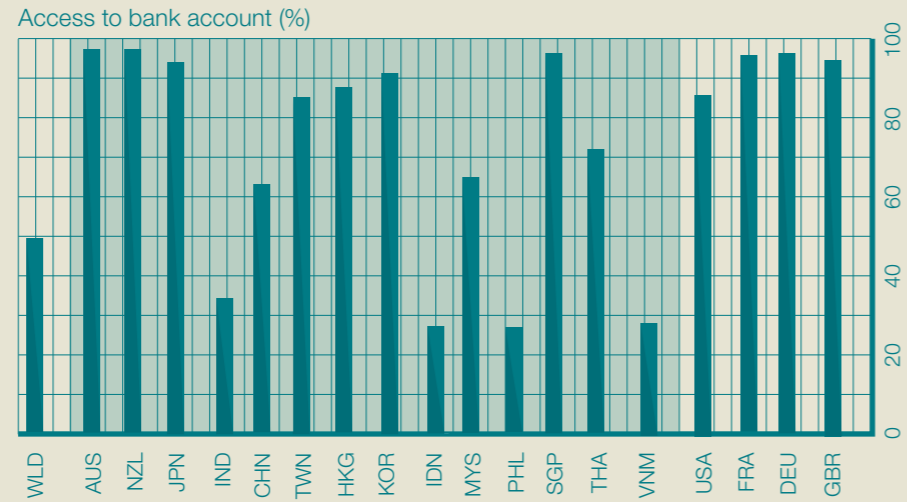
¹⁸The figure for the Asia Pacific region, undertaken by Sidley Austin, refers to the countries and territories shown in the table, plus the following countries: Brunei, Cambodia, Indonesia, Laos, Malaysia, New Zealand, Philippines, Thailand and Vietnam. The estimates are made based on GDP figures from the World Bank's WDI database, measured in current USD and for the latest available year (2012)

¹⁹Calculations undertaken by Sidley Austin based on the World Bank's Global Financial Inclusion Database <http://data.worldbank.org/topic/financial-sector> The chart shows the share of the population (above age 15) that has an account at a formal financial institution

²⁰PayPal, Modern Spice Routes, July 2013, https://www.paypalmedia.com/assets/pdf/fact_sheet/PayPal_ModernSpiceRoutes_Report_Final.pdf

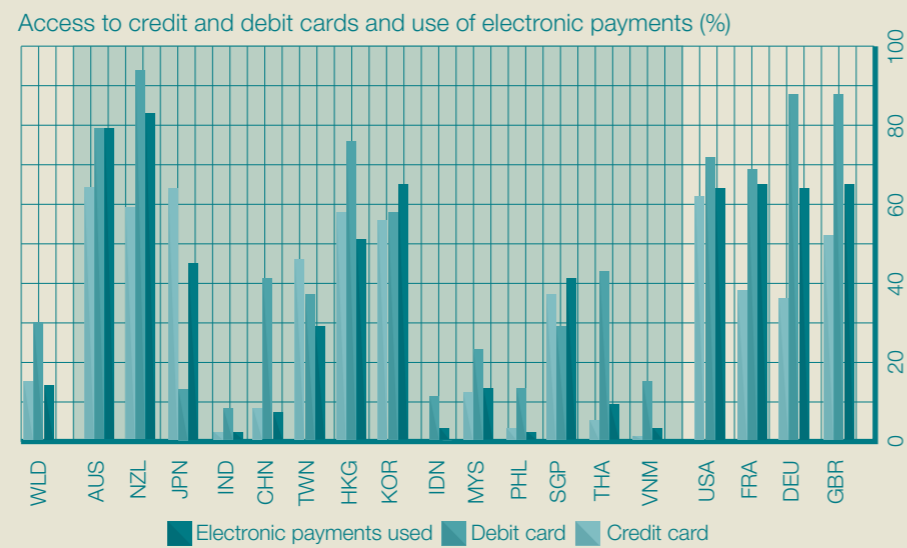
The figures below (Fig.4 & Fig. 5) show clearly that access to financial instruments is limited in some countries in Asia Pacific, especially in India, Indonesia, the Philippines and Vietnam. While this data primarily refers to consumers, it is an indication to the degree to which retailers have access to ePayment systems.

Figure 4.
Share of population having access to a bank account ²¹



Source: World Bank

Figure 5.
Share of population with access to credit or debit card and share using electronic payments²²



Source: World Bank

ePayment systems can be particularly beneficial for cross-border transactions as many conventional payment systems cannot be used or may incur high fees and security risks.

Another feature of ePayment systems is that they are easy to implement for small and medium sized retailers, especially if a retailer also wants to sell abroad. Instead of having to deal with country specific payment options, the retailer can use ePayments such as PayPal that can be equally used by customers across the globe.

ePayments provide significant contributions to the economy through both their actual economic activity, and the much larger benefits derived from their crucial role in facilitating commerce. Such benefits are likely even larger in the emerging economies of Asia Pacific, where ePayments if fully utilized can charge further economic growth.

SOCIAL IMPACT OF EPAYMENTS

More than a third of the world's population are excluded from the financial sector. According to organizations such as the Better than Cash Alliance²³, there are significant benefits of ePayments including cost savings, transparency, security, financial inclusion, and access to new markets.

ePayments providers can also provide significant benefits to charitable organizations.

Data released by PayPal Australia has shown mobile donations have increased by 283 percent in the past year compared with a 26 percent increase online.

Australians donated more than AUD 6 million to charities through PayPal in the last year.

One in four transactions using PayPal is made on a mobile device in Australia, so Australians are finding it easier to donate to charities on the spot using their smartphone.²⁴

²¹ World Bank Global Financial Inclusion Database (available at <http://data.worldbank.org/topic/financial-sector>). The chart shows the share of the population (above age 15) that has an account at a formal financial institution.

²² World Bank Global Financial Inclusion Database

²³ Betterthancash.org

²⁴ Techguide, Australians are donating to charities with their smartphones, 25 April 2013 <http://www.techguide.com.au/blog/27-news-feed/mobiles/1786-australians-are-donating-to-charities-with-their-smartphones>

C. PAYMENT INNOVATIONS

EBAY INC
 Industry sector: Internet Retail
 Innovation: PayPal
 Region: Global



amazon.com

AMAZON
 Industry sector: Internet Retail
 Innovation: Amazon Payments
 Region: Global

APPLE
 Industry sector: Technology
 Innovation: App Store
 Region: Global



Google

GOOGLE
 Industry sector: Internet
 Innovation: Google Wallet
 Region: Global

NATIONAL PAYMENT CORPORATION OF INDIA

Industry sector: Payments
 Innovation: Immediate Payment Service (IMPS)
 Region: India



ALIBABA GROUP
 Industry sector: Internet Retail
 Innovation: Alipay
 Region: China



ASIA PAY
 Industry sector: Mobile payment
 Innovation: PayDollar, PesoPay and SiamPay
 Region: China, Philippines, Thailand, Malaysia, India, Singapore, Vietnam



WAON
 Industry sector: Mobile payment
 Innovation: Contactless smartcard
 Region: Japan



VISA

VISA
 Industry sector: Payments
 Innovation: V.Me
 Region: Global

XOOM
 Industry sector: Payments
 Innovation: Money transfers
 Region: Global



Technology is developing many payment innovations in Asia Pacific. The growing ePayments ecosystem has led to greater use of micropayments as savvy consumers begin to make everyday payments using mobile services (one renminbi, for example, can buy a farmer access to local weather forecasts or a thermometer from online auction house Alibaba.com).

