



# INNOVATE TO WIN: INNOVATE FOR FINANCIAL INCLUSION

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## Background and case for innovating financial inclusion

Financial inclusion is a global challenge. The Global Findex (2014)<sup>1</sup> shows that three-quarters of the world's poor do not have bank accounts, partly due to inaccessibility and unaffordability in addition to poverty. Of this, 59% of adults in developing economies or 77% of adults are earning less than US\$2 a day (Demirguc-Kunt & Clapper 2012)<sup>2</sup>. During the last decade, developing and emerging countries have recorded impressive growth rates compared to those of the developed countries. Despite these impressive country level performances, according to World Bank (2015), in 2011, around 1 billion people or more than 14.5% of the global population lived in extreme poverty (on less than US\$1.25 per day). The poverty level of Sub-Saharan Africa and South Asia accounts for about 80% of the global poor<sup>3</sup>. The World Bank attempts to promote financially and socially inclusive growth among the bottom 40% of the population pyramid in every country.

Generally, financial sector development facilitates economic growth and creates both private and social benefits, but the challenge is to extend financial services to the low-income groups ensuring inclusive growth. This is because limited financial inclusion at the bottom of the pyramid will adversely impact financial stability, financial security and mobility of the poor, thus effectively excluding them from prosperity and development.

The Financial Stability Institute Conference<sup>4</sup> discussed the theme “Standard Setting in the Changing Landscape of Digital Financial Inclusion” and announced that an estimated 2.5 billion people currently have no access to formal financial services, such as payments, credit, insurance and savings and emphasised the need to set standards to improve financial services. The conference participants discussed implications for regulators, supervisors, standard-setting bodies and customers of the innovative, low-cost, digital transaction platforms that are facilitating financial inclusion. It was quoted that in a matter of two years, in more than 80 countries, mobile phones are used by hundreds of millions of poor households and tiny businesses that lack access to formal banking channels. The deliberations of the Conference highlighted the critical role of the global standard-setting bodies in advancing financial inclusion and the opportunity - and indeed the responsibility - to prepare standards for both the risks and rewards of digitization of financial services.

1. Global Findex. 2014, Global Findex Database, World Bank <http://datatopics.worldbank.org/financialinclusion/>

2. Demirguc-Kunt, A. and L. Klapper. 2012. “Measuring Financial Inclusion: The Global Findex Database.” World Bank Policy Research Working Paper 6025. Washington DC. <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-6025>

3. Thyra Riley & Anoma Kulathunga, Exploring the Potential of E-Money Technology to Transform Access to Finance by the Poorest in South Asia (Unpublished), World Bank, April 1, 2015.

4. Caruana, Jaime, General Manager, Bank for International Settlements- Financial Stability Conference, October 2014



The G-20 Leaders at their 2014<sup>5</sup> summit have urged standard-setting bodies to focus on game-changing forces such as digital financial inclusion that touch the mandates of all standard setters.

The modern day growth strategies emphasise not only the achievement of growth targets but also inclusive growth that enables access to finance for all, job creation, better income distribution and poverty reduction (Kulathunga 2012)<sup>6</sup>. Financial intermediation is expected to play a catalytic role in ensuring that inclusive growth envelops both financial and social inclusion. In general, financial intermediation drives economic growth and contributes to social inclusion, provided it is conducted in a sound and efficient way (Grais and Kulathunga, 2007). Hence, financial inclusion is a key link between overall economic growth and social inclusion of a country.

The World Bank study on “Exploring the Potential of E-Money Technology to Transform Access to Finance by the Poorest in South Asia, - Thyra Riley & Anoma Kulathunga, (April 2015) and “The Money Pipeline- a Pillar of Financial System Stability” –Ranee Jayamaha (September 2014) have been the main sources of data, literature and information for this article. The World Bank study showcases four successful fast movers (i.e. Kenya, Sri Lanka, Thailand and South Africa) and two early movers (Philippines and the Maldives) – in implementing specific e-money/digital payment solutions. This article uses case study results in the World Bank study, analyses and discusses them, while highlighting critical enablers and the need for preparing national level strategies by the authorities in South Asia to successfully deal with issues relating to financial inclusion.

## Section I : What is financial inclusion?

“Financial inclusion” refers to a state in which all working age adults, including those currently excluded by the financial system, have effective access to financial services (current accounts, payments/transaction accounts and insurance policies) provided by formal banking and financial institutions (BFIs). “Financial exclusion” refers to the opposite, i.e. those who do not have access to, or are underserved by formal financial services. The Consultative Group to Assist the Poor (CGAP) - (2011) presented a working definition of financial inclusion explaining the need to address access, usage, and quality of service dimensions for a financial system to be truly inclusive.

The two main components of financial inclusion are: availability (access to finance) and affordability (ability to purchase/secure financial products and services). More recent data in the South Asia Region (SAR) suggests that technology based innovative approaches have not yet reached their potential compared to countries outside the region that have successfully used innovative technology to enhance financial inclusion.

5. The second G20 Global Partnership for Financial Inclusion (GPII) Conference on Standard-Setting Bodies and Financial Inclusion on 30-31 October, 2014, BIS.

6. CGAP, 2011  
CGAP, 2015



For example, Sri Lanka, South Africa and Kenya have used innovative methods to provide financial services at affordable costs by facilitating the entry of non-bank financial institutions (NBFIs), mobile network operators (MNOs), in particular. Although innovative reform packages are country specific, cross-country deep dive studies of successful practices, policy initiatives as well as renewed international dialogue have highlighted common enablers, innovative technology applications and success stories as well as failures. The World Bank study (2015) analyses the use of innovative technology based E-money to promote financial inclusion within a country in an integrated framework that considers the entire ecosystem- from macro level (policy making and regulation); meso level (enabling institutions, micro finance institutions or initiatives by service providers); micro level (the existing financial institutions and their products and services) and finally, assessing the impact on users/customers (financial behaviour and financial protection).

## **The hypothesis and methodology**

The purpose of this article is to test the hypothesis “innovation helps improve financial inclusion” by quoting successful examples of countries which are already on the innovative digital pathway to achieve financial inclusion. The discussion highlights how some countries have overcome challenges in using innovation to promote financial inclusion and articulates policy, regulatory and operational support by relevant authorities. By illustrating how MNO led models work and comparing them with bank-led models, the article points out how MNO- led models successfully reach the last mile or touch points covering both availability and affordability of financial products and services. The article also attempts to change the mind set and old philosophies that only bank-led models can promote financial inclusion by using positive responses from tech savvy customers who prefer MNO-led mobile operations.

Technology-based products and solutions offer tremendous opportunities to transform the landscape of access to financial services for the poor, rural communities, people who live in remote islands and difficult geographical terrains, and other vulnerable groups, including women. The challenge is to reduce financial exclusion and enhance inclusion. The literature indicates a multitude of financial exclusions not only from the formal financial system (savings, credit insurance etc.), but also from payment systems. Many have experienced efficiency of digital or e-Money-enabled products, such as mobile phones, branchless banking, point-of-sale-(POS) transactions, prepaid and/or smart cards, and well-organised agent networks. These devices and channels manage small, Person to Person (P2P), Government to Persons (G2P), Persons to Government (P2G) payments, social welfare/security and insurance payments, fees, duties and tariffs, and remittance transfers to reach the unbanked masses in a safe, simple, reliable, convenient and a cost-effective manner. The journey is difficult, but the last mile services are much more efficient in mobile payment services in terms of proximity, safety, reliability, affordability and simplicity. Not all have succeeded in using innovative technology for financial inclusion; nor have the early movers won; but many lessons were learnt from successes and failures. The article highlights as to why early movers were not successful and how some others have moved from cash to cash lite to improve financial inclusion. Finally, the need for careful planning and strategizing at the national level is emphasised as the key to success in deploying

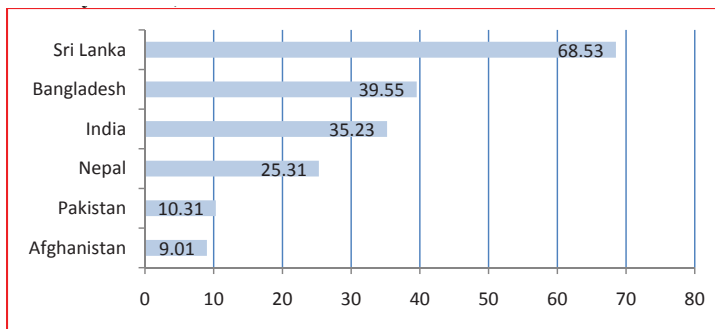


innovation to promote financial inclusion. It may however, be noted that innovative technology is neither a panacea for all issues relating to financial inclusion nor is it devoid of operational risks, cyber threats in particular.

