

**BANKING SECTOR**

# Digital banking in emerging Asia – progress and prospects

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“Technology is a resource liberating mechanism. It can make the once scarce the now abundant.”

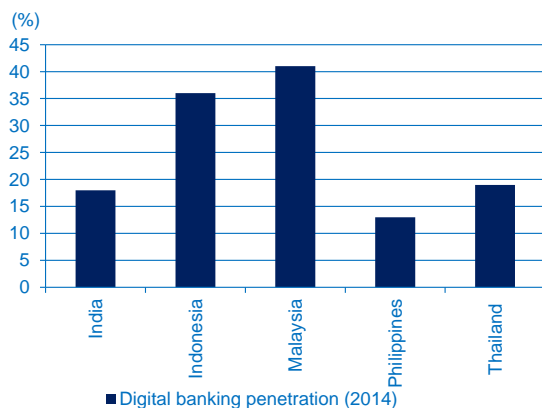
– From the book ‘Abundance’ by Peter Diamandis and Steven Kotler.

Personal finance trends across emerging Asia have seen a visible shift towards digital banking over the past five years. The region’s favourable demographics, high mobile adoption rate and deepening internet penetration have opened opportunities for banks to leverage on technology for bridging a widening financial inclusion gap. Convenience banking has assumed priority, with banks offering a gamut of financial services through web portals and mobile apps while redesigning their backend technology architecture. However, still at an incipient stage, EM Asia’s digital banking transformation process has led to a new set of challenges for policymakers in terms of redefining the regulatory framework; and traditional banks are striving to convert customers to the digital platform in the wake of stiff competition from new age ecommerce companies. Against this backdrop, this watch examines the current state of digital banking transformation across emerging Asian economies, the challenges it presents for various stakeholders to overcome and its future prospects, especially in light of the region’s efforts to deepen financial inclusion.

## Digital banking becoming an integral part of the DNA of banks in EM Asia

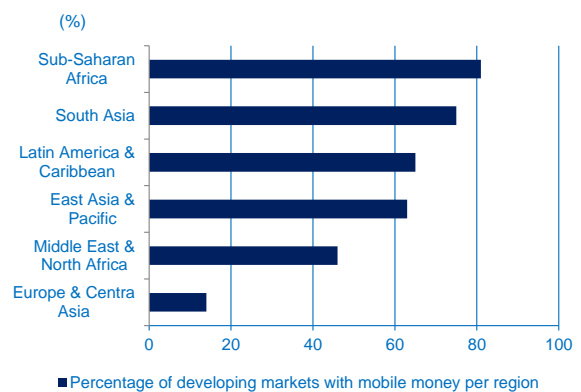
Digital transformation is being envisioned as the next frontier for banks in emerging Asia to conquer. The endeavour has been to transform banks from one with a multi-channel presence to an omni-channel presence with seamless integration between different technology platforms such as mobile, desktops, notebooks and wearable devices such as smart watches. According to McKinsey Asia Personal Financial Services Survey, 2014, over the last five years since 2010, emerging Asia has seen a sharper increase in digital banking penetration (3.3 times) compared to Developed Asia (1.6 times). More specifically, internet banking penetration has increased 2.8 times while smartphone penetration has surged 5.2 times in

Figure 1  
**Digital Banking Penetration in emerging Asia is rising rapidly but still remains low in level terms**



Source: McKinsey Asia Personal Financial Services Survey, 2014  
BBVA Research

Figure 2  
**Mobile banking has picked up significantly across most developing markets**



Source: IMF, BBVA Research

Emerging Asia between 2010 and 2014. Notwithstanding the rapid on-going transformation in emerging Asia, digital banking is more widespread in developed Asia; and touching near saturation levels while in emerging Asia, there is still a huge scope for growth (See Figure - 1). The McKinsey survey showed that internet banking penetration in developed Asia was 92% in 2014 compared to 28% in emerging Asia. Meanwhile, smartphone usage to access banking services in developed Asia was 61% in 2014 compared to 26% in emerging Asia during the corresponding period.

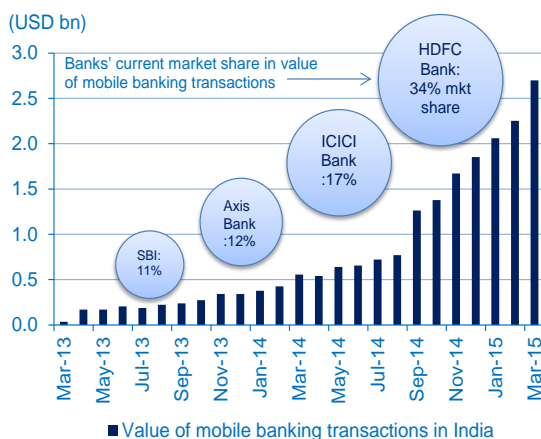
While traditional banking channels such as ATMs and branch banking are still predominant across Emerging Asia, the growth of internet and smartphone banking over the past five years has been unprecedented, having jumped almost five-fold since 2011. Against this backdrop, incumbent financial services players as well as new entrants need to strike a balance between having a physical presence through branches and ATMs, being cost effective and enhancing reach by providing digital banking services. A multiple channels approach is thus more appropriate strategy for banks in emerging Asian economies.

### Mobile is fast developing as a key growth channel for financial payments in EM Asia

The wide gap between high mobile penetration and low access to financial services across emerging economies has opened opportunities for telecommunication companies in the region to provide money transfer services in the unbanked and under-banked population (See Figure – 2). The key advantage of mobile is that it is both affordable and accessible. Within a short span of 2 years, mobile banking transactions across emerging Asian economies such as India, Indonesia and Thailand have caught up with internet banking transactions. Mobile banking transactions have surged manifold in India within a short period (See Figure – 3). Furthermore, the youth adopts mobile payments faster compared to their older counterparts. However, the youth are also the most under-banked age group, in turn opening opportunities for mobile banking to offer a wide array of financial services.