Alipay operates as a digital wallet that grew out of China's biggest eCommerce site. The product enables mobile payments, and also stores gift cards and discount coupons in a wallet. AliPay has introduced a new payment method option in the form of 'sound wave payment' which utilizes white noise generated by one smartphone to carry digital information to another Alipay Wallet equipped smartphone.²⁵

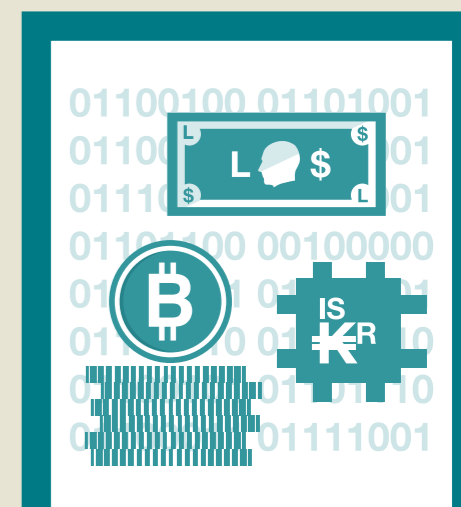
Another example is AsiaPay, an electronic payment solution, technology vendor and payment service provider covering international credit card, debit card and other prepaid card payments. It is an accredited payment processor and payment gateway solution vendor for banks, merchants. Its payment solutions, PayDollar, PesoPay and SiamPay, are multi-currency, multi-lingual, multi-card, and multi-channel.

The Immediate Payment Service (IMPS) offers an instant interbank electronic funds transfer through mobile phones in India. The service facilitates transfers securely and instantaneously.

Small startups outside of Asia are also creating several unique payments business models. Xoom, a San Francisco based firm, enables sending small amounts of money across borders. "By collecting the money online, and using technology to minimize fraud, it is able to undercut the fees charged by traditional money senders."²⁶

Then there are of course the global players in this space such as Apple, Visa, PayPal, Google and Amazon offering their own innovative payment solutions in the ePayments space. These innovations have led some to suggest significant changes are ahead for consumers. For example, physical credit cards in their current form could be a thing of the past by 2018, as the rate of smartphone penetration increases and mobile payments become more pervasive. PayPal global product vice-president Hill Ferguson believes that in five years digital variations of credit cards would be the norm.²⁷

To address these innovations in the payments sector, regulators and policy makers need to emulate the best practices of the markets they regulate in the new digital age. This means regulation that is better at using data to manage risk, and technology neutral. The landscape is rapidly changing and regulators need to have a flexible approach in dealing with all these new business models.



VIRTUAL CURRENCIES

There has been significant focus on virtual currencies. Virtual currencies can be used entirely within a virtual economy, or can be used in lieu of a government issued currency to purchase goods and services in the real economy.

Examples of virtual currencies include: Second Life/ Linden Dollars; EVE Online/InterStellar Kredit (ISK); Bitcoins; virtual currencies within games; and some organizations like Points.com exchange points (eg flights) for redemption such as gift cards.

Potential advantages of virtual currencies include: low cost of transaction; international use without currency conversion; privacy and finality of payment. Disadvantages of virtual currencies could include fluctuation in value; anonymity; uncertain regulatory status; and finality of payment.

A critical issue for some virtual currencies is the issue of anonymity. PayPal does not allow anonymous accounts.

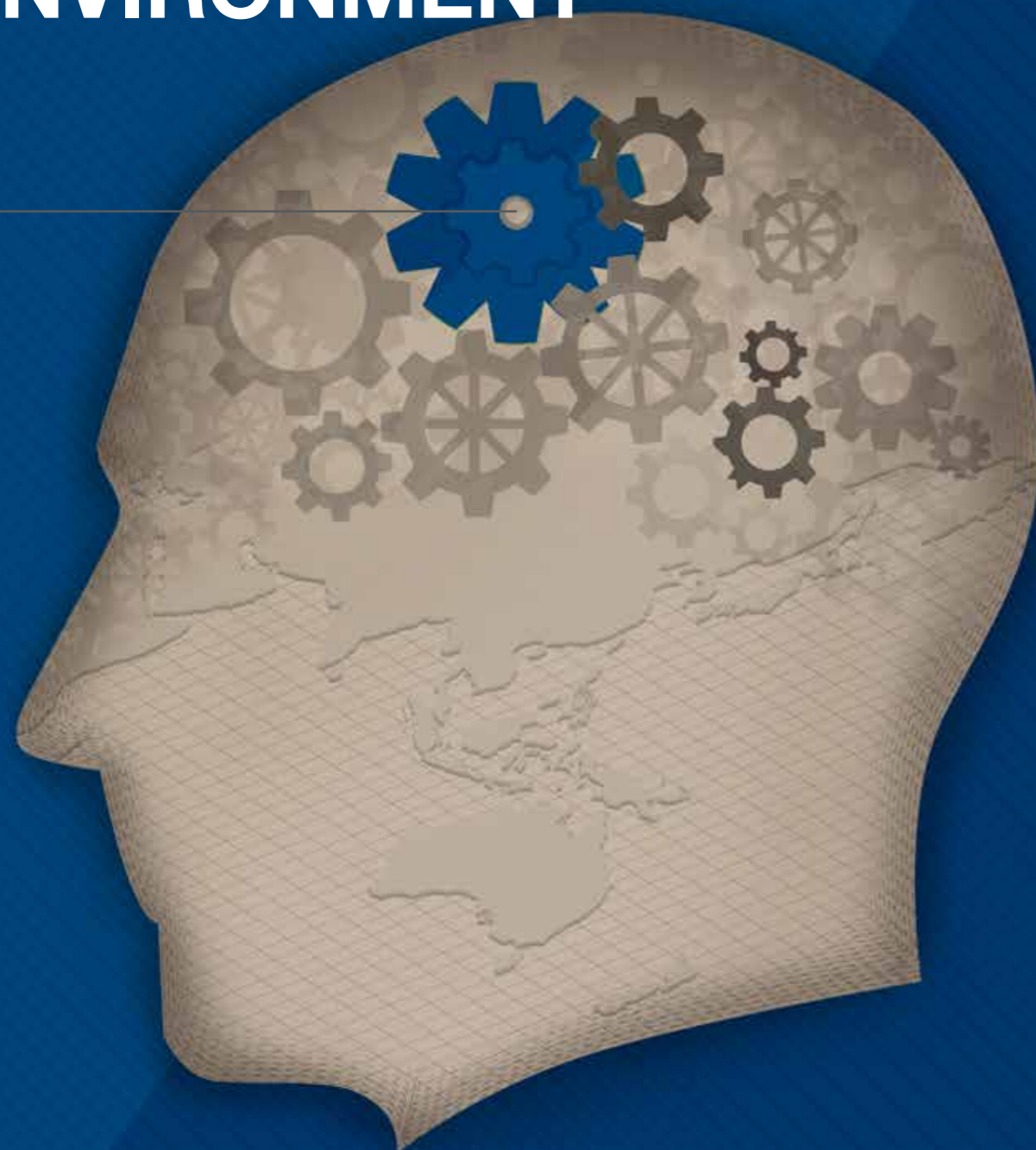
This is an area that will continue to attract interest and focus from regulators.

²⁵Techcrunch, Alipay Launches Sound Wave Mobile Payments System In Beijing Subway, 14 April 2013, <http://techcrunch.com/2013/04/14/alipay-launches-sound-wave-mobile-payments-system-in-beijing-subway/>

²⁶The Economist, Revenge of the Nerds, 3 August 2013

²⁷The Australian, Physical credit cards are dying says PayPal, 19 July 2013 <http://www.theaustralian.com.au/australian-it/it-business/credit-cards-are-dying-says-paypal/story-e6frganx-1226681536459>

PART 2: CHALLENGE. ASIA PACIFIC REGULATORY ENVIRONMENT



THE ASIA PACIFIC REGION HAS A UNIQUE SET OF CHALLENGES REGULATING EPAYMENTS. THE REGION INCLUDES DEVELOPED MARKETS WITH HIGH SMARTPHONE PENETRATION AND EPAYMENT USE, AS WELL AS DEVELOPING ECONOMIES THAT HAVE SIGNIFICANT POTENTIAL, A RELIANCE ON CASH, AND ARE ONLY BEGINNING TO ACCESS TECHNOLOGIES SUCH AS SMARTPHONES. UNLIKE EUROPE WHERE A SINGLE UMBRELLA ORGANIZATION (E.G. EUROPEAN PAYMENTS COUNCIL (EPC)) OVERSEES THE BULK OF PARTICIPATING COUNTRIES IN THE EUROPEAN UNION, THE ASIA PACIFIC REGION HAS SEPARATE JURISDICTIONS, WITH SEPARATE GOVERNMENTS, OPERATING WITH DIFFERENT AGENDAS.

ePayments has become a truly global market, which magnifies the difficulties that come from the disparate regulatory regimes in Asia Pacific. The variety of regulatory regimes presents unique challenges for implementing consistent reform, but also presents numerous opportunities for key jurisdictions to move to the cutting edge of regulation and provide best practices leadership.