## Financial inclusion gap – South Asia

According to the World Bank's most recent poverty estimates, about 399 million people in the SAR survive on less than US\$1.25 a day, and they account for more than 39.5% of the developing world's poor (World Bank 2015)<sup>7</sup>. Analysis of country data shows that, with the exception of Sri Lanka at 83% (Findex -2014), all other countries have below-average levels of financial inclusion<sup>8</sup>. At roughly 10%, Afghanistan and Pakistan register the lowest rates of financial inclusion in SAR (Figure 1). In SAR, 45% of adults, or more than 700 million people, remain outside of the formal financial system<sup>9</sup>.

Figure 1: Adults (Aged 15+) with an Account at a Formal Financial Institution, (% by Country in SAR)



Source: *Getting Finance in South Asia 2010*.

## Remittance transfers and financial inclusion

In addition to being a source of finance of a country's trade and current account deficits through foreign remittance inflows, remittance transfers are widely recognised as a measure of financial inclusion. Currently, the value of remittance flows to developing economies is more than three times that of official development assistance. Global international remittances in 2012 are estimated at US\$514 billion, a 10.77% increase from 2011, including US\$ 401 billion sent to developing countries (Klapper and Singer, 2014).

7. <http://blogs.worldbank.org/endpovertyinsouthasia/unbanked-south-asia> - based on Findex data
8. formal financial institution - banks, credit union, cooperative, post office, or microfinance institution
9. Note that Maldives and Bhutan, two other South Asian countries, are not included in Findex dataset



For SAR, remittances (with a share of 25% of GDP in 2012), have been a stable source of income with strong growth potential mostly driven by steady economic opportunities in the Middle East as well as developed countries. Bangladesh, Sri Lanka, India have been major recipients of remittances over the last decade. Sri Lanka's leading banks are moving towards providing e-remittances through their safe and speedy remittance platforms and facilitating remittance transfers across the world. For example, Sampath Bank is connected to more than 90 foreign currency agents and funds are transferred through internet based instant money transfer systems, while withdrawals are facilitated through its 223 branch network across the country.

## **Digitizing financial inclusion through innovation**

### **Types of innovation**

Having invented modern microfinance, South Asia still continues with some of the most sophisticated cash-based financial systems. Hence, it is important to explore how these existing financial products can be augmented through innovative digital financial services or solutions. Carayannis and Alexander (n.d.) described two main forms of innovation: Incremental innovations exploit the potential of established designs and often reinforce the dominance of established firms and help improve the functional capabilities of technology. Radical innovations introduce new concepts that depart significantly from past practices and help create products or processes based on a different set of engineering or scientific principles and often open up entirely new markets and potential applications.

Most banks in SAR typically follow the incremental approach to innovative products, services or tools in retail banking, while moving slowly towards payment innovations (credit and debit cards), transaction processing (ATMs, telephone and online banking, e-commerce for financial assets), saving options and loans. In more developed as well as emerging markets, consumers increasingly prefer multi-channel banking with full digital access and more personalised products and services. Interestingly, in these markets, retail banks face serious competition from online-payment specialists and digital merchants such as Square, PayPal, Simple, Google wallet, Amazon, eBay etc.

### **Electronic Money (e-money), Mobile Money and Digitized Payment Products**

World Bank (2012) defines e-money products as essentially access mechanisms to pre-funded accounts held at banks or non-bank institutions that can be used through the internet, payment cards, or mobile phones. Such instruments have the potential for further reducing the dependence on paper-based payment instruments by dramatically broadening access to e-payments for a larger number of consumers, especially the unbanked and the under-banked. According to the definition in the Electronic Money Directive issued by the European Union, "electronic money" is the monetary value as represented by a claim on the issuer which is: stored electronically (including magnetically); issued on receipt of funds of an amount not less in value than the monetary value issued; and accepted as a means of payment by an undertaking other than the issuer (ECB, 2009).



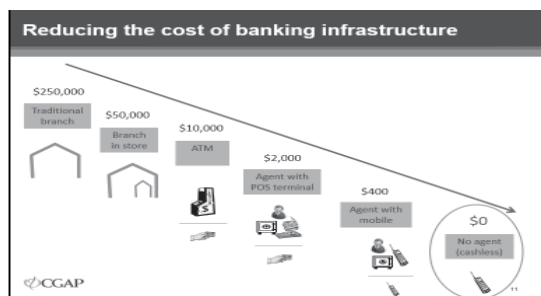
It is not necessary for e-money to be associated with a bank in making the payment transaction since e-money acts as a pre-paid bearer instrument. The recent transformative innovations such as mobile applications, e-wallets, near-field communications (NFC), and card payments have broadened this mandate. Across the globe, digital payments and e-money products are expanding rapidly, mostly due to its potential in making small value payments cheaper and safer for both payer and payee.

### Digital Payment Processes

World Bank (2012) analysis of the evolution of retail payments over the last five to six decades shows that new channels for payment initiation; improved authentication and efficient processing development of new payment needs (transit payments, internet auction sites and social networking sites); and payments infrastructure have created new payment mechanisms and enabled leveraging of one payment product on other products or their infrastructure.

Payment systems and processes enable people and businesses to pay bills, buy goods and services, remit money and collect dues; and help governments to pay salaries, pension and other payments; disburse social grants and other benefits; and collect taxes, fees and dues from the general public. Transformative innovations in the payment systems offer alternative digital channels such as real-time payments using mobile and smart phones, cards and internet, thereby enabling faster, more secure and more efficient services at lower cost. Often, digitizing the payments is the first step towards becoming a cash-lite society (figure 2). As pointed out by Tarazi , although many countries may not go beyond point (\$ 0), the impact on financial inclusion even at this point would be significant.

Figure 2: Stages and Shifts from Cash to Cash-lite



Source: Tarazi (2011)

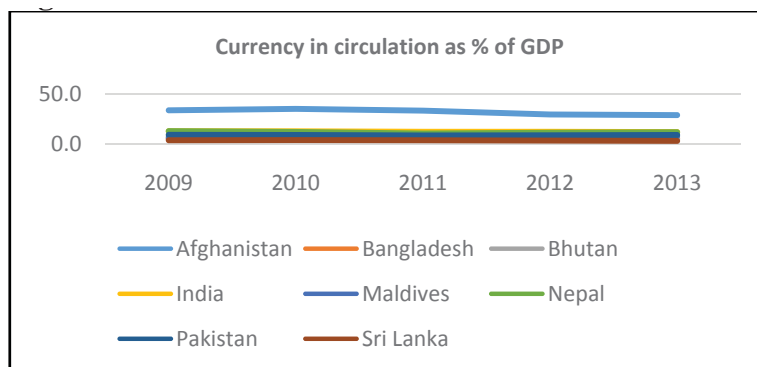
### Towards a cash-lite society

At present, around 85% of all retail payment transactions are effected with cash (60% of retail transaction value). Despite many different options for making payments other than cash, in countries like Afghanistan, cash is still the major payment mode (30% of GDP). Cash takes



time to get at, is riskier to carry, and by most estimates, cash costs society as much as 1.5% of GDP. E-payments, on the other hand, have been proven to boost economic growth, while advancing financial inclusion.

Figure 3: Use of Cash in SAR



Source: ADB Statistical Database System

Digitizing payments can bring in increased efficiencies in terms of cost savings and convenience for payers. For example, Babatz (2013) reported that by digitising and centralising its payments, the Government of Mexico saves an estimated US\$ 1.27 bn per year, or 3.3% of its total expenditure, on wages, pensions and social transfers. In 2012, 97% of pension payments were made by electronic transfers. M-Pesa in Kenya has raised the country's financial inclusion from 18.9% in 2006 to 66.7% in 2013<sup>10</sup>. The administrative cost of disbursing Bolsa Familiar grants in Brazil through electronic benefit cards, reduced from 14.7% to 2.6% of the total grant value (CGAP, 2009). These examples prove that transitioning towards a cash-lite society starts with digitizing the payments channel and the use of innovative e-money and digital payment solutions have brought previously excluded people into the formal financial system. These developments should encourage cash heavy SAR where over 67% of adults are financially excluded to move from cash to cash lite society.

10. Percentage of adults having access to financial services - FinAccess National Survey 2013  
Source: Bankable Frontier Associates: The Journey toward 'Cash-Lite' (2012)



## Section II: Innovative digitized payment schemes and cash- lite processes in selected countries

This section discusses some of the successful digitized payment schemes and their contribution to financial inclusion.