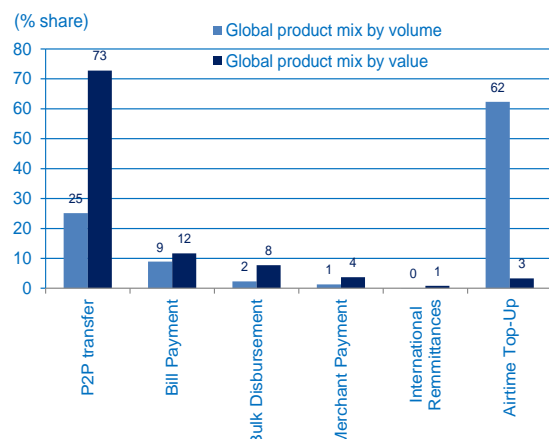
Mobile money leverages on the deep mobile penetration in emerging economies and existing retail infrastructure to operate a high volume low margin business. In India, Vodafone has a Joint Venture with M-Pesa, a money transfer service that enables people who have access to a mobile phone to send and receive money, top up airtime and make bill payments. Bulk of mobile banking transactions across the globe are related to airtime top-ups followed by P2P transfers (See Figure – 4). Going forward, competition for money transfer service providers such as M-Pesa is expected to heat up. In India’s case, for instance, regulators are

Figure 3  
**Mobile banking transactions have picked up sharply over the past two years in India**



Source: BBVA Research, Haver Analytics

Figure 4  
**Bulk of mobile banking transactions are for airtime top-up**



Source: BBVA Research, RBI

taking steps to integrate mobile payment systems with the prevailing financial systems. Tighter regulations are, thus, making it imperative for telecommunication companies in India to partner with banks to provide mobile based money transfer services. Thai regulators have shown a similar propensity.

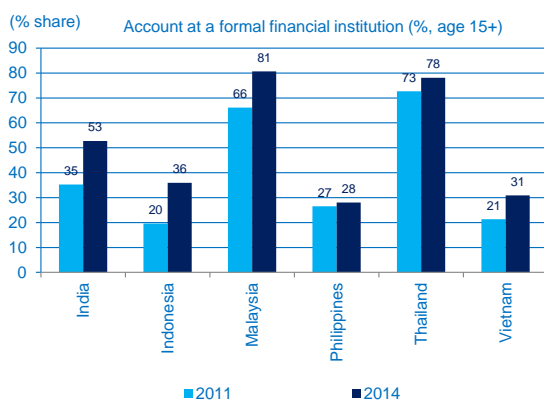
Notwithstanding the impressive growth in mobile banking, retail access points are indispensable for deepening financial penetration amongst the masses in emerging Asia where the poor and rural residents lack access to modern technologies and IT infrastructure is under developed. In addition, the small form factor remains a key challenge for mobile banking as banks try to reimagine banking transactions and documentations around mobile within the extant regulatory and legal contours.

### Banks shift gears to compete with e-commerce players in the digital space

Entry of technology companies has structurally transformed the global financial landscape. Incumbent traditional banks are embracing new technology and upgrading existing IT architecture at a rapid pace to tackle newfound competition from ecommerce companies. Emerging Asia has not been any exception to this change. Digital banking has opened opportunities for non-financial companies in the region to provide payments and other banking services, which have traditionally been the domain of banks. E-commerce companies in the region have leveraged on their technological capabilities to venture into online financial services including payments, consumer credit, SME loans and wealth management services. These companies have invested heavily in the mobile internet business and connected online users to offline services. App-based delivery start-ups backed by e-commerce companies, which operate through mobile applications, are providing an array of other services ranging from food delivery, booking movie tickets online to taxi rides.

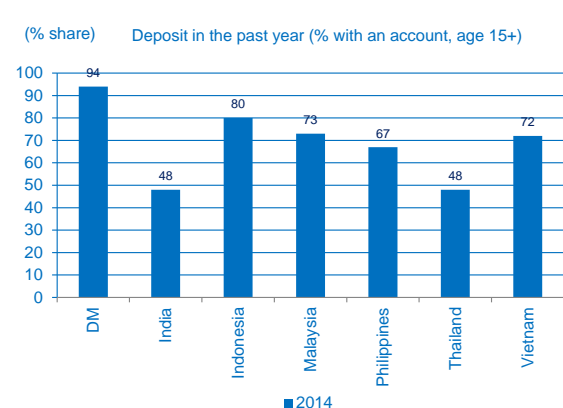
While e-commerce companies are technologically much sounder and innovative compared to traditional banks, a key challenge for them is to build customer trust. In addition, their operational flexibility is limited by stricter regulatory restrictions. Collaboration rather than competition is a key in this context. Digital banking presents opportunities for non-financial companies to engage with banks and other financial services firms in offering banking and related services. For banks, it is important to reimagine the existing banking infrastructure through the digital lens while ensuring high returns on investments in terms of boosting customer base, enhancing customer service and increasing revenues for the bank with minimal cost. Tangible benefits are crucial in the whole digital transformation process and banks need to be careful enough to not go overboard in their digital transformation drive.

Figure 5  
**Although low, bank account ownership across EM Asia has improved over the past five years...**



Source: BBVA Research, Haver Analytics

Figure 6  
**However, large number of dormant accounts negates benefits of financial inclusion**



DM: Developed Markets; Source: World Bank, BBVA Research,

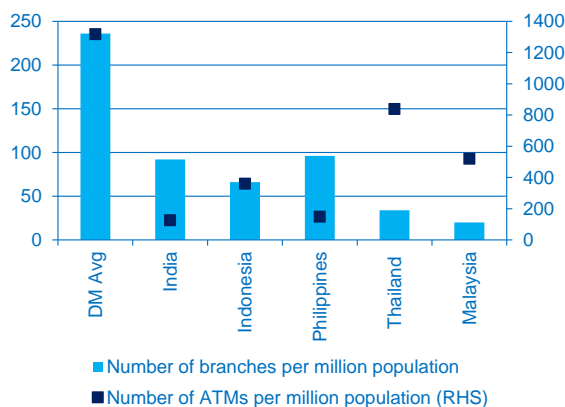
From a regulatory standpoint, policymakers in emerging Asia are focusing on key issues such as strengthening guidelines for consumer protection, minimising payment fees, tightening rules and putting in place new legislations to prevent anti-money laundering activities driven by digital banking platforms. Regulators in the region are weighing the benefits and costs of incentivising new payment technologies in financial services and encouraging greater competition amongst financial service providers. While greater competition helps lower costs and improve customer service, lax regulatory oversight can lead to credit being extended to unqualified people and ultimately ending in a crisis.