There are signs of sound regulatory practices, as well as areas for improvement.

The Monetary Authority of Singapore (MAS) has taken positive steps in payments regulation, working closely with the Association of Banks in Singapore (ABS) to discuss industry issues and promote a sound financial system by providing input on legislative changes and guidelines.²⁸ This collaborative environment has further grown the potential of Singapore as a global payments innovator, and shows the strong desire of regulators to work with market participants to improve the ePayments market in Singapore.

Singapore has also begun the development of an immediate payments project (G3), which will provide the functionality to process low-value payments in real-time whilst maximizing innovation and minimizing settlement risk.²⁹ These services will support new payment channels such as peer-to-peer payments and increase the competitiveness of banks and non-bank payment providers.³⁰

In India, regulators have continued to be proactive in promoting to non bank players and ePayments. For example, the Reserve Bank of India (RBI) Payments Vision document 2012–2015 released in mid 2012 has an entire section devoted to innovation and development of retail payments systems and new products.

In September this year, the RBI permitted electronic KYC by using unique biometric National ID “Aadhar” for financial services. The progress of ePayments received a further boost with the National Payment Corporation of India launching RuPay in 2012, the country’s own domestic card scheme and Immediate Payment Service (IMPS) which has received international recognition as an innovative, real-time, instant mobile payment system service.

The Indian government has worked to accelerate financial inclusion and less reliance on the cash economy with implementation of Direct Benefits Transfer (DBT) and linking it with Aadhar which has now 400 million citizens enrolled. This will allow millions of people with unique Aadhar ID to receive their subsidies, pensions, entitlements, and scholarships directly into their accounts, reducing leakages, and time delays.

In Australia, the release of the ePayments code of conduct in May 2013 is a positive step forward for the industry and should be seen as a significant signal to regulatory authorities that market participants are extremely eager to cooperate and work with them to establish a secure and efficient online payments market.

The Code regulates consumer ePayment transactions and complements other regulatory requirements, including financial services and consumer credit licensing, advice, training and disclosure obligations. The Code requires: subscribers to give consumers clear and unambiguous terms and conditions; stipulates how terms and conditions changes (such as fee increases), receipts and statement need to be made; sets out the rules for determining who pays for unauthorized transactions, and establishes a regime for recovering mistaken internet payments.

Australia has also initiated a real time payments industry project, with objectives to develop a new real-time payments infrastructure and overlay services by 2017. This solution will further advance the Australian ePayments market and will likely see a surge in innovative payments products, as well as solutions to current payments objectives such as simpler addressing and ability to manage payment data.

There are, however, areas for continued improvement throughout Asia Pacific.

In certain jurisdictions traditional face-to-face KYC in AML laws may still apply. These regulations require consumer information to be collected in processes that no longer apply in the modern ePayments era. Although the objectives underlying these regulations remain current, the way they are applied to the ePayments sector can be improved for today’s market.

In China, foreign ePayment providers are yet to operate domestically. According to Barclays Capital, China’s eCommerce market grew 66 percent to 763 billion yuan (USD 121 billion) in 2011 alone. Enabling international firms to enter the domestic market can provide economic and socio-economic benefits, particularly in cross border transactions.

In Korea, the management of IT outsourcing and foreign processing remain two of the major barriers to competition and market development for non-Korean organizations. This issue is yet to be addressed by regulators or the market directly.

Updating the regulatory decision-making process will ensure that future regulations move beyond the process based requirements that may impact innovation in the Asia Pacific.

²⁸ Committee on Payment and Settlement Systems. November 2012. Payment, clearing and settlement systems in the CPSS countries (Volumes 1 & 2) (“Red Book”).

²⁹ Clear2Pay 2012. Clear2Pay launches G3 Payments solution to Singapore market, 15 March 2012.

³⁰ Zhaoliang, Yan and Zink, Thomas. 2012. Singapore a notch closer to real time low value payments. Banking & Payments Asia. 11 September 2012. <http://www.bankingandpaymentsasia.com/news/singapore-a-notch-closer-to-real-time-low-value-payments>

PART 3: SOLUTION. ADOPTING A NEW MODEL FOR EPAYMENTS

- A. IMPLEMENT “SMART” GOVERNANCE
- B. SMART GOVERNANCE CYCLE
- C. SMART GOVERNANCE METHODOLOGY OPTIONS
- D. SEAMLESS GOVERNANCE



A. IMPLEMENT “SMART” GOVERNANCE

THE SMART GOVERNANCE MODEL INTRODUCES THE SAME DATA ANALYSIS TECHNIQUES AND APPROACHES TO PROBLEM SOLVING THAT ARE REVOLUTIONIZING THE WAY NEARLY EVERY KIND OF DECISION MAKER OPERATES, FROM HEALTH CARE PROVIDERS TO TAXI CAB DRIVERS. THESE TECHNIQUES CAN BE UTILIZED BY POLICY MAKERS AND REGULATORS TO GLEAN NEW INSIGHTS AND MAKE BETTER DECISIONS.

Yet regulators cannot enact the principles of SMART governance without engagement with actors outside the traditional regulatory structure. This paper calls for the creation of specific committees made up of financial services, regulatory, and technology/data experts who can assess the assumptions that underlie current

payments regulation. These experts can also test the efficacy of new pieces of data by applying the SMART Governance model in the hope of arriving at results that better achieve the fundamental goals underlying payments regulation. This group can aid in implementing each step of the SMART governance process.

The structure of the SMART governance model is detailed in the following table:

Stage	Key Focus
1 OBSERVE. Secure relevant data from all regulated actors	<ul style="list-style-type: none"> • Collecting relevant data from the stakeholders that are going to be subject to regulation in a centralized manner. • Collection utilizing digitized methods, through an Application Programming Interface (API) that organizations can report directly into. • Regulators must mandate specific data to be reported, and the format in which it is to be reported. • Consistency needs to be applied to data requests across regulated actors; ensuring data is applicable to all institutions.
2 ORIENT. Organize data within centralized and interlinked databases	<ul style="list-style-type: none"> • To enable comparisons between regulated actors to become simpler through harmonized data points. • Transforming data into an information source that can help in choosing the best course of action for regulation
3 DECIDE. Algorithms are created and applied to gain insights from the database	<ul style="list-style-type: none"> • Data based analysis will allow regulators to discover correlations in information, and better understand what is happening in the market. • Algorithms should allow regulators to capture the present in a timely manner and predict, with a certain likelihood, the future trend of the ePayments marketplace. • This will promote broader thinking about where and how to introduce change into a system in order to achieve the set regulatory goals.
4 FEEDBACK. Review and re-adjust the data gathering, the database organization, and the algorithms (constantly).	<ul style="list-style-type: none"> • Adjust to the changing regulatory environment by generating and receiving feedback from current and previous iterations of data analysis. • Transparency and information flows with regulatory stakeholders, particularly the ePayments organizations regulated by the SMART governance model, are crucial in ensuring the constant feedback loop is achieved.
5 ACT Target the insights towards specific regulatory changes	<ul style="list-style-type: none"> • Taking insights gained from the SMART data analysis to adjust and tailor regulation.

With the ePayments market growing so rapidly, there is a mounting need for central banks (and regulators) to make sure reliable market data is being collected and analyzed with the same rigour for emerging payment channels as for legacy instruments.

An increase in trust by regulators and “SMART” reform aimed directly at driving innovation, with changes visible to the

consumer, will create a more innovative and globally competitive marketplace whilst maintaining regulatory oversight and consumer protection objectives.

The SMART system is dynamic and the steps allow for flexible adjustment. The model would help regulators adjust regulatory levers as the ePayment sector changes.

B. SMART GOVERNANCE CYCLE



STEP 1. OBSERVE – SECURE RELEVANT DATA FROM ALL REGULATED ACTORS.