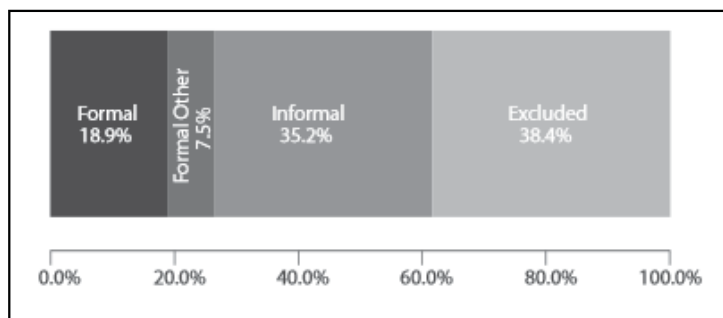
- M-Pesa in Kenya
- MNO-led e-money systems in Sri Lanka
- Pradhan Mantri Jan Dhan Yojana scheme in India
- Bank correspondent led mobile telephone banking in Colombia
- Bank led bKash e-money system in Bangladesh
- The Unique Identifier in South Africa
- Interoperable ATM services in Thailand

It is also worthy of discussing the G-Cash system in the Philippines and Keesa system in the Maldives which have been early movers but lagged behind due to a number of reasons.

### M-Pesa in Kenya

M-Pesa has successfully bridged a large vacuum that existed in low value payment transactions and has become de facto the retail payment system for poor people. In fact, M-Pesa is now a systemically important payment system (SIPs) and it is the best example for open-minded regulatory approach that led to enhance financial inclusion and transformative changes in poor people's lives in Kenya. The initial regulatory move by the Central Bank of Kenya (CBK) to allow SafariCom to proceed with M-Pesa on an experimental basis has been the single most contributory factor that enabled M-Pesa to become the best known digital payment system. As highlighted by Fin Access National Survey in 2006 (figure 4), prior to the launch of M-Pesa, the formal financial outreach in Kenya was at 19%.

Figure 4: Financial Access Strand in Kenya, 2006



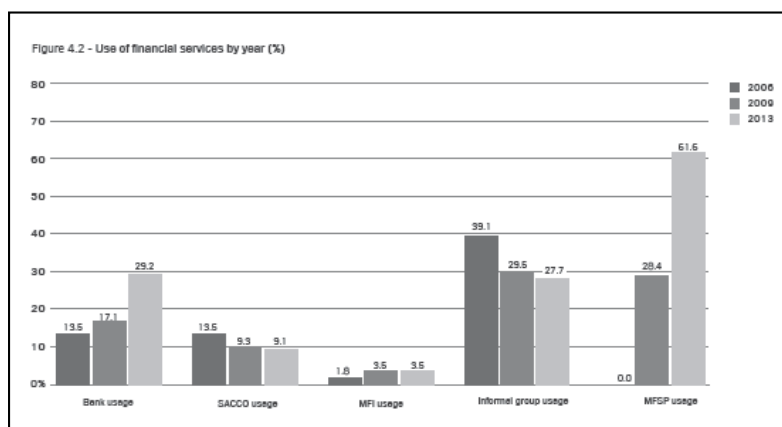
Source: FSD Kenya (2007)





CBK was convinced that (a) M-Pesa can legally operate mobile money business and that it will not conduct banking business; (b) risk management structure is adequate for consumer protection; and (c) the pooled trust account in a reputed bank would ensure that customers' money is protected. CBK realised the potential of leveraging mobile payments to enhance financial inclusion and diligently reviewed all aspects of mobile money services prior to giving the letter of no objection to SafariCom. CBK was not keen to hold up licensing of the scheme until relevant laws were passed or amended. However, CBK retained full supervisory oversight of the pooled trust accounts that M-Pesa would hold with commercial banks. M-Pesa was launched in March 2007. CBK requested Safaricom for two comprehensive technical assessments (legal risks and demand study) be done to evaluate operational risks and efficiencies of the M-Pesa platform. Although Kenya was not compliant with FATF AML/CFT guidelines at that time, Vodafone (the major shareholder of Safaricom, who invented M-Pesa) ensured that the platform complies with international standards as well as Kenyan regulations. Understandably, CBK was under tremendous pressure from disgruntled banking community, political leaders, and the media for allowing a non-bank to enter the payment space. Commercial banks were hostile to Safaricom entering the financial service delivery, especially because they were not permitted agency banking until 2010. However, CBK convinced political leaders the merits of using a non-conventional route to enhance financial inclusion and the need for passing the Payments Law. CBK and the Ministry of Finance issued joint statements allaying fears of the public of operational safety of MPesa. Due to CBK's foresight of the benefits of digital money, today, financial inclusion rate in Kenya has risen to a remarkable 75%. According to FinAccess survey (2013), financial access is moving away from informal sector (33.3% in 2006) to less than 1% in 2013. M-Pesa now provides payment services not only for the poor but also for all Kenyans and foreigners. Figure 5 shows that mobile service provider usage is growing fast from 19% in 2006 to around 61.6% by 2013.

Figure 5: Use of Financial Services in Kenya (2006-2013)



Source: FinAccess Survey, 2013



## Regulatory changes since then

Kenya's National Payment Systems Act came into effect in 2014 with a focus on large-value, SIPS, i.e. Electronic Payment and Settlement System - KEPSS/ RTGS. The retail payments were left to self-regulate<sup>11</sup>. In August 2014, the National Payment System Regulations<sup>12</sup> were issued- seven and half years later after the no-objection letter was issued to SafariCom by CBK. During 2014/15 fiscal year, M-Pesa has over 15 million active users transacting KES 4.2 trillion (US \$ 4.32 bn) through the mobile money platform representing 42% of Kenya's GDP.

## MNO-led, end to end interoperable E-money system - Sri Lanka

Sri Lanka has been successfully keeping pace with technological advancements. Hence, mobile money solutions offered by MNOs will always be one of the many options available to enhance access to financial services. Central Bank of Sri Lanka (CBSL) decided to allow mobile money services through MNOs, after making sure that adequate safeguards are in place; necessary laws are enacted; level-playing field among banks and non-banks (NBs) including MNOs to offer digital money is established; light regulatory and oversight functions are designed; customer rights and information are protected; and stakeholder preferences and market needs are accommodated.

## Legislative background

Being a pioneer in SAR to adopt technology based financial services, Sri Lanka has appropriate legislation for payment systems and electronic transactions, and a wide range of payment instruments and payment services to support the country's financial services industry. CBSL has always been the catalyst in providing leadership, guidance, and legislative framework to enable such developments, especially during the 2001-2010 period. The important laws enacted during this period<sup>13</sup> were:

- Payment and Settlement Systems Act, No. 28 of 2005
- Convention on the Suppression of Terrorist Financing Act, No. 25 of 2005
- Financial Transactions Reporting Act, No. 6 of 2006
- Prevention of Money Laundering Act, No. 5 of 2006
- Electronic Transactions Act, No. 19 of 2006
- Payments Devices Frauds Act, No. 30 of 2006
- Computer Crimes Act, No. 24 of 2007
- Secured Transactions Act, No.49 of 2009

11. Automated Clearing House Transactions, ATM switches (Kenswitch and Pesapoint), Over the Counter Remittances, Credit/Debit Card and Point of Sale Systems, E-money schemes (Mobile money & Virtual money).

12. <http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2014/08/NPSRegulationsLegalNoticeNo-2-109.pdf>

13. Jayamaha. R- The Money Pipeline (2014)



In addition, several amendments were introduced to the following existing laws to facilitate new payment and settlement systems and processes:

- The Monetary Law Act No. 58 of 1949
- Bills of Exchange Ordinance No. 25 of 1927
- The Banking Act No. 30 of 1988
- The Local Treasury Bills Ordinance No. 8 of 1923
- The Registered Stocks and Securities Ordinance No. 7 of 1937
- Evidence (Special Provisions) Ordinance No. 14 of 1995

The Payment and Settlements Systems Law (PSSA) was the key legislation that enabled NBs to offer mobile money services, while the Electronic Transactions Act of 2006 enabled (a) technology neutrality, (b) functional equivalence and (c) party autonomy. The technology neutrality allows businesses and consumers to determine technology options based on types of usage, thus ensuring a business-friendly approach. The Electronic Transactions Act also facilitated Sri Lanka's e-government services available through Lanka Gate web portal. In July 2015, Sri Lanka became the first country in SAR (and one of the first three in Asia)<sup>14</sup> to sign the UN Electronic Communications Convention (UNECC) in July 2006<sup>15</sup>. Sri Lanka ratified UNECC, recording another first for SAR and the second country in South Asia, after Singapore, to become a State Party to the Convention Countries, such as Australia, Thailand, Vietnam and China. "Sri Lanka's ratification of this Convention will ensure greater legal certainty for e-commerce and e-business providers who wish to use Sri Lanka's Law as the applicable law and international validity for other international legal instruments as well as cross border fund transfers, enhancing the ability of Sri Lanka to fast track its move towards paperless trade facilitation"<sup>16</sup>. For greater information security, Sri Lanka enacted the Payments Devices Frauds Act, No. 30 of 2006 and Computer Crimes Act, No. 24 of 2007, thus providing for a unique investigation and enforcement regime. More recently, Sri Lanka became the first country in South Asia to be invited to join the Budapest Cybercrime Convention<sup>17</sup>.

