DEVELOPMENT OF MOBILE FINANCIAL SERVICES IN THAILAND

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ABSTRACT

Thailand is seeing a rapid technology transformation to mobile broadband networks and the increased adoption of smart mobile devices. The increasing use of mobile broadband-enabled smartphones has changed consumer experiences and behaviors in many aspects of daily life, as well as creating new business opportunities and services. With spectrum licensing in mobile service and supportive telecommunications regulatory framework, the mobile industry will continue to grow and drive positive impacts on national economy. In Thailand, mobile banking enrollment rose steadily between 2010 and 2013. To accelerate adoption of mobile financial services and to ensure that they fulfil their promise, it is important to put in place supportive policies and regulations. Furthermore, the supportive policies will require collaboration between regulators and policy-makers in both financial and mobile communications industries. The objective of this paper is to study mobile financial services in Thailand. The paper provides recommendations to the government and regulators to allow service providers enough freedom to innovate, while giving consumers and businesses confidence that they are protected and have clear legal rights. The collaboration initiative between regulators and the International telecommunication Union (ITU) is discussed in this paper.

Key word: Mobile, Financial, Service, Regulatory, Thailand

http://www.iaeme.com/IJM/issues.asp?JType=IJM&VType=7&IType=1

1. INTRODUCTION

The UN General Assembly has passed a resolution stressing the importance of financial inclusion as a key tool for implementing many of the vital development goals enshrined in new Sustainable Development Goals (SDGs). The resolution
emphasizes that several of the key SDGs—including eliminating poverty, gender inequality, and hunger, and building economic growth—explicitly mention financial inclusion among their targets [4].

Across ASEAN, a large number of new adults entering the social network society every year, are now becoming new consumers in mobile commerce including new banking clients. They have different buying behavior and are quite different from prior generations of banking customers. The explosive growth of mobile phone penetration together with increased adoption in using mobile commerce and improved ASEAN connectivity is setting the scene for major disruptions among the established ASEAN players in the banking sector.

In Thailand, mobile technology is driving innovation and the development of new services in areas such as digital content, social networking, online commerce and mobile payment. Thailand’s payment environment is transforming as more people adopt smartphones, use online transaction and mobile banking, and the Thai government becomes more supportive of electronic payments, including mobile [2]. Key drivers of mobile payments include broad smartphone adoption, developed financial infrastructure, and consumer experience in payment innovation. Although mobile payment availability is currently limited in Thailand, consumers are eager to try digital wallets and other new technologies. Barriers evaluated include preference for cash, security concerns, and consumer behavior [3]. We can see from Figure 1 that Thailand is one of the most dynamic ASEAN countries in the mobile banking penetration [1]. New-generation consumers in Thailand are more open than ever before to considering non-traditional alternative for their financial services. They are less loyal, eager to try new things, demand personalised services and expect a broad range of products suited to their lifestyle and personal circumstances. They are not intimidated by technology, can be easily influenced by their peer group, and expect high levels of transparency, convenience and mobility in the services they consume.

![Figure 1 Mobile banking penetration by country](http://www.iaeme.com/IJM/index.asp)

**Source:** UBS Evidence Lab

There is growing international evidence that mobile solutions can improve both the quality and the cost-effectiveness of financial services. However, significant policy-related and regulatory barriers must be overcome before these solutions can fulfil their promise. The government and regulators have to allow service providers enough freedom to innovate, while giving consumers and businesses confidence that
they are protected and have clear legal rights. To support innovation and serve a mass financial consumer market, mobile financial services need the sort of globally harmonized standards and that have allowed the mobile industry to thrive.

In the longer term, governments and regulators need to collaborate with both telecommunications and financial sectors to create an environment that supports innovative solutions by providing supportive regulatory policies that are proportionate to the risks and applied evenly. Financial policies and regulation are often cited as key barriers to bringing mobile financial services to mass market. This paper examines how these issues are driven by factors specific to the financial environment and provides recommendations to the government and regulators to allow service providers enough freedom to innovate, while giving consumers and businesses confidence that they are protected and have clear legal rights. This paper organizes as follows. Section 2 provides Thai mobile market. Section 3 reviews digital financial inclusion and service. Section 4 describes supportive regulatory policies and collaboration in Thailand. Conclusion is the last section.

2. THAI MOBILE MARKET

In 2010, the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) was established, which stipulates that spectrum licenses must be issued via auctions only. The Office of the NBTC (formerly the Office of the NTC) held the country’s first spectrum auction, for the 2100 MHz spectrum, in 2012. Thai mobile market competition has risen aggressively since 2012, when a 3G network on the 2100 MHz spectrum was deployed.