Collecting relevant data from the actors that are going to be subject to regulation in a centralized server is essential to beginning the process of gleaning insights from big data. Regulatory bodies do currently collect massive amounts of information from regulated actors, but they often do so in an inefficient manner (e.g. through a variety of paper forms), and can sometimes seek irrelevant or redundant pieces of information. This process could be made far more efficient through digitization, calling upon regulated actors to submit data through an Application Programming Interface (API) that regulated bodies can directly plug in to in order to submit relevant data. The process of securing data must also be created with a “level playing field” mind-set. Legislators must look to the specific pieces of data that all actors in a regulated environment would have. By harmonizing the data request across regulated actors, regulators can better ensure that they have a relevant and comprehensive data set to work from. Moreover, comparison between regulated actors becomes simpler when the data points are harmonized. Experts, from among both the regulators and the regulated, should be relied upon to determine what data points are appropriate and relevant for a particular regulated environment.



STEP 2. ORIENT – MACHINES ORGANIZE THE DATA INTO CENTRALIZED AND INTERLINKED DATABASES.

Collecting an amalgam of data is not helpful if the data is not organized in an understandable way. Currently, regulators are collecting large swaths of data, but it is oftentimes not organized in an understandable manner. Properly collecting and organizing data enables it to be delivered towards addressing the right problem at the right time. Moreover, many government agencies struggle to share data – sometimes because of appropriate concerns – leading to situations where agencies are not be able to see the entire landscape. Encouraging the organization of data from various sources will enable the strongest insights to be derived.

“The unification of multiple datasets from disparate sources in combination with advanced analytics techniques and technologies will advance problem solving capabilities, and in turn will improve the ability of predictive analytics to reveal insights that can effectively support decision-making”³¹

This step is about transforming data into information that can help in choosing the best course of action. Indeed, the ability to orient (to make sense of data) is likely the most important part of the cycle as it shapes the way we observe, decide and act.



STEP 3. DECIDE. – ALGORITHMS ARE CREATED AND APPLIED TO GLEAN INSIGHTS FROM THE DATABASE.

Algorithm is a term that is widely misunderstood and viewed as far too technical for the average policy maker. But, this could not be further from the truth. An algorithm is merely a set of rules to be followed during an operation. An algorithm is basically an instruction manual. In the case of big data, an algorithm enables us to answer questions, or glean insights, from the database. An example should help to further clarify. If there is a government health database containing information on blood types and we wanted to know what the most common blood type is in the country, an algorithm that merely adds up all of the different blood types and then ranks them could be created to respond to the question. It is important to recognize what big data can tell us and what it can't. Big data lets us discover correlations – what is happening – rather than causation – why something is happening. Correlations allow us to capture the present and predict, with a certain likelihood, the future. Experts will be essential in designing algorithms and helping to interpret the insights from the results. Moreover, at this stage of the cycle, policy innovation includes using the data insights for thinking more broadly about where and how to introduce change into a system in order to achieve the set regulatory goals.



STEP 4. FEEDBACK – REVIEW AND READJUST THE DATA GATHERING, THE DATABASE ORGANIZATION, AND THE ALGORITHMS (CONSTANTLY).

The key to success for entities using modern data analysis techniques is to be able to constantly innovate and adjust to the rapidly changing environment by generating and receiving feedback from current and previous iterations. Dynamic Repetition and Adjustment. There is no reason why government regulators cannot be equally agile in terms of both their processes and means of achieving their objectives. In fact, they should be. The regulatory model we envision therefore requires timely, plentiful and compelling feedback loops. Feedback loops will also adjust the mechanics of our model: If gathering a particular piece of data does not help to achieve the goals that the regulator is seeking to achieve then it should no longer be requested. If databases are not structured in an efficient manner or are not integrated then the system must be reformed. Finally, if an algorithm is not leading to meaningful insights then the calculations must be readjusted. Moreover, proper feedback loops are essential in order to avoid the trap of misuse as well as overreliance on data. Transparency and information flows will be crucial. However, we do not underestimate the difficulty in putting in (the right) place feedback loops that allow for well-targeted adjustments, corrections and innovation. To this end, we think that additional expert support would improve the efficiency and effectiveness of the feedback loops.



STEP 5. ACT – TARGET THE INSIGHTS TOWARDS SPECIFIC REGULATORY CHANGES.

Taking insights gained from the big data process and actually shifting the course of regulation is the step that will result in real benefits. This is again an area for human experts. Experts will interpret those insights in context and decide how to implement them into regulation and action. At this stage of the cycle, policy innovation includes putting the right intervention mix into action and allowing action to equate to experimentation. This is not saying we should introduce unnecessary risk into the regulatory process. However, remember that big data analytics is about predictions, and if we couple that with operating on a cycle with compelling feedback loops, we find ourselves equipped to try out new ideas on a scale where we can manage failure: “trial-and-error” in policy making.

To understand why SMART governance is a more effective and efficient process take the example of the APEC Business Travel Card. The card allows business travellers pre-cleared, facilitated short term entry to member economies. By supplying certain biometric data at the outset, travellers can obtain a more efficient passage through airports, yet the security checks continue to iterate and check these business travellers to ensure safety and security. The process of travel was made more efficient by an increase of data at the outset. The SMART governance concept is simply applying the techniques behind the APEC Business Travel Card to regulation.

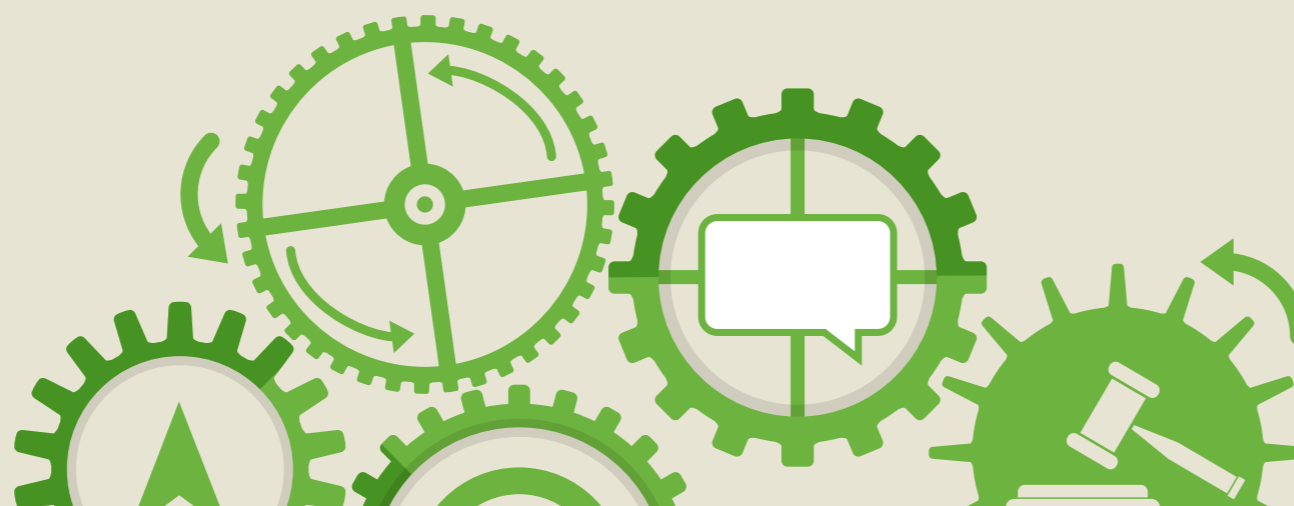
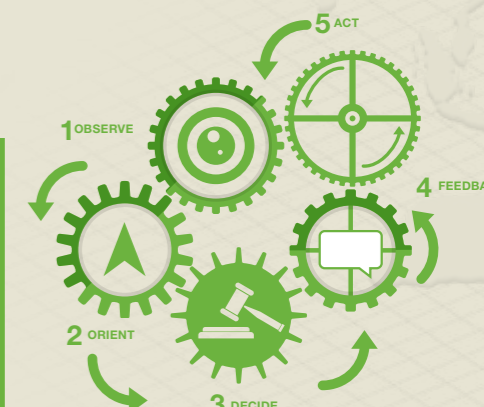


Figure 6. Dynamic repetition and adjustment

1. Secure large amounts of data
2. Machines organize data
3. Algorithms glean insights
4. Re-adjust steps 1-3 (constantly)
5. Target insights towards goals