### Financial inclusion in emerging Asia – Looking beyond the numbers game

The past five years have seen visible progress in deepening financial inclusion by economies in emerging Asia. As per World Bank’s Global Findex database, India saw robust growth in bank account ownership amongst adults (ages 15+) between 2011 and 2014 from 35% to 53%, which translates into 175 million newly banked over the period. India alone accounted for 25% of the 700 million new bank account holders between 2011 and 2014. The expansion of new bank account holders in India has gained further traction over the past year (2014-2015) driven by the Prime Minister’s Jan Dhan Yojana (PMJDY), an initiative to accelerate financial inclusion. Indonesia too has seen a significant increase in bank account ownership between 2011 and 2014 from just 20% to 36%. While all countries across emerging Asia have seen an improvement in banking penetration since 2011, the extent of account ownership differs widely across the region (See Figure - 5). Malaysia has the largest share of banked population (81%), followed by Thailand (78%), India (53%), Indonesia (36%), Vietnam (31%), and the Philippines (28%). Thus, on average, more than 50% population across most emerging Asian economies is still unbanked, in necessitating policymakers to step up regulatory reforms and enhance efforts in removing barriers to financial inclusion.

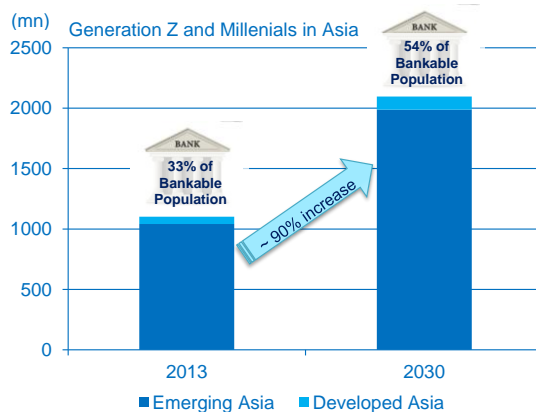
Financial inclusion is, however, beyond just expanding account ownership. The value of financial inclusion can only be realized if people actively use their bank accounts for basic banking services such as deposits, withdrawals and transfers and avail of various other beneficial services attached to the account. Authorities need to ensure that existing bank accounts are not dormant, i.e. with zero deposits or no withdrawals in the past 12 months, by providing incentives to increase bank accounts use. For example, authorities could facilitate people’s access to bank accounts through banking agents and point of sales machines. The intensity of bank account use is the lowest in India and Thailand, which suggests that most accounts that are

Figure 7  
**Bank branch network is very weak in EM Asia...**



Source: BBVA Research, Haver Analytics

Figure 8  
**...While bankable population is increasing rapidly**



Gen Z : 1995 to 2012 Born: Age 2 yrs to 19 yrs ; Millennials : 1977 to 1994 Born : 20 years to 38 years ; Gen X: 1966 to 1976 Born : 39 years to 57 years. Source: World Bank, BBVA Research,

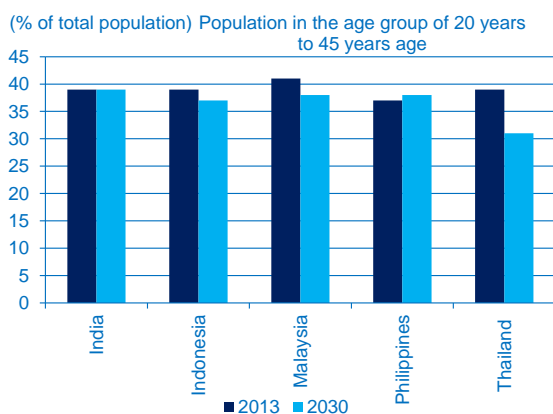
opened are never used (See Figure – 6).

### Technology holds promise to overcome financial access barriers faced by a youthful emerging Asia

Physical branch banking continues to remain the primary medium to access banking and financial services for bulk of the population across most emerging Asian economies. Physical branches have high relevance across the region due to several reasons such as 1) preference of bank customers to seek financial advice from banking personnel, especially for more complex products such as investments, mortgages and insurance, 2) Regulations in several Asian economies mandate banks to carry a stringent Know Your Customer (KYC) analysis and necessitate customers compliance with anti-money laundering rules, all of which are mostly carried out through personal interactions with the customer 3) brick and mortar banking institutions and branches have traditionally provided a greater sense of security for customers as compared to a purely online bank. However, an under-penetrated bank branch network (See Figure – 7) significantly undermines the ability of physical bank branches to single-handedly achieve financial inclusion goals in EM Asia. Particularly so given that the share of Gen-Z (2 years to 19 years age group) and Millennials (20 years to 38 years) – the highly bankable population - in total population across Emerging Asia is estimated to accelerate over the next two decades (See Figure – 8). The World Bank in its Global Financial Development Report 2014 notes that 20% of the unbanked people in the world report distance as a key reason they do not have a bank account. High transaction costs, geographical and institutional barriers to financial access are more pronounced in emerging economies across Asia. This has resulted in emergence of shadow economies that constitute legal activities such as brick and mortar retail shops and local services operating solely on cash but with revenues often under-reported for tax avoidance purposes.