## Supportive institutional infrastructure

The Information and Communication Technology Agency (ICTA) of Sri Lanka, the apex ICT institution of the Government, supported CBSL in establishing key legislation and a comprehensive information security framework to provide customer confidence when the financial sector transition took place from cash to cash-lite and from cash lite to electronic mode. CBSL has empowered LankaClear (Pvt) Ltd (LCPL), to be the national retail payment infrastructure provider<sup>18</sup>.

14. Along with China and Singapore

15. Fernando, J. (2013)

16. (Fernando, J, Legal Advisor, ICTA, UNCITRAL Asia Pacific Conference , July 2015 as reported in Daily FT-Sri Lanka , 18, July 2015)

17. The Budapest Convention on Cybercrime is also known as the Council of Europe Convention on Cybercrime. It is the only available international treaty on the subject seeking to address Internet and computer crime by harmonizing national laws, improving investigative techniques, and increasing cooperation among nations.

18. Lanka Clear is owned by the CBSL and commercial banks.



The Lanka SIGN Certification Service Provider (CSP) implemented by LCPL in 2009 provides the much-needed security for electronic payments and is currently the only commercially operated CSP in the country. The development of Common Card and Payment Switch (CCAPS) by LCPL is an important ongoing initiative in retail payments. LCPL is also planning to introduce a national card system (NCS) that could be used for G2P disbursements. Once the NCS is operational, all social security payments will be loaded to the card and people can withdraw funds easily by swiping the card on a POS machine. Even NFC enabled contactless smart cards that can be topped up can be used to pay for goods and services. LCPL also hosts the Bank Computer Security Incident Response Team (Bank CSIRT).

The effective coordination between two regulatory institutions, i.e. CBSL and the Telecommunications Regulatory Commission of Sri Lanka (TRCSL), resulted in a comprehensive, yet flexible mobile money regulatory and oversight framework to deal with potential risks of using mobile money.

## Level playing field

CBSL first authorised a bank led mobile money service through the National Development Bank jointly with Dialog Axiata, an MNO<sup>19</sup> with the same level of identity verification from mobile money clients as bank customers. Realising that customers were not interested in signing up a plethora of documents to verify their identity, Dialog Axiata requested CBSL to consider an MNO-led mobile banking solution without requiring to open bank accounts by customers. CBSL assessed market preferences and reviewed submissions by Dialog Axiata to operate an MNO-led mobile money system. CBSL issued two distinct mobile money guidelines, for the bank-led model and the MNO-led model under PSSA:

- Mobile Payments Guidelines No. 1 of 2011 for the Bank-led Mobile Payment Services
- Mobile Payments Guidelines No. 2 of 2011 for Custodian Account Based Mobile Payment Services

The entry requirements stipulated in the Service Providers Payment Cards Regulations No. 1 of 2009 were further clarified in the Payment Cards and Mobile Payment Systems Regulations No. 1 of 2013. Accordingly, Dialog Axiata launched the world's first end-to-end interoperable mobile money solution where three MNOs operate a single wallet sharing merchants, agents with inbuilt firewalls to avoid the sharing of their subscriber information.

The national ID card is compulsory for all Sri Lankan citizens who are 16 years old and who are residing in Sri Lanka. Hence, NIC is regarded as the main document for identification and authentication of persons. In addition, Subscriber Identification Module (SIM) registration is mandatory. MNOs already have copies of national NIC cards and photographs and digitized versions in their databases.

19. National Development Bank partnered up with Dialog Axiata, to offer eZ Pay mobile money service.



CBSL has applied proportional risk principle that allows low value mobile wallet to be automatically enabled via customer dial-in, on the strength of customer information already available with MNOs in the mobile contract. Higher-limit mobile wallets would require customers visiting an MNO kiosk and providing additional customer due diligence (CDD) related paperwork. In Sri Lanka, the mobile penetration is around 99.2% with SIM penetration around 115% and 107% of subscribers (22.12 million people) who can operate an e-wallet by dial-in. Of this, over 90% are prepaid mobile subscribers (GSMA Intelligence 2014)<sup>20</sup>. The competition has brought down Sri Lanka's fixed broadband internet service to around USD 5 per month – one of the lowest in the world. There are currently five mobile operators in Sri Lanka with Dialog Axiata being the market leader. Dialog and Sri Lanka Telecom Mobitel have a combined market share of over 65% with around 9.5 million and 5 million customers, respectively.

## **Pradhan Mantri Jan Dhan Yojana (PMJDY) - the flagship financial inclusion plan of India**

With over a 1.25 billion people, financial inclusion issues are not new to India as over one third of the world's poor live in India. Both, Government of India (GOI) and the Reserve Bank of India (RBI) have been pursuing the poverty alleviation goal over the last several decades through numerous GOI and banking sector interventions. The self-help group-bank linkage program has been one of the major institutional interventions that aims to enhance financial inclusion.

India still believes in bank-led models to enhance financial inclusion although financial exclusion is still prominent. Out of the 600,000 habitations, small businesses and low-income households set up by the RBI, found that 60% of the rural and urban population did not have a functional bank account<sup>21</sup>. More recently, licences and guidelines have been issued for "Payment Banks" (to focus on remittances and payment services and accept demand and savings deposits, except providing credit facilities) and Small Finance Banks (to offer a wide range of current, savings and time deposits, credit products- primarily micro credit plus the provision of payment and remittance services) in unbanked and under-banked regions in order to facilitate access to bank credit and services.

The PMJDY<sup>22</sup> – also known as Jan Dhan Yojana - JDY), is a mammoth financial inclusion program that was launched on August 28, 2014. This scheme aims to take banking facilities to 75 million households within a period of five months i.e. by January 26, 2015. By May 2015, banks have far exceeded the target by opening 142 million accounts. Of the accounts opened, 60% are in rural areas and 40% in urban areas. The share of female account holders is about 51%.

20. Note all penetration ratios are defined as a percentage of the total population.  
21. RBI Website [http://rbi.org.in/scripts/BS\\_PressReleaseDisplay.aspx?prid=30353](http://rbi.org.in/scripts/BS_PressReleaseDisplay.aspx?prid=30353)  
22. Prime Minister's People's Wealth Program



The notable increase in account openings was partly due to the promise given to people that they would get a package deal when the account becomes operational. Every account holder will get a RuPay debit card, launched by the RBI-promoted National Payments Corporation of India with an inbuilt accident insurance cover of Rs.100,000 (approximately \$1,650) and RuPay Kisan credit card; life insurance coverage of Rs. 30,000 for those who opened accounts before January 26 (celebrated as Republic Day in India), and an overdraft facility of Rs. 5,000 activated after six months of operations of the account.

## Challenges to Jan Dhan Yojana

At present, GOI is focusing on four main challenges relating to PMJDY: about 54% of the accounts opened on average are having zero balances; the impression that the scheme is driven by a public bank; frustration due to offers being given not at the time of opening accounts, but when such accounts become operational; and delay in digitizing the last mile connectivity and touch points. However, these concerns appear to be fading away due to the commitment and follow up by GOI and banks. Even though GOI and RBI have taken measures to expand the access channels, a scaled up digital payment system is not widely available in India. The GOI has successfully addressed the challenge of getting e-accounts opened at the time of enrolment using Aadhaar - the unique identifier. Aadhaar can also be linked to an existing bank account through any of the delivery channels e.g. branch, ATMs, internet, mobile and micro-ATMs. Any bank interested in using the facility must use Unique Identifier Authority of India (UIDAI)-approved biometric scanning devices and register with it to receive access to its data.