³¹ Australian Government, Big Data Strategy Issues Paper, March 2013

C. SMART GOVERNANCE METHODOLOGY OPTIONS

The application of the SMART Governance model can be done in multiple ways. This paper puts forward three methodologies:

- **THE REGULATORY MANAGER METHOD** – The regulator works with the relevant advisory committee to identify relevant pieces of results-based data, which can be collected from all regulated entities and applied to a particular results-based goal. The regulator houses a database where this information is collected. The regulator then creates its own algorithm and uses modern analytical techniques for deriving insights from the data. The regulator can then use its enforcement authority against entities that the algorithms demonstrate to be falling short of achieving specific results. This method tasks the regulator with managing the entire SMART Governance process, which leads to a serious resource constraint.
- **THE REGULATORY AUDITOR METHOD** – The regulator sets out a series of results-based goals for regulated entities to aspire to. The regulated entities house the relevant data, and create the algorithms to analyze the data. The regulated entities determine how they can best achieve the regulatory goals. The regulated entities must demonstrate, using results-based data, that they are meeting the goals set out by the regulators. The regulated entities must report their progress towards achieving those goals on a regular basis. The regulator can audit these reports, and use its enforcement authority if the results of the report fall below a certain threshold. This method allows the regulated entities the flexibility to innovate, but subjects the regulated entity to audit if they fail to achieve certain results. It also places the onus of responsibility on the regulated entity, but still places some burdens on the regulator to conduct regular audits
- **THE REGULATORY OVERSIGHT METHOD** – The regulator sets out a series of results-based goals for regulated entities to aspire to. The regulated entities house the relevant data, and create the algorithms to analyze the data. The regulated entities determine how they can best achieve those goals. The regulated entities must create an internal independent auditor, which is subject to controls by the regulator. The internal auditor is also subject to annual review of its program. This method puts the onus of the burden on the regulated entity and allows the regulator to play an oversight role, while still subjecting entities to enforcement if they fail annual reviews or fail to utilize the controls set out by the regulator.

There are several examples of governments around the world utilizing aspects of the SMART Governance model:

The South African government applies a complex systems big data mindset to analyze information from its national census program to find meaningful trends to help guide policy decisions.

The Dutch Government is experimenting with a committee of experts from all sectors, including database analytics, with its accreditation regulator.

Finally, both the UK and US governments are experimenting with plugging in data directly from private actors into agencies by allowing citizens to use identity credentials from private actors to register for government services.

D. SEAMLESS GOVERNANCE

CENTRAL BODY FOR EPAYMENTS

Within the Asia Pacific ePayments sector, there are instances of multiple regulators having oversight responsibilities over individual aspects of ePayments regulation within local jurisdictions.

Regulatory jurisdiction over Anti Money Laundering (AML), payment methods and consumer protection may sometimes overlap, at times creating duplication in compliance efforts.

To enable reform and streamline regulatory compliance, individual jurisdictions should consider establishing a central overarching body for the ePayments sector from end-to-end.

This model has been successfully implemented in the European Union where the EPC has commissioned the Payments Services Directive (PSD), which provides a single legal regulatory framework for ePayments within Europe.

The PSD has established a comprehensive set of rules applicable to all payment services in the European Union. The PSD is focused on increased competition, encouraging new entrants to the market, and providing a single compliance regime for all ePayments market participants.

Seamless governance does not call for removing existing regulators or government agencies, but rather creating a framework that brings agencies together, when required, to avoid duplication or overlap in regulatory reach.

Some countries have single regulators regulating all major segments of the financial sector, banking, and insurance. Other countries have two regulators for the banking sector and the securities market. Finally, others utilize separate regulators for each of the three segments.

India, for example, has a financial regulatory architecture which has a regulator for each vertical in the financial services sector. According to the Indian Government's Report of the Financial Sector Legislative Reforms Commission³², the present work allocation between Reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI), Insurance Regulatory and Development Authority (IRDA), Pension Fund Regulatory and Development Authority (PFRDA), and Forward Markets Commission (FMC) – was not designed; it evolved over the years.

The report states:

“The current arrangement has gaps for which no regulator is in charge – such as the diverse kinds of ponzi schemes³³ that periodically surface in India, which are not regulated by any of the existing agencies. It also contains overlaps where conflicts between regulators has consumed the energy of top economic policy makers and held back market development. Over the years, these problems will be exacerbated through technological and financial innovation... An approach of multiple sectoral regulators that construct ‘silos’ induces economic inefficiency.”

The ePayments sector would benefit from a framework where regulations can be covered from end-to-end.

³² Report of the Financial Sector Legislative Reforms Commission, Government of India, March 2013

³³ A ponzi scheme is a fraudulent investment operation that pays returns to its investors from their own money or the money paid by subsequent investors, rather than from profit earned by the individual or organization running the operation

REGIONAL HARMONIZATION FOR EPAYMENTS

In order for the Asia Pacific to maintain recent levels of growth, a concerted and focused effort is required to create a consistent regional approach to regulation of ePayments. Regulators across the region should actively engage in dialogue focusing on reconciling differing interests and objectives of regional legislation within the ePayments sector. Such a dialogue would enable the region to play a more influential role in shaping global ePayments regulatory developments.

The European Payments Council (EPC) is a working example of a central body put in place to coordinate and oversee decision-making within the European banking industry in relation to payments. The purpose of the EPC is to support and promote the development of a framework which is focused on an integrated euro payments market, in particular, defining common positions and objectives for the cooperative space of payment services.³⁴

Europe is also at the threshold of establishing a Single European Payments Area (SEPA). SEPA is to come into force in 2014. All major transaction instruments will be covered by SEPA – credit/debit cards, Internet and mobile payments, direct debits, etc. The main purposes of the integrated European payment markets are to increase competition in the industry; to build customer trust and to ensure transparency for consumers; and to stimulate innovation among businesses and entrepreneurs.

The Pacific Alliance, a Latin American bloc launched in 2012, groups Chile, Colombia, Mexico and Peru and presents an example of regional harmonization on financial regulation. The four nations of the Pacific Alliance represent about 36 percent of Latin America GDP, and if counted as a single country they would be the ninth largest economy in the world. The organization's goals include free trade and economic integration, with "a clear orientation toward Asia".

The Pacific Alliance has engaged in pioneering work on financial integration. As a first step, Chile, Colombia, and Peru combined their financial markets into a single stock exchange through the Latin American Integrated Market (MILA, for its Spanish initials). They have utilized this integrated market for cross border trading of companies. Mexico has also agreed to join the exchange. This new exchange is governed by a single set of financial regulators. The Executive Committee of the Regulators of MILA convenes regular meetings with international experts to work towards improving the functioning of the regulation.³⁵

To enable a regional regulatory framework in the Asia Pacific, it is important that the region utilizes the strong platforms currently in place to develop public-private sector collaboration.

According to a World Bank report, *Financial Access 2010: the State of Financial Inclusion through the Crisis*, Association of South East Asian Nations (ASEAN) ranks lower than other neighbouring regions of South Asia or Central Asia in consumer protection systems; for example the legal framework and dispute resolution mechanisms. There is no mechanism in place for information sharing on consumer protection between these sub-regions, and thus divergences between the subregions will remain.

The integration and harmonization of ePayments regulation within the Asia Pacific would be of significant benefit. Harmonization would improve stability in the industry and improve regional infrastructure. The Asian Development Bank argues that that banking market integration will "promote closer cooperation among the individual member states in the fight against potential threats to their economic stability."³⁶ There is reason to suggest the same would hold true for the ePayments sector.

"As the experience of the EU shows, this is unlikely to mean that many existing domestic institutions and markets will disappear. More likely, there will be a two or three tier market structure in which some domestic institutions serve strictly local needs while others compete with their global or regional peers across national borders."³⁷

Asia Pacific Economic Cooperation (APEC) could also serve as a central venue for discussing regional harmonization of ePayments regulation. APEC's Electronic Commerce Steering Group (ECSG) promotes the development and use of electronic commerce by creating legal, regulatory and policy environments in the APEC region that are predictable, transparent and consistent. It performs a coordinating role for APEC eCommerce activities, based on the principles set out in the 1998 APEC Blueprint for Action on Electronic Commerce. The ECSG also explores how economies may best develop legal, regulatory and policy environments that are predictable, transparent and optimized to enable economies across all levels of development to utilize Information and Communication Technologies (ICTs) to drive economic growth and social development.