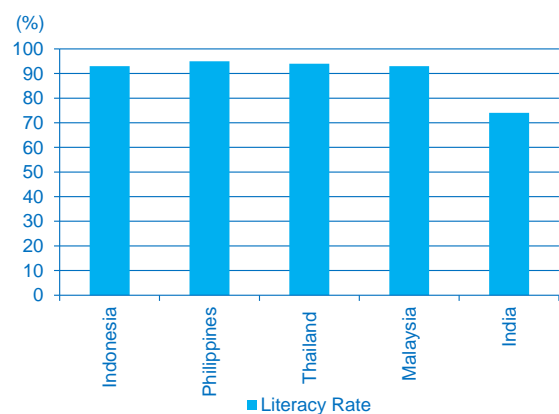
Against this backdrop innovative digital banking solutions such as mobile banking, mobile payments, and biometric identification holds promise for expediting the financial inclusion process across EM Asia by reducing costs and enhancing the convenience of accessing financial services without compromising on security issues. For banks, the digital transformation promises to bring in efficiency gains, improve competitiveness and enhance customer contact points. Digital banking cuts across all verticals in the bank and focuses on simplifying complexities through technology process rework, thereby transforming complex processes that require lengthy documentation and manual intervention. The digital strategy encompasses five main factors, namely 1) the technology, 2) the customer insights, 3) the process digitization scope, 4) the regulatory framework, and 5) the risk framework.

Figure 9  
Emerging Asia boasts of a young population



Source: BBVA Research, Haver Analytics

Figure 10  
Literacy levels across the region are improving



Source: BBVA Research, Haver Analytics

With demographics playing an important role in digital banking penetration, rising income levels and favourable demographics present a promising digital banking outlook for emerging economies across Asia (See Figures 9 & 10). Global industry surveys suggest that typical characteristic traits of consumers comfortable with digital banking are 1) more educated, 2) own multiple bank accounts, 3) have higher account balances, 4) interact with banks more often, 5) hold multiple banking products, 6) are active online shoppers, 7) younger population in the age group of 25 years to 50 years with older consumers showing greater affinity towards physical branch banking. In general, digital banking penetration is seen to be deeper amongst the higher income and younger population in emerging Asia.

## India – Regulatory reforms provide impetus to digital banking transformation

Although backed by a strong core banking system, India's private as well as public sector banks were slow initial movers in the digital banking space compared to other emerging economies in the region. Yet, India's banks, particularly in the private sector, have been quick to play catch up and introduce a plethora of digital banking products and initiatives across mobile and internet banking platforms over the past three years. India has around 150 million smartphone users. Besides products such as USSD (Unstructured Supplementary Service Data) banking and SMS banking can be done by feature phones. The focus of most Indian banks has been on digital transformation in the retail banking space, where the customer base is the largest and business processes are complex. Websites of the bulk of India's private sector banks and a select few public sector banks today boast of convenience banking, which aims to provide a range of services combining dedicated banking expertise and the latest technology. These include internet and mobile banking, mobile wallets, online Tax Payments, Payment Gateways, Prepaid cards, Mobile Banking Apps, SMS Banking, Travel Cards and banking using social media. ICICI Bank, HDFC, IndusInd Bank and Kotak Mahindra Bank amongst the private sector banks and State Bank of India in the public sector banking space have been at the forefront of digital bank innovation in India (See Table - 1). That said converting customers to the digital platform has been a key challenge for Indian banks, which face stiff competition from new age e-commerce companies such as FreeCharge or Paytm. The latter already has 50 million users in a short span of one and a half year. In the wake of increased competition, banks in India are pulling up their sleeves by connecting ATM, mobile and location-specific data to better understand customer behaviour and needs. In addition, they are also engaging with ecommerce companies through the mobile app and web portal.

**RBI has been a key enabler in India's digital banking innovation process:** In a systematic calibrated approach, the Reserve Bank of India first introduced a new set of e-commerce non-banking entities to the Indian financial industry by allocating prepaid payment instrument licenses in 2012-13. These instruments offered semi-closed prepaid wallets to customers thereby allowing them cash-in facility for purchase of goods and services offered through third party merchants but without a cash-out facility. Late 2014, RBI relaxed norms for pre-paid instruments (PPI) while introducing new categories of PPIs which could be issued by banks. Measures included, 1) Higher limits for semi-closed PPIs, 2) Longer Gift card validity for semi-closed PPIs, 3) Allowing banks to issue Open Prepaid Wallets that permitted cash withdrawal or redemption by the holder, 4) Permitting foreign nationals to buy prepaid wallets. Some non-banking entities operating in the PPI space in India include Idea Cellular, Vodafone India, Reliance Industries, Paytm Mobikwik, QwikSilver Solutions Pvt Limited and DigitSecure India Pvt Limited. In its next stage, RBI has recently issued its first set of licenses for small and payments banks<sup>1</sup>, which together are expected to deepen financial inclusion in India by enabling high volume low value transactions in deposits and payments and remittance services by technology driven entities. In a recent speech, Governor Rajan noted that RBI is

<sup>1</sup> Scope of payment banks ranges from accepting demand deposits, issuing Pre paid instruments, offering remittance, acting as a banking correspondent for another bank, and other non-risk sharing simple financial services activities not requiring any fund commitment, e.g. distribution of MFs, insurance products, bill payments etc. However, Payments Banks are not permitted to undertake lending activities, issue credit cards, or accept NRI deposits. Payments Banks will initially be restricted to holding a maximum balance of Rs. 100000 per customer (USD 1626 approx.).



helping India ‘cross the river by feeling the stones’, following the path of experimentation and incremental liberalization. By being careful not to stand in way of innovation, RBI has allowed small value card payments without two-factor authentication, which allows customers to make payments quickly.

**The potential for digital banking in India is huge.** Currently, only one tenth (about 25 million) of India’s 252 million internet users buy goods and services online. India’s relatively low ‘internet buyers-to-users conversion rate’ is a result of shallow broadband penetration and limited access to electronic payments systems across the country. In this context, steps towards expanding broadband connectivity and investments in retail distribution technologies are needed. In addition, security is a predominant concern for most customers while adopting the digital platform for banking. To address this issue, banks are relying on predictive and risk based analytics and mobile app analytics to choose the best product offer and test customer response for it. Further, two-factor authentication is ensured where needed and also fraud risk analytics is being extensively used to build superior security systems and also identify high risk customers.