CGAP reported that banks in India control not only credit and savings markets, but also payments market and as a result, the use of mobile money is only 0.3% of adults in India<sup>23</sup>. With 900 million mobile money connections across India, expecting it to rise to 1.16 billion by 2017, mobile connectivity appears to be the perfect opportunity to be used for financial inclusion. According to the Telecom Regulatory Authority of India (TRAI), there were 350.37 million rural subscribers by 2013. The MNOs already manage distribution infrastructure and large agent network of between 2-2.5 million touch points, and they already address the needs of low cost consumers by designing products such as Rs 10 ( US\$ 0.16) airtime reload vouchers<sup>24</sup>. To ensure that mobile operators provide banks with USSD channel access for mobile banking, both RBI and TRAI have issued guidelines to MNOs<sup>25</sup>. Figure 6 indicates the reducing trend in zero balances.

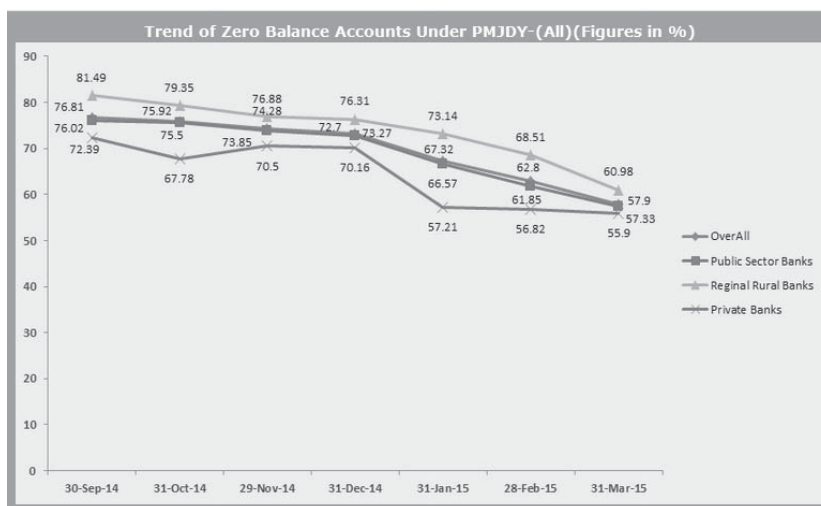
23. <http://www.cgap.org/blog/2015-set-be-big-year-digital-financial-inclusion-india>

24. MMAI/GSMA (2013)

25. CGAP (2015)



Figure 6: Jan Dhan Yojana trend in zero-balance accounts



Source: <http://www.pmjdy.gov.in/account-statistics-country.aspx>

## Direct benefit transfers – key enabler for Jan Dhan Yojana

The potential game changer for financial inclusion could be the Direct Benefit Transfers (DBTs) channeled through PMJDY bank accounts. All accounts are being linked to “Aadhaar” unique ID and once enrolment is completed, G2P payments to beneficiaries will become seamless<sup>26</sup>. The banks will also enjoy the benefit of the float if G2P payments are transferred to these accounts. The saving on leakages that occur in various subsidy schemes will more than compensate government expenditure entailed in this massive exercise of financial inclusion. Estimate of leakages is between Rs. 500 bn and Rs.750 bn (around 05% of the GDP). PMJDY is considered a highly successful financial inclusion scheme in modern India.

## Colombia’s internet banking project via mobile phones

According to the World Bank’s Financial Inclusion Survey (Global Findex data), 30% of the population of Colombia<sup>27</sup> has an account in a financial institution. For example, under the new regulations people have been able to open accounts without being physically present. The survey indicates that Colombia is more advanced in technology based financial inclusion than countries with similar levels of development such as Peru, Mexico and Panama.

26. Aadhaar Unique Identification and its linkage to Direct Benefit Transfers are discussed in Chapter 6 as a critical enabler  
 27. Financial inclusion and the role of mobile banking in Colombia: developments and potential Santiago Fernández de Lis ,María Claudia Llanes , Carlos López- Moctezuma ,Juan Carlos Rojas David Tuesta ,Working Paper Madrid, February 2014



Cross-cutting regulatory developments of channels and products have helped to promote mobile banking focused on financial inclusion. In this regard, the extensive banking correspondent network, with two models of access to these correspondent networks (network managers and alliances) and the creation of easy access products have boosted the development of mobile banking models (if the cell phone number is associated with a saving or demand account). This has increased the current number of online deposits to 1.5 million, equivalent to 8% of saving accounts in Colombia. These products allow banks to create electronic money so that people can use their mobile phones to buy things in retail stores which are not banking correspondents. Some steps have already been taken to address this issue.

Currently, 16 of the 23 banks in Colombia offer mobile banking services including internet banking transactions via mobile, which are provided either through smart phone apps, or text messages in low end phones. The text message technology is being implemented by eight banks in Colombia, thereby allowing balance inquiries, cell top-ups, utilities payments and transfers to be performed through this channel. Three banks have carried out further developments, consisting of the creation of online deposits, online savings accounts and process accounts with simplified procedures.

Regulatory efforts geared towards mobile banking development were instrumental in providing a model that provides: (i) cheaper access; (ii) a simpler account opening process; (iii) fewer geographical restrictions by an increased presence of banking correspondents; and (iv) use of a digital channel such as cell phones as a mass connecting point to bring about greater banking usage.

## **BRAC Bank-led bKash system in Bangladesh**

Bangladesh's bKash system is owned and operated by the BRAC bank. The state of interoperability is not very clear in Bangladesh although there are 4 mobile operators in the country who are awaiting regulatory approval for MNO-led operations. More recently, Bangladesh Bank (the Central Bank) issued new regulation to enhance the use of MNO network operations to ensure the last mile/touch points in service delivery. That too is to support bank-led models by using MNO network for telecommunication facilities and touch points. Due to illiteracy, customers tend to use the agent for transactions without operating e-money accounts and this situation has resulted in a significant amount of over the counter (OTC) transactions. The absence of a unique identifier is a practical problem in the bKash system for which the authorities are keen to take action.

## **Unique Identifier - the biometric ID in South Africa**

In South Africa, the biometrically secure "chipped", open debit MasterCard as the platform for social benefit transfer (G2P) payments provides financial access to 10 million of the country's poor<sup>28</sup>.

28. 10 million cards with 16 million beneficiaries.





This is the main contributory factor to the growth in the country's banked population from 63% in 2011 to 75% in 2014 with financial inclusion numbers reaching 86% (FinMark Trust 2014). Biometric application for commercial purposes is considered to be a safe method of delivering G2P payments and also for surveillance of cybercrimes. In addition to the successfully implemented MNO led mobile programs, all banks and MNOs require biometric applications for network login systems, finger vein recognition at ATMS, credit card processing and face recognition in photographic software. Biometric is increasingly used to complement or replace personal identification (PIN) or passwords. South Africa has started digitizing G2P payments, the process with biometric enabled unique ID system. Seeing the opportunity in SIM verification, there has been an impressive bi-product by the National Database and Registration Authority (NADRA) in Pakistan which opted to update or confirm the Computerized National Identity Card number in the existing ownership database and then matching their biometric data (fingerprints) with the database available at NADRA.

## **Thailand's interoperable ATM network**

Thailand is diligently working towards system-wide electronic payment interoperability. Already their multi-functional ATM/ADM network is fully interoperable and that has enabled nation-wide proximity to cash access as well as payment transactions. The Bank of Thailand (BOT) has established the National Payment Message Standard (NPMS) to support the use of corporate E-payment transactions. This standard will significantly drive interoperability as well as straight through processing and reduce cost of electronic connectivity<sup>29</sup>. The BOT payment systems group has established a working group to develop a payment systems roadmap with the objective of establishing common e-money standards and develop infrastructure for e-money to facilitate interoperability among different e-money operators.

## **Section III - Drivers and critical enablers of innovative financial inclusion**

The above success stories amply illustrate that innovation in the digital space through e-money products and services can enhance financial inclusion. Equally importantly, it is necessary to focus on the affordability factor, especially because of the market driven pricing of financial products and services.

In 2010, the World Bank Payment Systems Development Group surveyed the impact on financial inclusion from payment systems perspective and found that there is a fairly widespread adoption of electronic payment channels for retail payment mechanisms. In terms of usage, innovative payment products are still much lower in comparison to traditional retail payment products. However, they are important for financial inclusion in over 14% of the surveyed jurisdictions. While NBIs are playing a significant role in the provision of innovative retail payment products/mechanisms, banks remain a significant player in this field.

29. Standard setting can also suppress the incentives to innovate and hence, sometimes can restrict competition by curbing such innovative business models.