As the uptake of eCommerce increases so will ePayments, and this Group should be expanded in scope to cover ePayments, by establishing a Subgroup.

This could be similar to the operation of APEC's Data Privacy Subgroup (DPS), which has been created to study the interoperability of the APEC and EU data privacy regimes. The DPS is engaged in a stocktake of the APEC Privacy Framework. A working group has been created to determine the elements and scope of the stocktake that will focus on domestic and international implementation of the framework.

EPAYMENTS SPECIFIC LEGISLATION

The lack of specific ePayment regulation in the Asia Pacific region means that new market participants in ePayments may have had to adapt their business models to fit purpose built regulations that in some instances have traditionally been designed for banks. There is a need for specific ePayments legislation, possibly governed under existing Acts in line with global trends. This could also enable a shift in existing regulations to non-prescriptive, technology neutral guidelines that considers a risk based approach rather than stipulating certain requirements.

The lack of specific regulation in Asia Pacific has meant that regulators have had to manage innovations sometimes in an ad-hoc and exceptions-based manner. The rapid pace of change in the industry is forecasted to continue, which may compromise the effectiveness of existing legislation.

The introduction of specific ePayment regulations would not only introduce consistency in the market, and enable better and more efficient regulation, but would also reduce the cost of compliance for ePayment providers.

Future ePayments regulation should be focused on technology-neutral, risk-based guidance that recognizes differences in business models and practices. In defining this approach, regulators should focus on those areas that present the greatest risk to the ePayments market and its consumers. Ensuring that regulatory reform maintains a level playing field for domestic and foreign organizations through the application of a consistent and logical approach to regulatory requirements is critical for market competition.

Consideration should also be given to adapting or tailoring restrictions to address the risks posed by each specific type of activity an ePayment institution may undertake. For example, some ePayment providers such as PayPal have a secure closed loop, do not allow anonymous accounts and facilitate many small transactions.

³⁴European Payments Council, 2013. European Payments Council. [Online] European Payments Council, 2013. http://www.europeanpaymentscouncil.eu/content.cfm?page=what_is_epc

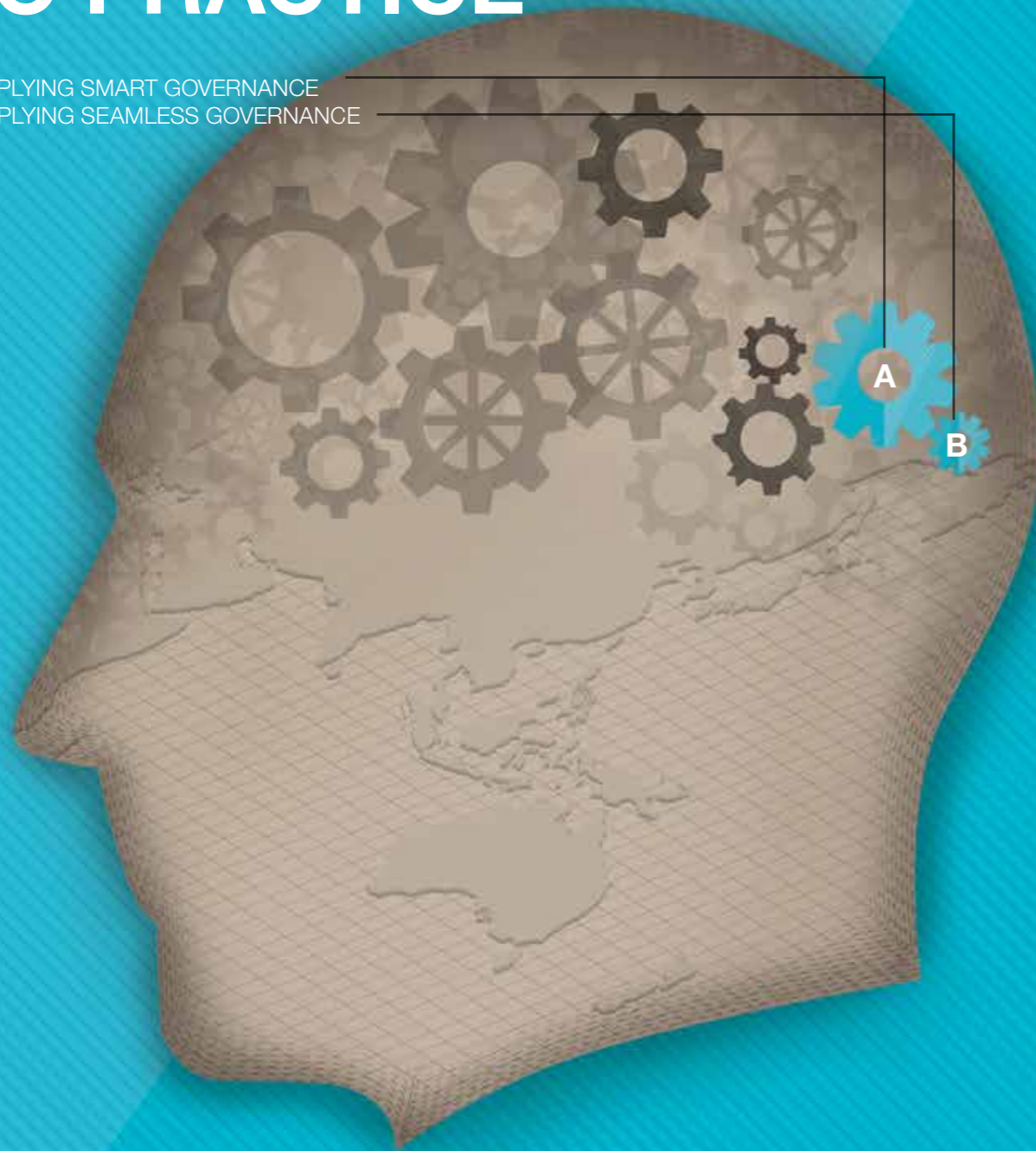
³⁵Inter-American Development Bank, MILA: Strengthening Financial Integration <http://www.iadb.org/en/topics/trade/mila-strengthening-financial-integration,6839.html>

³⁶Asian Development Bank, The Road to ASEAN Financial Integration, 2013, <http://www.adb.org/sites/default/files/pub/2013/road-to-asean-financial-integration.pdf>

³⁷Asian Development Bank, The Road to ASEAN Financial Integration, 2013, <http://www.adb.org/sites/default/files/pub/2013/road-to-asean-financial-integration.pdf>, pg 27

PART 4: ACTION. LEVERAGING NEW MODELS TO PRACTICE

A. APPLYING SMART GOVERNANCE
B. APPLYING SEAMLESS GOVERNANCE



A. APPLYING SMART GOVERNANCE

APPLYING THE SMART GOVERNANCE AND SEAMLESS GOVERNANCE PROJECTS WILL TAKE DEDICATED EFFORT.

Moreover, these projects must be implemented in a carefully constructed manner. These new models can be implemented in an evolutionary manner. Specific payments issues can be identified and tested to determine if these new methodologies actually produce better results for consumers, business and regulators.

SMART GOVERNANCE

The Financial Action Task Force (FATF) forum would be the ideal forum to begin to test the application of SMART Governance.

The (FATF) is an inter-governmental body established in 1989 by the Ministers of its Member jurisdictions. The objectives of the FATF are to set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system. FATF is a policy-making body which works to generate the necessary political will to bring about national legislative and regulatory reforms in these areas.

FATF advocates a risk based approach to AML/CTF measures based on a holistic assessment of risks associated with a particular new payment products and services (NPPS). Provided that commercial websites and internet payment systems have appropriate risk based measures for customer identification, record keeping and transaction reporting, risk may be no greater than in the offline world.

FATF recognizes applying an overly cautious approach to AML/CFT safeguards can have the unintended consequence of excluding legitimate businesses and consumers from the financial system.

FATF has also issued draft guidance for a risk-based approach to prepaid cards, mobile payments and Internet-based payment services.