Table 1

**Digital banking initiatives by major Indian banks**

Measure	Digital Banking Initiatives
1 ICICI Bank	<ul style="list-style-type: none"> <li>• <b>‘ICICI Pocket’</b>, a Visa powered pre-paid E-Wallet that even non-bank customers can use to recharge mobile, send money, shop, pay bills, book movie tickets, or split expenses and gift.</li> <li>• <b>‘Your Bank’ Facebook app</b> allows customers to view savings account details on Facebook, as also order cheque book, upgrade debit card, share and track expenses with group of friends.</li> <li>• <b>‘iWish’</b>, an online flexible recurring deposit scheme that allows customers to share their savings goal with family and friends to raise funds. For iWish, ICICI Bank has tied up with ‘SmartyPig’, a US tech firm, which also has a partnership with BBVA for the Compass app.</li> <li>• <b>‘ ICICIBankPay - Payment services using Twitter’</b> – allows customers to recharge prepaid mobile, check account balance, and view recent transactions using Twitter</li> </ul>
2 HDFC Bank	<ul style="list-style-type: none"> <li>• <b>‘WatchBanking’</b>, a mobile banking app available on Apple Watch that allows a customer to view account details, recharge mobile and DTH connections, locate bank ATMs &amp; branches, and request cheque books. <b>‘Chillr’</b>, a mobile app that offers 24/7 money transfers to anyone in one’s phone book.</li> <li>• Boasts of over 75 plus transactions on the HDFC mobile banking app. HDFC has the highest (34%) market share in mobile banking transactions in India.</li> <li>• First Indian bank to offer <b>‘Hindi language app for mobile banking’</b> – Hindi is India’s national language and the native language of 41% of India’s population.</li> <li>• <b>PayZapp</b>, a complete payment solution allowing customers to shop on mobile through partner apps, buy movie tickets, music and groceries, buy movie tickets, send money, recharge mobile</li> </ul>
3 IndusInd Bank	<ul style="list-style-type: none"> <li>• IndusInd has launched a plethora of Mobile Banking products including <b>IndusMobile App, Mobile SMS, Cash-On-Mobile, and Indus Alerts</b>. Online banking services include <b>Indus Net and Indus Bill Pay</b></li> </ul>
4 Kotak Mahindra Bank	<ul style="list-style-type: none"> <li>• <b>‘Hashtag Banking’</b>, Customers can tweet to @KotakBankLtd to check account balance, mobile &amp; DTH recharge, order book, transaction history, cheque book request, etc.</li> <li>• <b>‘Jifi’</b>, a new age digital account which offers high convenience through Hashtag banking, access to mobile banking and offers app, free NEFT through Net Banking, and other digital services.</li> <li>• <b>‘Kaypay’</b>, a money transfer service which allows users to connect Facebook, Google+ friend list and contact list and pay them without asking them their account details.</li> <li>• <b>‘Date with Digital’</b>, an internal digital awareness program.</li> </ul>
5 State Bank of India	<ul style="list-style-type: none"> <li>• <b>‘State Bank Freedom’</b>, Mobile banking app providing a wide range of banking services and non-banking services such as booking airline/railway/bus/movie tickets and buying goods/services.</li> <li>• <b>‘sbilNTOUCH’</b>, Foray into digital banking through Account Opening Kiosk (AOK), Debit Card Printing Kiosks, Interactive Smart Tables, Interactive Digital Screens, etc.</li> <li>• <b>Mobile Wallet</b> services which includes tie ups with around 900 retailers in India.</li> </ul>

Source: BBVA Research, RBI, Government of India Official Websites

### Box – 1: India's JanDhanYojana – Quality rather than Quantity is the key

Governments in emerging Asia are striving to bring the hitherto excluded to participate in the formal financial system, in turn empowering them in having a financial footprint and elevating their standard of living. A noteworthy example is India's financial inclusion campaign launched on 15<sup>th</sup> August 2014, known as the Prime Minister's Jan Dhan Yojana (PMJDY) - literally translates as 'Public Wealth Program'. Under the initiative, banks have opened a record 183.4 million accounts over the past year and mobilized around USD 3.4 billion (Rs. 22000 crores) in new financial deposits. The initiative was recognized by the Guinness Book of World Records for opening 18 million accounts by banks in a week, the fastest under any Financial Inclusion Campaign. The PMJDY aims to provide universal access to banking facilities through a 'Basic Savings Bank Account' with an overdraft of up to Rs. 5000 subject to satisfactory operation in the account for six months, while providing a debit card with inbuilt accident insurance cover. By linking these accounts to Aadhar Card – India's unique ID program which aims to provide each citizen of India with a unique identification number - the government is attaching social security schemes such as life insurance covers to these accounts as also sending direct benefits such as subsidies, pensions, and student scholarships to eligible beneficiaries. Nearly 42% of the newly opened accounts under PMJDY have been linked to Aadhar so far. To expedite the financial inclusion process agents of banks known as 'Bank Mitras' are deployed (126000 so far) who have online devices capable of e-KYC based account opening and interoperable payment facility. In its full potential, PMJDY would be a real game changer for the Indian economy. The program has been instrumental in expediting India's financial inclusion process, extending credit facilities to the poor and excluded population, in plugging leakages in public subsidies and welfare systems. The PMJDY has effectively leveraged on technology in order to simplify the enrolment process and enhance customer convenience.