Spectrum licensing and transitions from 2G to 3G/4G are increasing industry competitiveness and will directly and indirectly benefit Thailand’s economy and the ICT business in the long term. Highly Competitive pressure in mobile market also fostered to spread 3G 2100 MHz population coverage, with over 90 per cent coverage by the end of 2014 [2]. The country has made impressive progress in ICT development and stands out in particular for its achievements in mobile broadband. Based on the Measuring the Information Society Report 2015 (MIS report 2015), Thailand’s IDI ranking improved by 18 places between 2010 and 2015, rising from 92nd to 74th position, while its IDI value rose from 3.62 to 5.36 [4]. Thailand's ranking has risen aggressively since 2012, when a 3G network on the 2100 MHz spectrum was deployed. Furthermore, the IDI ranking 2015 identified Thailand as one of a group of "most dynamic countries" that recorded above-average improvements in their IDI ranking over the past five years.

Since 2008, the number of mobile subscribers in Thailand has grown from 61.8 million to 97.1 million at the end of 2014 (a compound annual growth rate (CAGR) of approximately 7.8% per annum). The dominance of mobile services is further evidenced by comparing penetration for mobile, fixed and broadband services as shown in Figure 2 [5].
As of Q1/2015, there are 93,299,705 mobile subscriptions. Of these, 85.8% or 80,091,132 million are prepaid subscriptions, and 14.2% or 13,208,573 million are postpaid subscriptions. The penetration rate of mobile services is 139% of population as shown in Figure 3 [5].

There is a rapid trend of users changing from feature phones to smartphones. In 2014, there were close to 20 million smartphones in use, compared to 27 million feature phones. OVUM has forecasted that by 2018, almost all handsets in use in Thailand will be smartphones as shown in Figure 4 [5].
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Figure 4 Forecast of number of handsets

Source: NBTC

In Thailand, consumers are interested in making mobile purchases and trying new technologies, such as digital wallets and contactless mobile payments using NFC. Thais are open to trying new mobile payment technologies. More than half (57%) of respondents in Deloitte’s 2014 Global Mobile Consumer Survey said they would use an in-store mobile payment solution if available. Additionally, over three-quarters of the same respondents indicated they would be “somewhat” or “definitely” likely to use digital wallets (77.4%) and mobile NFC payments (76.4%) if the technologies were available, even though fewer than 7% of respondents currently use either method [6].

According to Visa’s 2014 Consumer Payment Attitudes Study, 61% of Thai consumers are “aware of” and 66% “prefer” to use contactless payments, indicating a strong consumer desire to use new payment technologies [7]. However, less than one percent of credit and debit cards are contactless and only two percent of POS terminals are NFC-enabled, limiting consumer opportunities to make NFC payments in Thailand [8]. Visa has been working with FIs and merchants to expand contactless issuance and acceptance, and partnered with McDonald’s in 2014 to launch contactless readers in their restaurants across Thailand.

3. DIGITAL FINANCIAL INCLUSION AND SERVICE

With more than 7 billion mobile subscriptions worldwide, today, and 1.8 billion unique subscribers and nearly 3.8 billion connections (including M2M) as of the first quarter of 2015 in the Asia Pacific access to, and use of, ICTs provide a promising way to access to financial services to the “unbanked”, particularly in the poor and rural areas. The high cost of formal banking significantly limits to deliver convenient and affordable financial services to the underserved. Mobile technology is eliminating that cost and is currently used in over 89 countries across the globe to deliver convenient financial services to people [9]. Ensuring access to digital financial services using ICTs in a safe and secure is a priority for governments, regulators, and industry.

The key to success is standardized solutions opening up for full interoperability. It will not matter how many services are available if they cannot communicate with
each other. The other big hurdle is that the majority of the currently deployed systems can’t manage high volumes of secure real-time transactions. Today’s systems are based on traditional ICT technology, which simply does not meet those requirements. The successful development and deployment of secure and stable services is a must for gaining trust with consumers [10].

Increasing mobile broadband coverage, combined with more affordable devices, is driving strong growth in mobile money services in the Asia Pacific region with over a 20-fold increase in the number of services in the last 10 years. A total of 70 mobile money services provided in the region at the end of 2014. Figure 5 shows the numbers of registered and active customer accounts by region [9].

Figure 5 Numbers of registered and active customer accounts by region
Source: GSMA Mobile money database

Mobile financial services can be defined as the use of a mobile phone to access financial services and execute financial transactions. This includes both transactional and non-transactional services, such as viewing financial information on a user’s mobile phone. Mobile Financial Services (MFS) in general encompasses m-Banking, m-Payments, and mobile money transfer [3]. Mobile Financial Services is divided into 3 categories as shown in Figure 6.

Figure 6 Mobile Financial Services Category
Mobile operators, in particular, can use their communication infrastructure to extend the reach of the formal financial sector, in which both banks and non-bank providers can offer mobile money financial services and extend financial inclusion.