It is worth noting member countries/jurisdictions in FATF in Asia Pacific include: Australia; New Zealand; China; Hong Kong; India; Japan; New Zealand; Singapore; and Korea.

SMART Governance is the next step in the development of a regulatory regime. It involves using data analytics to better determine how to draft regulations, how to implement regulations, and how to improve existing regulations. The SMART Governance model should be used by regulators to constantly iterate regulatory decision making. Moreover, SMART Governance asks regulators to focus on performance rather than process.

Encouraging regulators to take these innovative steps can improve results and increase innovation in industry.

PayPal recommends developing a pilot project at FATF. This project could select an issue, for example Know Your Customer requirements in AML/CTF, and run it through the SMART Governance model.

“It is a self-fulfilling paradigm that better regulation and the improved alignment of regulatory practices will bring economies closer together and foster increased growth.”

Professor Bambang Prasetya,
the Chairman of Indonesia’s
National Standardization Agency.

The project could gather data on how well the data points collected in domestic Know Your Customer guidelines across the region correspond to reduction in fraud and increased consumer protection. The project could also research additional data points that are not currently collected in the region to determine how well those data points correspond to fraud.

This pilot project should utilize a public-private partnership model where experts are brought in from every stakeholder group:

- Regulators would indicate how they currently engage in the regulatory process.
- Data scientists would run tests on specific pieces of data to determine if actors are achieving the desired results.
- Consumer groups would indicate what is needed to ensure consumer protection.
- Industry would describe what is commercially feasible.
- Policy experts would be able to describe how to implement the findings of data scientists into regulation.

This public-private group would enable SMART governance to be implemented on a pilot basis, in a manner that enables maximum flexibility and has minimal shortcomings. Once the program has been solidified then it can be implemented on a more permanent and extensive basis.

Another opportunity to consider SMART governance is within the regulatory review process.

From time to time some jurisdictions seek stakeholder views on possible enhancements to their anti-money laundering and counter-terrorism financing (AML/CTF) regime, in part driven by international standards on AML/CTF issued by the Financial Action Task Force's (FATF). In determining the pathway forward for these country specific regulations, consideration could be given to incorporating a SMART governance model to administer and support the implementation of any regulatory reforms. To facilitate this, a formal Advisory committee could be set up tasked with; collating feedback from stakeholders, determining specific data points related to AML and CTF and analyzing their correlation to particular risks. The formation of this committee would allow for a structured approach in reforming regulatory requirements to correspond with the risks posed by specific activities in the market.

As outlined in the SMART governance model, policy makers and regulators must utilize technology to gather, measure and analyze data from regulated entities to determine real risks posed by a given activity. This will not only allow for better results but will also release useful resources for public authorities to concentrate their enforcement activities where it really matters.

B. APPLYING SEAMLESS GOVERNANCE

APEC WOULD ALSO BE AN IDEAL FORUM TO BEGIN THE PROCESS OF HARMONIZING REGULATION ACROSS THE REGION.

The Seamless Governance model requires taking the next step to fully integrating regulation across the region. In an effort to expedite reform specific to ePayments, as conveyed APEC should consider establishing a "Sub-group" on ePayments in the ECSG, which would quickly enable the sharing of best practice within the region, and provide a framework for regional cooperation.

This group should include representatives from finance ministries, central banks and financial regulators, multilateral and international ePayments institutions and leading academic experts and be instructed to develop a proposed risk-based regulatory approach which would form the basis of individual jurisdiction regulations. This group could be tasked with creating a set of guidelines for national governments to implement on payments regulation.

There is also real work to be done on moving towards Seamless Governance at the national level.

As described above, bringing together regulatory agencies with overlapping jurisdiction over payments under a single council that may meet on a quarterly basis to review existing developments and ensure closer coordination and cooperation will help to provide more clarity for regulated entities and consumers. This is not to suggest a replacement of existing functions but to create an enhanced framework.

Australia serves as an example of how this framework could be applied. The Council of Financial Regulators (CFR) chaired by the Reserve Bank of Australia is the coordinating body for Australia's main financial regulatory agencies. It is a non-statutory body whose role is to contribute to the efficiency and effectiveness of financial regulation and to promote stability of the Australian financial system. Its membership comprises the Reserve Bank of Australia; the Australian Prudential Regulation Authority (APRA); the Australian Securities and Investments Commission (ASIC); and The Treasury. The Council meets in person quarterly or more often if circumstances require it.

In the Council, members share information, discuss regulatory issues and, if the need arises, coordinate responses to potential threats to financial stability. The Council also advises Government on the adequacy of Australia's financial regulatory arrangements.

For Australia, the Council could be expanded to include AUSTRAC, the Australian Transaction Reports and Analysis Centre, which implements AML/CTF requirements.

The Indian Government has considered a step towards seamless governance. The Indian Government's Report of the Financial Sector Legislative Reforms Commission³⁸ has advised a modest set of changes to merge some existing regulators. For example they involve maintaining the role of the Reserve Bank of India (RBI), while bringing together Securities and Exchange Board of India (SEBI), Forward Markets Commission (FMC), Insurance Regulatory and Development Authority (IRDA) and Pension Fund Regulatory and Development Authority (PFRDA) into a Unified Financial Regulator (UFA), as well as other changes.³⁹

Similarly, these regulators could be brought together through a newly formed Council of Financial Regulators chaired by the Reserve Bank of India, and have similar scope to the above model, albeit modified to suit local requirements.

Introducing similar CFRs within Asia Pacific jurisdictions would be a means of implementing seamless governance.

³⁸ Government of India, Report of the Financial Sector Legislative Reforms Commission, March 2013

³⁹ Government of India, Report of the Financial Sector Legislative Reforms Commission, March 2013

RECOMMENDATIONS



THE KEY REFORMS DETAILED IN THIS PAPER PROVIDE A BALANCE TAKING INTO ACCOUNT THE NEEDS OF PROTECTING CONSUMERS, SECURING AND BUILDING CONFIDENCE, MANAGING RISK, PROVIDING REGULATORY OVERSIGHT, AND COMBATING FRAUD WHILE PROVIDING AN ENVIRONMENT FOR INNOVATION IN THE INDUSTRY.

The items and recommendations below require a collaborative and cohesive regional approach to be implemented between regulators and market participants to develop and embed reform.

A. IMPLEMENT SMART GOVERNANCE

Innovative payments market has moved its focus to a more behavioural and data based analysis, using real time information to analyze account activity.

Data on how a customer is using an account, the volumes and sizes of transactions, and the locations of transactions provides a more valuable insight into the market than simply verifying a customer's identification.

Technology and data make up the engine of the SMART regulatory model and are the key to unlocking the right outcome for regulation. The five basic steps in the model include:

- Secure relevant data from all regulated actors;
- Organize the data into centralized and interlinked databases;
- Create algorithms to efficiently gain real time insights from the data;
- Constantly and consistently review and readjust the data gathering, the database organization, and the algorithms;
- Target the insights and analytics towards specific regulatory changes and objectives.

The SMART governance framework offers a dynamic approach to regulation focusing on better ways to design public policies and regulation; more efficiently improve the implementation of regulation and promote collaboration between authorities when updating regulations.

SUMMARY OF RECOMMENDATIONS:

- Establish pilot project at FATF on SMART governance that includes public and private organizations.**
- Apply SMART governance by establishing Advisory Committees to reviews of AML/CTF legislation**

B. IMPLEMENT SEAMLESS GOVERNANCE

ESTABLISH EPAYMENT SPECIFIC REGULATIONS

Regulators have had to manage innovations sometimes in an ad-hoc and exceptions-based manner. Innovation in the ePayments industry will only increase in the future. Specific ePayments regulation would not only introduce consistency in the market, and enable better and more efficient regulation, but could also reduce the cost of compliance for ePayments providers. This regulation should be focused on technology neutral, risk based guidance, allowing for interpretation by individuals. In defining this approach, regulators should focus on those areas that present the greatest risk to the ePayments market and its consumers.

A risk based approach should be taken to specific ePayments regulation.

REGIONAL HARMONIZATION TO EPAYMENTS

A regional approach to ePayments regulation will be the best approach because of the inherently cross border nature of modern ePayments. This paper has called for the establishment of a specific ePayments Subgroup within the APEC Electronic Commerce Steering Group to consider these matters, with the goal of establishing a detailed and consistent framework which individual regulators within each jurisdiction could use to tailor local regulations.