Collaboration among various types of entities is widespread, with over one-third of the products involving joint provision of product/service, of which almost all involved a bank and telecom company. Merchant payments, utility bill payments and P2P transfers were the most common transaction types supported by innovative payment mechanisms; while less than 10% of the products supported G2P payments. The majority of the innovative products/mechanisms have very limited interoperability with less than 20% of the products reported to be fully or partially interoperable. Security and fraud risks seem to be getting inadequate attention. Central banks identified themselves as the overseers for around 60% of the products; however, 10% of the products were subject to collaborative oversight. In general, central banks are not overly optimistic about the anticipated impact of innovations in their respective jurisdictions, with 31% of central banks anticipating the usage of electronic payment instruments to increase, 16% anticipated a positive impact on financial inclusion, and 8% of central banks anticipated a positive impact on efficiency. Seven central banks anticipated no significant impact because of ongoing innovations (World Bank, 2012).

## Critical enablers and successful e-money deployments

**National consensus and political leadership:** The idea that innovation is key to financial inclusion has been on the center stage for some time. The concept is appealing to both policy makers and donor communities, and service providers have found it to be a viable business proposition and technology is sound and proven. However, successful adoption and deployments are still a few and far between in SAR primarily because much of the political promises have not been implemented. Another common feature in SAR is the government preference for use of cash for G2P payments and continuation of cash heavy economies for no logical reason but mainly for budgetary constraints. In this background, this section analyses the essential items for the take-off of digital finance and the reasons for late take off of such innovative systems.

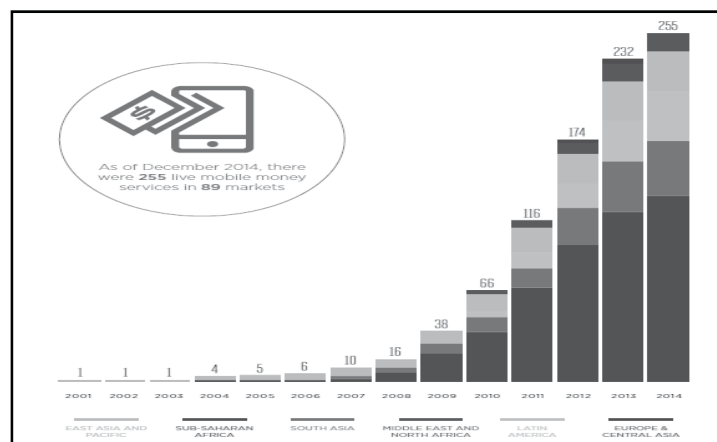
**Game changers in digital finance:** Progressive policy leadership and enabling non-prohibitive regulatory environment at macro level, innovative use of infrastructure and eco system reflected by interoperability, agent network management, mobile money add-on applications, and biometric enabled card-based grant payment disbursement are some of the critical enablers. In some countries, failure to address issues surrounding these key elements has hindered the take-off of their e-money deployments.

**Adoption of progressive technology:** Technology is a great enabler in closing the financial inclusion gap of the poor and unserved communities. Digital finance and payment services have transformed lives of many people across the globe. According to GSMA (2015) there were 255 live mobile money services across 89 markets. The number of registered mobile accounts also grew to reach 299 million with majority of the accounts still in Sub-Saharan Africa (figure 7). The full potential of mobile money deployments remains untapped in some regions, such as Latin America and South Asia, partly due to regulatory barriers. However, recognising the role that mobile money providers can play by deploying innovative technology to fostering financial



inclusion and economic growth, an increasing number of regulators are making arrangements to establish regulatory frameworks for mobile/e-money. Today, in 47 out of 89 markets where mobile money is available, regulation allows both banks and NBs to provide mobile money services in a sustainable way<sup>30</sup>.

Fig 7: Region-wise active mobile money accounts



**Interoperability, mobile money and digital pathway:** Interoperability is defined as “a situation in which payment instruments belonging to a given scheme may be used in platforms developed by other schemes. They are platform mediated network businesses and are known as “platform interoperable”. The platform is essential for MNOs to brand themselves as using ubiquitous technology. Interoperability can take different forms and it often depends on whether the operative system is “close loop” or “open loop”. For example, the platform interoperability offered by two MNOs between their two switches have opted to use one MNO’s operating platform (operators of the two switches authorise each other’s and their customers’ transactions). These systems are “close loop systems”. In Sri Lanka, the Dialog MNO platform is shared by Etisalat and Hutch, meaning that the three MNOs facilitate transactions of their respective customers by providing access to each other although the three MNOs are using different switches and software to maintain records and effect transactions. On the other hand, interoperability established through a common payment switch (CPS) is an “open loop” system and it enables any MNO to operate through any other MNO or a BFI who are members of the CPS. The CPS specifies standards and processes and procedures that have to be adhered to by all members. CPS is BFI/ MNO /Telco neutral. CPS offers end to end interoperability in that payments are cleared on real time as soon as they reach CPS and facilitates faster settlement through the RTGS or other settlement systems. This “Omni-channel” interoperability enables e-wallet customers to be linked to core banking products of banks.

30. GSMA (2015)



In other words, CPSs enable access to finance in a wider scale than through stand alone or shared platform interoperability by banks or MNOs. In reality, mobile networks are interoperable at a technical level just as banks are. In terms of mobile money interoperability, the important types are platform-level interoperability.

LCPL in Sri Lanka has taken the financial sector on the digital pathway since its inception in 2002. The Common ATM Switch (CAS) was operative from July 2013 while, Common Electronic Fund Transfer Switch (CEFT) has gone live from mid Sep 2015 onwards. Plans are made to introduce a Common Mobile Switch (CMOBs) and Common Point of Sales Switch (CPSS) in the near future. All these moves directly or indirectly help enhance financial inclusion. “LankaPay Real Time CEFTS is a complete game changer<sup>31</sup>” The messaging system and standards are specified by CPS and all members comply with such requirements. Due to 24x7 real time clearing by CPS, customers’ accounts can be credited on same day if banks and NBFIs are customer focused. Due to real time clearance of payments, customers are in a position to access financial services much faster than transacting through proprietary or bi-lateral switches operated by individual banks. Having confronted the issue of overcharging by banks on Sri Lanka Interbank Payment System (SLIPS) transactions, effective 01 September 2015, CBSL has capped the tariff of SLIPS at Rs 50 per transaction.

In the meantime, Interblocks Ltd in Sri Lanka and West International (Swedish Company) are jointly making arrangements to introduce “one for all card payment terminal” to facilitate Visa, MasterCard for all applications, regardless of the connection, Dialog, Etisalat, Mobitel or wireless. It is also said to be interoperable with the existing MNO-led mobile payment systems. The payment terminal will be integrated with the cash register or could even be used stand-alone and will simplify task for merchants, reduce their investments and operating costs. It uses XML based API which is quick and web-based and it does not require any application on the cash register side. The joint venture also plans to introduce contactless cards so that people do not have to swipe cards at POS machines. “With contactless card payments, we are ready for a new world of innovative mobile payments<sup>32</sup>”.

As illustrated by M-Pesa in Kenya, interoperability was not a factor for success but for the common good. While M-Pesa’s market dominance act as a barrier to interoperability, interestingly, the recently passed Kenya’s National Payment System Regulations 2014 require “open systems capable of becoming interoperable with other payment systems in the country and internationally.” On the other hand, countries like Tanzania, Pakistan, Indonesia and Sri Lanka have launched mobile money initiatives with different types of interoperability. Pakistan’s Easypaisa mobile money service became the first in the country to interoperate with the existing banks structure through Inter Bank Fund Transfer (IBFT) service thus enabling customers to transfer funds between a number of banks via the link switch<sup>33</sup>. The IBFT service is available both to Mobile Account holders and OTC customers.

31. Weerasooriya Sunimal, Real Time Payment Revolution begins- Daily FT 18-09-2015

32. Shen Karlsson- CEO- West International Interblocks- West International to bring contactless card payment solutions to Sri Lanka - Daily FT- 07-09-2015

33. 1-Link is the leading Shared ATM Network of Pakistan



Easypaisa Mobile Account holders can now move funds between any Bank Account and their Easypaisa mobile account while, OTC customers can walk into any of the Easypaisa shops and deposit cash directly into any bank account. Easypaisa's 40,000 shops in more than 750 cities had made it possible for nearly 6 million Easypaisa account holders as well as any OTC customers to access formal financial services. For a country that has less than 13% of the population in the formal financial system, this is considered very significant.

Given the focus on mobile money as digital means of reaching the underserved, interoperability is one of the critical elements in enhancing financial and payment access to poor. When a country has more than one MNO offering their own mobile money solution on proprietary platforms, operating rules, and their own network of agents, interoperability among MNOs should be established to optimize the last mile connectivity to customers. With the World Bank assistance, the Maldives is planning to establish an MNO-led mobile money solution to enhance financial inclusion of the people who live in outer islands and atolls.