However, notwithstanding its early success as extolled by the numbers achieved, the PMJDY still has a very long way to go not only in terms of providing financial access to the poorest in India and also in ensuring that the newly opened accounts are not dormant. With regards to those accounts opened under the PMJDY, 72% of the accounts show zero balances. Furthermore, only 39% of all account holders in India own a debit or ATM card, in turn making it more time-consuming for customers to use a bank teller for every transaction. Some of the issues faced by PMJDY in enabling financial inclusion are: 1) A lack of awareness of program features amongst bank employees as well as households, 2) Overdraft facilities provided at the discretion of bankers which leads to sub-optimal decision making 3) Lack of universal coverage of Aadhar ID card makes it difficult for banks to track duplicate accounts, 4) poor people, many of whom lack any identity proof, often complain about mistreatment and apathy expressed by bank employees. Besides, amid serious allegations of violation of privacy, India's Supreme Court has severely restricted the use of Aadhar ID cards until such concerns are fully addressed. This significantly undermines the value of the unique ID, which can be used to deepen banking penetration, allow regulators to curb over-lending, help weed out duplicate beneficiaries of government welfare schemes, and better target poor population. The Indian government needs to address these ground realities and privacy concerns related to the unique IDs in order to achieve full financial inclusion and keep these accounts active. As noted by Governor Rajan in his recent speech, "*We also have to ease access to bank accounts through Business Correspondents, payment banks, and point-of-sales machines so that they are used frequently. Easy payments, access to cash-in and cash-out facilities, and widespread availability of safe savings instruments have to be our next objectives in the financial inclusion of households.*" In this context, India's progress on financial inclusion shouldn't be seen solely in terms of the number of bank accounts opened. Of equal importance are other key indicators such as access to banks or a branchless agent, number of transactions per month, access to loans and other financial services, awareness about basic financial products, an effective regulatory framework that facilitates prudent credit lending practices.



## Indonesia – ‘Laku Pandai’ promises to bridge the financial inclusion gap

Indonesia, despite having a relatively high per capita GDP level at 3500 USD compared to India at 1500 USD, scores very low in terms of financial inclusion at roughly 36% (53% for India). Low financial inclusion has led to concerns of high income inequality in Indonesia. Unequal branch distribution across the archipelago, where only the Java, Bali belt has been significantly banked while banking access to eastern Indonesia is very limited, is a key concern facing policymakers. Interestingly, Indonesia boasts of ubiquitous ownership of smartphones (57 million individuals) and high social media penetration (69 million Facebook users); with 1/3rd of the 250 million population having internet access. High levels of mobile penetration (95% cell phone ownership) and widespread use of social media opens opportunities for banks to leverage on technology for business expansion and in turn enhancing financial inclusion. Indonesian banks are actively exploring e-banking channels to enhance market share and create a platform for basic banking services viz. deposit and lending. At the forefront of the digital transformation are top Indonesian banks such as Bank Mandiri, BRI, BCA and BTPN which are taking quick quality steps to enhance customer reach through branchless banking, e-money segments, E-cash, and ATMs. Branchless banking by leveraging on high ownership of cell phones among the poor and vulnerable is the way forward to enhance financial inclusion in Indonesia.

Indonesia currently has a two pronged regulations on e-banking – 1) Agent based branchless banking model known as ‘Laku Pandai’, which is regulated by the OJK (Otoritas Jasa Keuangan) and 2) E-Commerce Payments known as ‘Layanan Keuangan Digital’ which is regulated by Bank Indonesia.

The three key focus areas for Indonesian banks (See Figure – 11) aiming to enhance their digital banking footprint are:

- 1) **Branchless banking model:** Under Laku Pandai, selected agents assist the public in setting up basic banking services account with one of the six selected banks (4 state owned and 2 privately owned) and subject to regulations placed by the OJK. The focus of Laku Pandai is on providing prudent financial services to the public while leveraging on mobile banking technology. Agents play a dual role of facilitators as well as educators to the public by creating awareness about the benefits of formal banking through the digital platform. The new branchless banking model has opened up opportunity for banks to transact with millions more customers, with whom banks have an opportunity to cross sell. Key positives of Indonesia’s branchless banking model include a one stop shop for all clients’ financial needs such as savings, micro insurance, and transfers. With 40% of Indonesia’s population living on USD 2 a day, encouraging financial savings through the formal route is crucial to alleviate poverty in Indonesia. Under Laku Pandai, banks have set themselves high targets with Bank Mandiri (Indonesia’s largest state owned bank) aiming to achieving 9000 branchless banking agents by end 2015 from 391 agents in February 2015, and increase it to 50000 agents in 3 years and about 200k to 300k agents in 5 years.
- 2) **E-Money services regulated by Bank Indonesia:** Alliances between banks and industries such as large toll operators have helped banks provide e-money payment services and cashless payment method. Bank Mandiri dominates the e-money card segment with a 65% market share (2014). Key tie ups by Bank Mandiri include, 1) PT Jasa Marga (large toll operator), 2) Indomaret (largest minimart company in Indonesia) and 3) Pertamina (Largest Oil and Gas company and gas station operator). Bank Mandiri has thus issued the gaz card and the Indomaret. From 2011 to 2014, Bank Mandiri has achieved an impressive 55% CAGR growth in e-money card users.
- 3) **Service providers and banks partnering with the government:** Indonesian banks have benefitted from exceptional growth in mobile wallets, ‘E cash’. State subsidies are distributed to millions of households through the E-cash platform. Banks in Indonesia intend to add millions of bank accounts through their branchless banking initiative and E-cash.

**Regulators have a critical role to play in enhancing financial inclusion in Indonesia:** In 2009, Bank Indonesia introduced e-money regulations. Since then policymakers have focused on regulatory clarity and rationalizing regulatory mechanisms. An important policy initiative was to do away with the requirements for agents to have a remittance license to offer cash-out services. Greater clarity on e-money regulations was provided in 2014 through necessary amendments. The formation of an exclusive Financial Services Authority (OJK) in 2011 to regulate and supervise banks, capital markets and financial institutions was an important positive step. OJK supplemented the existing e-money regulations issued by bank Indonesia with branchless banking regulations.