This group should be charged with agenda to promote the development and use of ePayments within Asia Pacific by creating legal, regulatory and policy environments that are predictable, transparent and consistent.

CENTRAL BODY FOR EPAYMENTS

Each country within Asia Pacific should consider establishing a central overarching body that provides regulatory oversight of the ePayment sector from end to end. This is not to suggest replacing agencies; rather creating a framework that brings all the stakeholder agencies together when necessary, while clearly defining the scope of oversight and enforcement authorities of each. As discussed previously in this paper, the EU is an example of a region implementing a comprehensive set of rules, which then enable institutions to clearly define the approach to regulatory compliance using a single source of guidance, creating efficiency and cost-reductions in compliance. A single overarching body for ePayments within each jurisdiction will also help facilitate interaction and collaboration within Asia Pacific and around the globe.

SUMMARY OF RECOMMENDATIONS:

- i) Establish a Subgroup on ePayments within the APEC Electronic Commerce Steering Group (ECSG)**
- ii) Establish Council of Financial Regulators within local jurisdictions chaired by central bank to provide regulatory oversight of ePayments**
- iii) Introduction of ePayments specific legislation**

CONCLUSION

THIS PAPER HAS OUTLINED TWO NEW MODELS FOR THE REGULATORY PROCESS IN ASIA PACIFIC.

The SMART Governance model introduces to the regulatory processes the same data analysis techniques and approaches to problem solving that are revolutionizing industry.

These techniques can be utilized by policy makers and regulators to glean new insights and make better decisions when it comes to regulation. This model is ripe for application in the ePayments market, where current regulation is trying to keep pace with the fast-moving industry.

Using biometric data, algorithms to analyze customer behaviour are critical. There needs to be a shift on the emphasis placed on customer identification towards customer behaviour and transaction monitoring. Analyzing the digital footprint of customers and monitoring a range of behaviour patterns to have a secure, yet growing innovative sector. These considerations are at the heart of using technology and data to manage risk.

The Seamless Governance model provides frameworks that will improve regulation of the ePayments sector. These include initiatives such as specific ePayments legislation; regional harmonization of ePayments; and a central body for ePayments.

Payments policy makers and regulators in the Asia Pacific should consider adopting the SMART and Seamless governance models in order to better achieve the important goals underlying payments regulation.

ACRONYMS

ABAC - APEC Business Advisory Council	GDP - Gross Domestic Product
ABS - Association of Banks in Singapore	GPS - Global Positioning System
ACCC - Australian Competition and Consumer Commission	IMPS - Immediate Payments Service
AML - Anti-Money Laundering	IRDA - Insurance Regulatory and Development Authority
APEC - Asia Pacific Economic Cooperation	KYC - Know Your Customer
APFF - Asia Pacific Financial Forum	MAS - Monetary Authority of Singapore
API - Application Programming Interface	MILA - Latin American Integrated Market
APRA - Australian Prudential Regulatory Authority	MRPI - Mobile Payment Readiness Index ⁴⁰
ASEAN - Association of South East Asian Nations	NPCI - National Payments Corporation of India
ASIC - Australian Securities and Investments Commission	NPPS - new payment products and services
ATM - Automated Teller Machine	P2P - Person to Person
AUSTRAC - Australian Transaction Reports and Analysis Centre	PFRDA - Pension Fund Regulatory and Development Authority
CDD - Customer due diligence	POS - Point of Sale
CFR - Council of Financial Regulators	PSD - Directive on Payments Services
CIA - Central Intelligence Agency	RBA - Reserve Bank of Australia
CTF - Counter Terrorism Financing	RBI - Reserve Bank of India
DPS - Data Privacy Subgroup	SDD - Simplified due diligence
DVS - Document Verification Service	SEBI - Securities and Exchange Board of India
ECSG - Electronic Commerce Steering Group	SEPA - Single European Payments Area
EPC - European Payments Council	SETI - Institute and the Space Tourism Society
FATF - Financial Action Task Force	SMART - SMART governance is a five step process to deliver better regulation and more sustainable results. SMART framework is Securing data, using Machines to organize databases, creating Algorithms to derive insights, Reassessing results, and Targeting insights
FBI - Federal Bureau of Investigation	UFA - Unified Financial Regulator
FDI - Foreign Direct Investment	
FMC - Forward Markets Commission	
FMP - Finance Ministers' Process	
FSC - Financial Supervisory Commission	

REFERENCES

- Asia B2C eCommerce and Online Payment report**, ystats.com, February 2013
- Asian Development Bank**, The Road to ASEAN Financial Integration 2013
- AUSTRAC**, Know Your Customer, http://www.austrac.gov.au/elearning/pdf/intro_amlctf_know_your_customer.pdf
- Australian Government, Big Data Strategy Issues Paper**, March 2013
- Australian Payments Clearing Association**, April 2013. Towards the digital economy: Milestones report. Sydney : APCA, April 2013.
- Capgemini & RBS. 2012**. World Payments Report . 2012.
- CIA World Factbook**
- Clear2Pay. 2012**. Clear2Pay launches G3 Payments solution to the Singapore market. Clear2Pay. 15 March 2012. http://www.clear2pay.com/pages/en/news/PR/PR_120315_EN.htm.
- Cohen Jared and Schmidt Eric**, The New Digital Age: Reshaping The Future, People, Nations and Business, 2013
- Committee on Payment and Settlement Systems**. November 2012. Payment, clearing and settlement systems in the CPSS countries (Volumes 1 & 2) ("Red Book")
- Deloitte. May 2012**. The Economic Impact of online payments.
- Deloitte May 2013**, The economic impact of online payments: Breaking barriers across Europe
- Economist Intelligence Unit**, 2011 Government E-Payments Adoption Ranking
- eMarketer**, February 2013
- European Payments Council**. 2013. European Payments Council. [Online] European Payments Council, 2013. http://www.europeanpaymentscouncil.eu/content.cfm?page=what_is_epc
- Gartner Press Release**, Gartner Says Asia/Pacific Led Worldwide Mobile Phone Sales to Growth in First Quarter of 2013, May 14 2013, <http://www.gartner.com/newsroom/id/2482816>
- Government of India**, Report of the Financial Sector Legislative **Reforms Commission**, March 2013
- Inter-American Development Bank**, MILA: Strengthening Financial Integration <http://www.iadb.org/en/topics/trade/mila-strengthening-financial-integration,6839.html>
- International Fund for Agricultural Development (IFAD)** Sending Money Home to Asia, 2013, <http://www.ifad.org/remittances/events/2013/globalforum/resources/sendingmoneyasia.pdf>
- Juniper Research**, Mobile Payments Markets: Strategies and Forecasts 2008-2013
- King, Brett**, Bank 3.0: Why banking is no longer somewhere you go, but something you do
- KPMG**, The Great Payments Transformation, April 2012
- Mastercard Mobile Payment Readiness Index 2012**
- McKinsey & Company**, McKinsey on Payments, September 2012 http://www.sibos.mckinsey.com/download/MoP15_Asia-Pacific%20Payments%20map.pdf
- PayPal**. 2013. PayPal A Smart Step: Putting Innovation at the Heart of Payments Regulation
- PayPal**, Modern Spice Routes, July 2013
- Techcrunch**, Alipay Launches Sound Wave Mobile Payments System In Beijing Subway, 14 April 2013
- Techguide**, Australians are donating to charities with their smartphones, 25 April 2013, <http://www.techguide.com.au/blog/27-news-feed/mobiles/1786-australians-are-donating-to-charities-with-their-smartphones>
- The Australian**, Physical credit cards are dying, says PayPal, July 19, 2013
- The Economist**, Revenge of the Nerds 3 August 2013
- World Bank Global Financial Inclusion Database**
- Zhaoliang, Yan and Zink, Thomas. 2012**. Singapore a notch closer to real time low value payments. Banking & Payments Asia 11 September 2012. <http://www.bankingandpaymentsasia.com/news/singapore-a-notch-closer-to-real-time-low-value-payments>.

⁴⁰A Mastercard Index

PayPal[™]

ebay inc[™]