**Innovative infrastructure, ecosystem and Mobile Connect:** The importance of last mile connectivity cannot be overemphasized as this is one of the major challenges for financial inclusion in developing countries. Fundamental to this would be to ensure that digital ecosystem and key infrastructure are in place and are able reach the bottom of the pyramid. The digital world identity verification has to rely on digital identities. Since digital identities created by individuals are inherently weak, and such identities are linked to online websites, email addresses or domains, security becomes a key consideration. The Mobile Connect in Sri Lanka indicates that digital identity management will allow consumers to experience a seamless journey when moving from cash to cash-lite through digital services. This is neither a costly nor meant only for expensive transactions. On the contrary, for average consumers, digital identity solutions such as Mobile Connect offer privacy protection, reduce the risk of identity theft and simplify the login experience for a range of services, such as retail, healthcare, government and banking, among others<sup>34</sup>.

**Innovation and cyber risks:** In promoting financial inclusion through digital payment instruments and channels, policy makers and regulators should pay especial attention to operational risks inherent in digital systems as well as external disruptive elements such as cyber-crimes that can bring in enormous damage to databases and functioning of technology based products and services. While policy makers have urged market participants to work together to beat cyber-crimes, service providers in most emerging and developing markets have not taken such calls seriously. Nor have they consented to coordinate or cooperate with peers in reducing costs involved in establishing preventive measures.

In using digital payment instruments for promoting financial inclusion, policy makers need to ensure that such services and devices are safe as poor can get excluded from payment services due to internal or external disruptions to digital and electronic systems. In this context, the importance of the BIS/CPMI 24 guidelines<sup>35</sup> cannot be underestimated.

34. <http://www.finextra.com/news/announcement.aspx?pressreleaseid=54547&topic=security>

35. In June 2014, the Committee on Payment and Settlement Systems (CPSS) was renamed as the Committee on Payments and Market Infrastructures (CPMI). Under a new charter. Hence BIS/CPSS 24 guidelines issued in 2012 is renamed as BIS/CPMI 24 guidelines.



Although relatively small in value, the impact of a cyber-threat on retail and micro level digital finance service providers and the users, poorer and vulnerable groups, in particular, can be far more serious. Many of the unconcerned service providers do not appear to observe international best practice, cyber protocols, and security guidelines announced to cushion the impact of cyber threats.

**Regulatory balance to accommodate innovation and effective oversight for customer protection:** While attending to the primary objectives of regulation in enabling the masses to benefit from modern day technological advances and enhance financial inclusion, it is necessary for regulators to adopt flexible approaches to embracing technology. Due to the very nature of mobile transactions, mobile money initiatives are deemed to be low-value and low-risk systems. Hence, oversight and monitoring of service providers are not expected to be as extensive as supervision for banks. The innovative nature of digital financing is such that it often leaves gaps and grey areas in the laws and regulations thus creating oversight challenges.

In this regard, it is worth noting that the PSSA enacted in 2005 afforded greater clarity and transparency to the oversight role of CBSL and the Act legally empowered CBSL to regulate, supervise, and monitor the payment systems and service providers. Moreover, CBSL has also entrusted the custodian bank of the license service provider additional responsibilities of formulating KYC/CDD procedures for the service provider, monitoring and supervision of the service provider for compliance, and auditing of all e-money accounts created by the service provider. As a good practice and a prudential measure, CBSL requires MNOs to “ring-fence” customers’ funds in a custodian account/s at a licensed commercial bank/s. According to the guidelines issued, it is mandatory that the e-money accounts are updated by the service providers on real-time basis and the cumulative sum collected from all e-money account holders be maintained in the custodian account/s at all times.

Certain countries, including Sri Lanka have established a separate trust accounts as an additional safeguard measure for consumer protection. Some regulators require funds be protected against institutional risks. To avoid custody risk, a trust is established over the asset (cash) in the hands of the custodian. Hence, in the event that either the service provider or the custodian bank becomes insolvent, customer funds in the pooled account will be protected.

**Customer education, grievance and redress mechanism:** The regulators should ensure that service providers educate customers about using security features and the importance of protecting their personal information. In this regard, transparent, effective, and straightforward complaint mechanisms and recourse processes are necessary and therefore, most central banks in SAR have directed the service providers to develop appropriate dispute resolution mechanisms. Service providers are also required to establish call centers to respond to customer inquiries and complaints and be responsible for addressing customer grievances when customer complain about a disputed transaction. Chargeback procedures for addressing such customer grievances should be formulated by the service providers.



## **Section IV : Lessons from unsuccessful early movers - G Cash in the Philippines**

The Philippines has been one of the pioneers and earliest adopters of mobile money services even before M-Pesa was launched. The Smart Communication's SMART Money service was the first to market the scheme in 2001. Despite being an early mover, the mobile money usage hasn't scaled up to the levels initially predicted. By 2014, active mobile money users were less than 7 million on a combined subscriber base of over 105 million mobile subscribers. In 2014, still 69% of the population were without an account in a formal financial institution or with a mobile money operator. The widely spread around 7,100 islands in the Philippines pose a big challenge to provide formal financial access to most people. Transporting money also has serious security concerns in the islands. The mobile phone penetration is over 100% and 36% of the people use the internet. Furthermore, the monthly remittances from overseas Filipinos, amounted to US\$ 2 billion in 2014 while policy makers and regulators are flexible in providing an enabling environment for mobile money to function.

Although the Philippines seem to be the ideal place for mobile money operations, due to a number of constraints, the adoption of mobile money services in the Philippines, did not scale up. Among many reasons, the lack of unique identification has been a critical barrier. There is no unique national identification system in the Philippines and as a result, the identification process at the time of opening accounts and keeping a track of such accounts posed enormous difficulties. Disbursing G2P payments was even more difficult without a unique identifier. The Bangko Sentral ng Pilipinas (BSP) has identified 20 different types of valid identification for financial transactions, while there are a few other ID types acceptable for certain transactions. A combination of factors, such as lack of customer confidence, non availability of basic infrastructure in the inhabitable islands and the partially effective MNO operator network have led to the failure of mobile money scheme.

The Philippine has now made arrangements to introduce a universal identification card. Recently, the legislative endorsement has been obtained for "The Philippines Identification Bill" and the proposed ID system aims to bring in all existing government-initiated ID systems into one-integrated ID system thus solving one of the key barriers that impedes the take-off of G-cash mobile money system in the Philippines.

### **Keesa: the MMA-owned technology-based mobile banking solution**

To enhance access to finance and provide convenient payment facilities to people in the outer islands and atolls in the Maldives, the CGAP and the World Bank together designed and funded the interoperable Mobile Payment System (MPS) that aimed to connect all banks and mobile network operators to the RTGS system, as well as to the retail payments clearing and settlement system through the ACH. Keesa (wallet in Dhiveli) was intended to be a banking



service to enable subscribers to open bank accounts simply by using mobile phones, make payments from and receive payments to these accounts via mobile handsets and the internet without visiting a bank branch. Keesa was installed at the Maldives Monetary Authority (MMA) completed the initial user acceptance testing of the system in August 2011. The design and commencement of the MPS were based on the MOU signed between the banks and MMA.

Despite technical completion of the system and willingness of most banks to serve their customers through Keesa, the project could not be operationalized due to numerous reasons. Among them, the non-participation of the Bank of Maldives (BML) is reported to be the main reason. Like the Philippines, Maldives is one of the most difficult and geographically widely spread terrain to provide financial services. Except BML, no other bank has shown any interest to serve outer islands and atolls. BML being state owned, was in the unique position with more than 60% of the market share of customers, 27 branches in almost all atolls and 67 ATMs. However, BML felt that the Keesa would gradually erode its market share and allow other banks to be more competitive. Hence was the reluctance to go ahead with Keesa. Many attempts were made by MMA to assure BML and accommodate its requests but BML was reluctant to join the Keesa system. The second reason has been the obsolete technology of the Keesa system requiring regular updates at a high cost. Due to Keesa's archaic technology and the high cost of operations, even Dhiraagu, the main MNO in the Maldives was not keen to take over the project.

Having learnt lessons, MMA is now getting ready to enable the two MNOs operating in the country to offer mobile phone based solution to the people in the Maldivian islands. The proposed mobile money system is designed with a unique ID system as well as custodian arrangements, so that two of the major operational risks can be avoided from the start.

## Summary and conclusions

The preceding analysis tested the hypothesis "innovation helps enhance financial inclusion". It is clear that action to embrace innovation and newer technology to win financial inclusion depends on the commitment and dedication of all stakeholders, the political leadership in particular. This concluding section summarises eight key points that would be useful to policy makers, regulators and other relevant authorities in SAR and elsewhere in winning inclusion through innovation.