**The role of unorganized retail sector in reaching the unbanked and under-banked across Indonesia cannot therefore be discounted:** On ground surveys by local financial companies suggests high demand for diverse financial products and services amongst the poor and unbanked population. Product diversity also aids transaction volumes and higher business for agents. OJK has progressively reduced restrictions on cash withdrawals and transfers, and eased client due diligence (CDD) related requirements needed to open basic savings account, simpler KYC requirements, greater flexibility for service providers to appoint individual agents. The former is an important step ahead of existing e-money regulations by BI, which mandates only big banks with capital in excess of USD 2.6 billion to appoint individual agents. The focus by OJK on involving airtime sellers, mom & pop stores to facilitate low value high volume financial transactions has worked very well in deepening financial inclusion in Indonesia. Especially so given that 75% to 80% of retail sales are through unorganized sector; and there are around 2.56 million retailers in the archipelago. Meanwhile, with regards to e-money payments, roadside kiosks in Indonesia selling food snacks have recently started accepting payments via mobile phone transfer. The visible transformation at such a local level reflects Bank Indonesia's success with its electronic money transfer program, which has been adopted by 20 licensed banks, telecom companies and other e-payment agencies.

**Expect further regulatory reforms to enhance financial inclusion in Indonesia:** Looking ahead, from a perspective of further improvement, the OJK can consider 1) Allowing agents to partner with more than one bank or multiple service providers, this would enhance reach in rural areas where access to formal financial services is limited. 2) Extant regulations mandate services providers to have branches in the eastern part of Indonesia or East Nusa Tenggara province, in order to be eligible for branchless banking services. Since the main islands of Java and Sumatra together have 80% of the total population of Indonesia, there exists tremendous scope of deepening financial inclusion through branchless banking in these main regions itself. Geographical restrictions can thus inhibit several potential services providers from offering branchless banking services to critical mass of population.

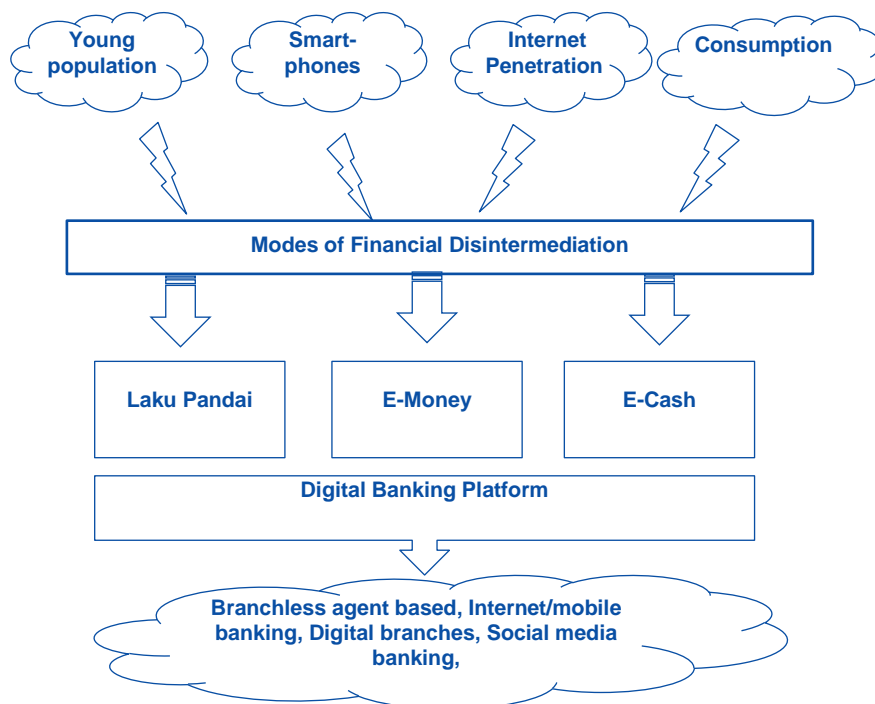
**Challenges to mobile banking in Indonesia:** Despite visible progress towards cash-less banking, most Indonesians still prefer paper money to transact, unaware of the value of mobile banking and/or apprehensive of the associated risks. The lack of awareness of mobile financial services is an important hurdle for Indonesian banks. A recent survey by FII highlighted that just 3% Indonesians knew about the concept of mobile money. This despite the high mobile phone penetration in the country – more than 60% own a mobile phone and 75% have access to one.

Indonesia also needs to upgrade its digital and mobile infrastructure. As per McKinsey, Indonesia ranks 85th out of 144 countries in digital infrastructure; 77th in internet bandwidth; and 61st in having a skilled workforce. Furthermore, governance issues related to bureaucratic bottlenecks, delays in decision making and red tape are a concern as it creates hurdles for banks and Fintech companies in their efforts to enable digital transformation in the Indonesian banking space.

Finally, with the agent network at the core of digital banking in Indonesia, banks will have to invest much more in strengthening their agent network. However, heavy investment in time and money have raised

viability issues for Indonesian banks, particularly given the regulatory restrictions associated with banking services and on managing and supervising agents in Indonesia. Banks are looking to offer a wider gamut of services beyond plain savings account and including insurance, and loans to customers through the Laku Pandai program in order to justify financial viability. Indonesia has nearly 114 banks but top 10% of the banks account for 60% of the banking sector deposits. Big banks are in a better position to leverage on technology and achieve digital transformation. It is unfair to put the responsibility of digital transformation on the select top few banks, who are also striving to mobilize deposits and enhance profitability in a challenging environment.

Figure – 11: Indonesia’s digital banking model:



### Thailand – Kbank at the forefront of digital transformation

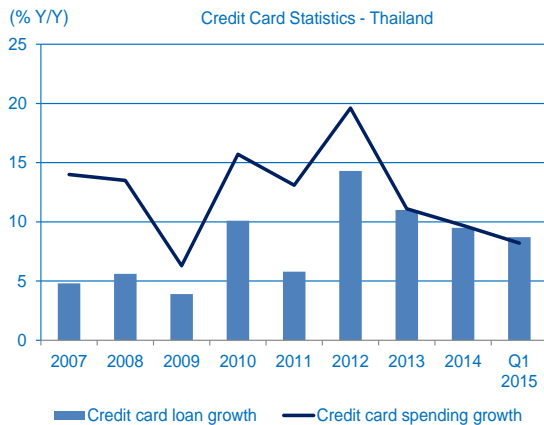
Banks in Thailand are overhauling their IT infrastructure and increasingly using data analytics to enhance customer service, become more competitive and boost operational potential. Credit card loan and spending growth has tapered since hitting a peak of 14% y/y and 20% y/y respectively in 2012, but still remains reasonably high at 8.7% y/y and 8.2% y/y in Q1 2015 (See Figure - 12). Concomitantly, the quantum of mobile banking transactions in Thailand has seen rapid growth over the past five years, which have surpassed internet banking transactions in the first half of 2015 (See Figure - 13).