**1. National financial inclusion strategy:** Countries that are confronted with financial inclusion issues, especially at the bottom of the pyramid should prepare a national financial inclusion strategy in consultation with all political parties, authorities, practitioners and the civil society. The agreed national strategies should be apolitical and should not be changed with the change of Ministers or when different political parties come into power. The national ICT, e-government and e-commerce policies and the national payment system strategy should support digital financial component of the financial inclusion strategy. The majority of the SAR countries





have not made commitments to develop such a comprehensive national strategy to deal with financial inclusion. India's Pradhan Mantri Jan Dhan Yojana financial inclusion strategy is an example of how a large scale national strategy is developed to include the previously excluded people from the formal financial system through the use of digital mechanisms and to enhance financial inclusion among all.

**2. Regulatory rethinking and flexibility are critical to innovating financial inclusion:**

MNO-led digital mobile- e-money models are not yet popular in the SAR. Only Afghanistan and Sri Lanka operate full-fledged MNO-led mobile money solutions, while the Maldives is getting ready to launch a similar mobile money scheme. Policy authorities and financial regulators are generally reluctant to grant mobile money licenses to MNOs because they fear that MNOs would scale quickly and dominate the formal financial sector, thus making supervision and regulation difficult; and they are still on the wrong belief that only bank based models can address financial inclusion issues. An enabling regulatory environment that does not frustrate or unnecessarily delay innovation is a sine qua non to enhance financial inclusion. The legal and regulatory structure should facilitate and enable easy entry of NBFIs, MNOs in particular. Given the wide range of NBFIs and multitude of different statutes that govern them, it is desirable for regulatory authorities to use the provisions of the Payments and Settlement Law to regulate non-bank digital financial service providers. In this regard, CBSL was ahead of many others in the region in that it enacted the Payments and Settlements Law in 2005 to effectively regulate payment service providers; and to adopt a forward looking regulatory approach to financial inclusion. CBK on the other hand, allowed M-Pesa to grow in a regulatory vacuum, sensing its potential to reach the poor. It is widely accepted that it is the telecommunication companies and non-bank service providers who invented low cost, speedy, reliable and user friendly digital finance, last mile touch points, and electronic fund transfers and not commercial banks.

**3. MNO operative network effectively reach the last mile:** It is time for SAR policy makers and regulators to review positive technology developments, embrace only relevant and applicable innovations and use them effectively. Regulators need to ensure that NBFIs, including MNOs adhere to all prudential norms, regulations, best practices and security guidelines in their operations, so that customers are protected. The agent network management of MNOs is best placed to offer mobile money solutions as they deal with the fast growing mobile penetration among poor and the unbanked population and cover the last mile acting as mobile money touch points. MNOs should ensure that their network operators are adequately trained to handle customers, check their KYC/CDD requirements and report on any suspicious transactions. Poor or unbanked people identify themselves with MNO agents better than with bank officials and the operations of MNO network is critical to the success of MNO-led mobile solutions. MNO-led custodian bank arrangement is a success in Sri Lanka. Colombia's creation of on-line e-accounts at banks has been a success story. While MNOs take ownership and responsibility for mobile money operations, customer protection is further ensured through custodian banking arrangements where the total e-float is mirrored on a one to one basis.



**4. Infrastructure and eco system development is key to financial inclusion.** National switches, shared and interoperable technology platforms, access to multiple operators, common security standards, agent network management are essential to ensure last mile service delivery. Hence, it is important to establish an enabling institutional framework that supports both macro level policy makers and regulators as well as micro level service providers. Similarly, government and institutional support from national ICT agencies, social security disbursement authorities and credit information bureaux should help manage market distortions and play a catalytic role in carrying out policy agenda. Unfortunately, SAR has not yet given much prominence to effectively coordinate with the enabling institutions and supporting networks. The proactive Bankers Association that help drive the ubiquitous ATM policy (Thailand), ICTA that drives the e-government program and LCPL moving towards an interoperable national switch (Sri Lanka) and the forward thinking National Payments Corporation (India) are examples of such drivers which are committed to a corporate theme of “a world beyond cash”.

**5. Digital finance is not a panacea for all developmental and social problems nor, is it devoid of risks.** It needs to be emphasized that SAR should take extreme care about using digital finance for financial inclusion due to cyber threats on any digital system or process. Innovation should be used cautiously in a targeted manner, while focusing on the potential dangers of digitized finance in a world which is plagued with cyber-crimes. Given the retail and small value digital financial transactions, the damage in terms of value may be small, but cyber-crimes can wipe off operational systems resulting in a loss of confidence of the poorer and vulnerable groups.

**6 Unique identifier is critical to e-money systems:** In SAR, except for Bangladesh and Nepal, other countries have unique national identification. Pakistan has NADRA certified ID, while Afghanistan is planning to roll out electronic ID in the near future. India has Aadhaar ID which is biometric enabled. In addition to the national ID, Sri Lanka’s mobile subscribers also have compulsory SIM card registration and Digital Connect on-line ID that can be used for online purchases for authentication purposes. Using digital payment mode for government grants/social security payments and salary payments is one of the effective ways of reaching the poor and enhancing financial inclusion, as many of the beneficiaries are at the bottom of the pyramid. Digitizing G2P would address corruption, ghost accounts and leakages. While it will reduce delivery cost to governments, the poor will be able to plan their own activities in a methodical manner. Brazil and Mexico have digitized government payments and have reaped many benefits, while South Africa has started the process with biometric based unique ID system. In countries where there are no unique IDs, the poor are expected to fill in a plethora of documents to open mobile or e-money accounts and that has pushed them to resort to OTC transactions. Bangladesh’s bKash and Pakistan’s Telenor systems are experiencing OTC related issues. Unique ID should therefore be a non-compromising element in digital finance.

**7. Departure from old philosophy is necessary:** In some countries, bank led digital payment systems have worked well, but at a considerable cost which is absorbed by respective governments or banks, state owned banks in particular. India and Sri Lanka are examples.



Banks continue to fight with NBFIs for lost business opportunities to MNOs, although banks lack last mile and touch point's capability. In these instances, in the interest of public policy and achieving inclusive growth, policy makers and regulators should have a balanced view to innovate financial inclusion. As reported elsewhere<sup>36</sup>, the banking sector has been instrumental in holding up innovative payment system development purely due to self-interest. Proactive leaders have understood customer and market preferences and have enabled innovative digital solutions that are market driven, but not without risks. India and Sri Lanka in SAR and Colombia, Thailand, Mexico, Brazil outside of SAR have dealt with such risks more effectively than others.

**8. Building up a central database to collect reliable statistics and information is essential.** Given that the central banks/monetary authorities are also the regulators for digital finance operations, they are better placed to maintain a central data base. Otherwise, the previous systems and processes can be abandoned if their positive impacts cannot be proven with statistical information. One of the best sources of information for financial inclusion is the demand studies conducted by domestic as well as international organisations. A scientific demand study would bring out not only the potential benefits and outreach of a particular innovation, but also the future demand trends, present impediments, consumer preference for various instruments, tech savviness of the bottom 40% and other financial inclusion measures that need to be put in place etc. Indonesia has done a comprehensive demand study, while the Maldives is about to commence a demand study under World Bank assistance.

There is no unique or one specific method of addressing financial inclusion issues and that requires a multi-pronged strategy. In essence, strong commitment by national leaders and policy makers is the key to success and they should ensure that critical enablers are established to provide support and guidance. World over, its telecommunication companies and non-bank service providers who have invented low cost, speedy, reliable and user friendly digital finance, electronic fund transfers and payments and not banks. The developed world has used these innovative techniques and simple processes and benefited immensely in reaching masses and solving their access to finance and financial exclusion issues. Hence it is time for SAR policy makers and regulators to look at these positive developments and facilitate the use of relevant and applicable innovations. Innovation comes with new risks and it should be used cautiously in a targeted manner. Political leaders need to provide leadership and vision in setting the national policy agenda, and regulators should develop an enabling non-prohibitive regulatory environment. Enabling institutions should develop a rich eco system and infrastructure for digital finance to grow, while digital financial service providers should offer user friendly digital solutions and options that create and preserve positive value propositions for customers who are predominantly from the base of the pyramid. Finally, customers must be given financial education to understand how to use digital financial services not only to manage their financial needs, but also to reach other economic opportunities in a cost effective manner. Financial inclusion requires a multi-pronged approach and it is not an easy area to win. Looking at the past and present winners, there is hope for winning with innovation.

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