At the forefront of digital banking transformation in Thailand is Kasikornbank (Kbank), which embarked on its K-transformation project in 2006 (See Figure - 14). Under the project, Kbank has acquired and build unique IT capabilities and created thoroughly integrated sales and service IT platforms across channels. Supporting solution for the k-transformation project comprises of four foundation capabilities, namely 1) Know Your Customer (KYC) Capabilities, 2) Information Technology and Capital (ITC), 3) Multi-channel Sales and Service (MSS) and 4) Financial Information System (FIS). Kbank’s new IT business capabilities have enhanced its product innovation capabilities, strengthened financial controls and budgeting capabilities,

enhanced sales and service capabilities, single view of customer multichannel execution, shortened product development time, reduced maintenance cost, and helped deploy a revamped deposit core banking system.

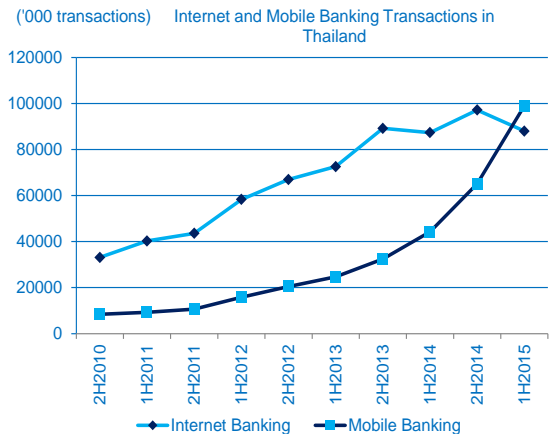
The IT transformation has helped Kbank reduce its cost to income ratio from 45% in 2007 to 42.4% in 1H15 and increase average product holdings per customer from 1.7 to 2.9 during the corresponding period. New IT business capabilities have aided Kbank's profitability, with ROE improving from 15.9% in 2007 to 18.0 in 1H15. Kbank's electronic banking services offerings, known as K-Lobby, include multiple products such as K-ATM, K-CDM (Cash Deposit Machine), and K-PUM (Passbook Update Machine). K-Mobile Banking, K-Cyber Services (trade and investments), K-payment gateway and K-PowerP@y (mPOS).

Figure 12  
**Credit card loan growth as well as spending has moderated in Thailand over recent years**



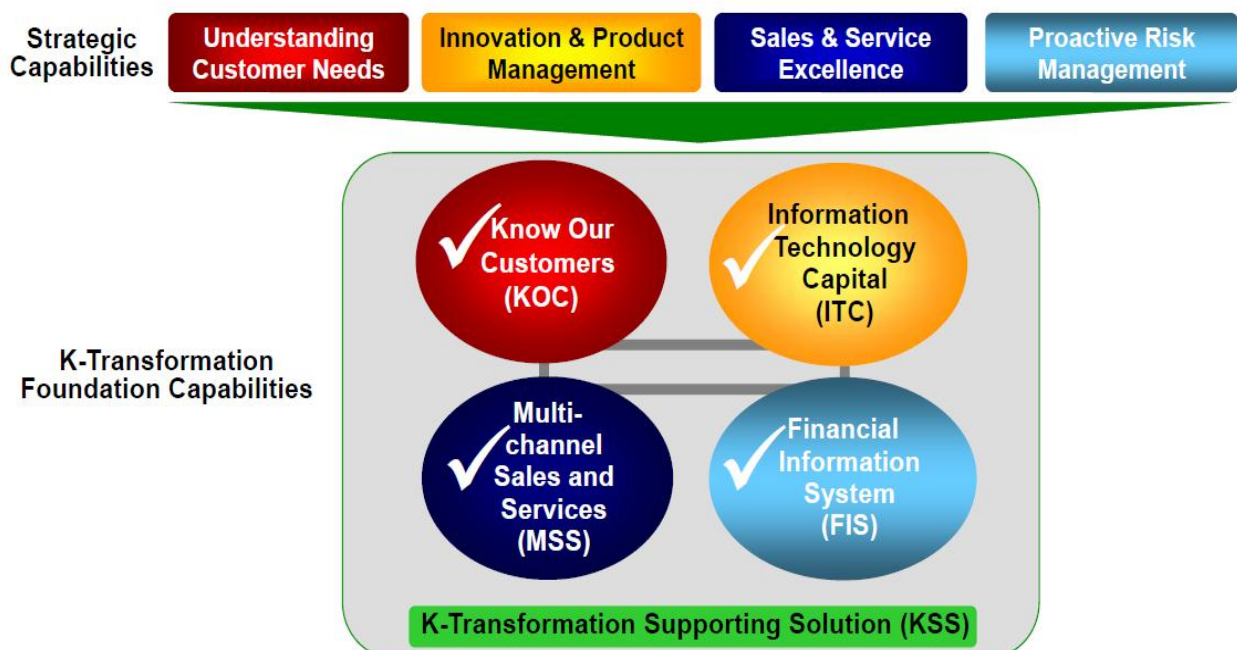
Source: BBVA Research, Haver Analytics

Figure 13  
**Mobile banking transactions have surpassed internet banking transactions in Thailand**



Source: BBVA Research, Haver Analytics

Figure – 14: The K-Transformation Project. Source: Kasikornthai Bank, Investor Presentation 2Q15.



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