Ensuring the security of payments and the protection of sensitive customer data is a critical part of the infrastructure of robust payment systems. This paper presents a regulatory framework to ensure safe and secure payments from reference [11] that policymakers can adopt to develop financial services as shown in Figure 7.

Figure 7 illustrates the major stages involved from signing up customers and merchants, customers adding funds to their account (relevant for pre-paid accounts), to the carrying out of transactions, along with a set of provider systems and processes that sit behind and support these activities [11]. Telecommunications regulators will support in interacting with financial regulators, and supporting operators and the development of the sector. Analysis of risks and issues across the various stages involved in providing mobile payments is presented in the framework. Mitigating actions that will be taken are provided as examples in the reference [11].

Figure 7 Regulatory Framework to Ensure Safe and Secure Payments [11]
Source: Greenwich-Consulting Research

4. SUPPORTIVE REGULATORY POLICIES AND COLLABORATION IN THAILAND
The Thai government is developing a national e-payment system comprising five modules which are expected to be operating by the end of 2016 [3]. Any ID, the first module which is collaboration between the Ministry of Finance and the Bank of Thailand, will enable anyone to transfer money and make financial transactions using their ID card, mobile number or email address. All companies will be required to register with the Commerce Ministry to be equipped with the EDC system.

The second module to follow will be an expansion of the Electronic Data Capture (EDC) software that collects and stores customer data. The country now has only 300,000 EDC units while it expects another 2 million EDC units required. EDC uses
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point-of-sale terminals or specialized software for online transactions to submit and validate transactions to a merchant account provider or some other transaction processor.

E-payment is aimed at allowing people to access money transfer services even if they do not have a bank account, serving e-commerce, stemming loopholes in the tax system and directing subsidies to the underprivileged. To facilitate the national e-payment system, the amended draft on e-payment will seek cabinet approval. The e-payment system will create a foundation for the future and enable local financial institutions to compete with others.

The third module will link e-payments and the Revenue Department’s taxation system, making tax collection more efficient, as the e-payment system will allow the government to receive transaction data. The fourth module will help the government to subsidise all low-income earners directly by using only their ID cards. Finally, the fifth module will be a campaign offering incentives to make e-payments. The national e-payment plan is expected to be forwarded for cabinet approval this month.

The cabinet must consider amending certain laws to kick-start the national e-payment system, while part of the fiscal budget will have to be allocated for the development of compatible software and infrastructure. The Bank of Thailand (BOT) estimates e-payment will help the country to save 100 billion baht a year or almost 1% of GDP by reducing the use of cash and cheques.

The objectives of the BOT include developing payment systems infrastructure and formulating policies that promote safety and efficiency in the national payment systems. In 2011, the BOT issued the Payment Systems Roadmap 2012-2016 that promotes broader use of electronic payments as shown in Figure 8, including mobile, as one of its key projects for expanding financial infrastructure in Thailand [3].

Vision: Making payment systems support efficient, stable and safe economic activities of the public and private sectors, both domestically and internationally

**Figure 8** The Payment Systems Roadmap 2012-2016

**Source:** Bank of Thailand
The BOT has been working with financial institutions (FIs), businesses, and government agencies to encourage use of electronic payments in both the public and private sectors through development of standard processes, regulatory modifications, and other economic incentives.

Thailand has a highly developed financial sector with bank branches and ATMs widely available. According to the World Bank, 78% of the country's population over 15 years of age had a bank account in 2014. Despite the prevalence of cash payments, the number of credit and debit cards issued has been increasing rapidly, and credit cards are beginning to penetrate the low-income market. Debit cards are replacing ATM cards. The growth in point-of-sale (POS) terminals is resulting in broader merchant acceptance of payment cards. Additionally, several large banks now offer mobile POS services that work with plug-in card readers attached mobile devices, making it easier for SME businesses to accept card payments and reduce cash [3].

Mobile banking is a service provided by banks, other financial institutions and mobile operators that allows customers to conduct some financial transactions remotely using any mobile device with no bank account required. Thailand’s financial payment environment is changing as more people adopt the use of smartphones for their banking. In addition, the country's financial infrastructure can support and promote electronic and mobile payments.

Greater use of digital financial activities can accelerate economic development, with sizeable benefits generated for low-income consumers by making it cheaper and easier for them to transfer money. The current transaction fees on money transfer via ATM are too high compared with the amount of data communicated between the ATM and the bank's central system.

In Thailand, the International Telecommunications Union (ITU) is encouraging the NBTC and the BOT to engage more in ITU activities and contribute country case studies to share information about the digital financial environment and mobile payment security conditions. Meeting in January 2015 at the office of NBTC regarding the matter were NBTC chairman, the International Telecommunication Union's Asia-Pacific director; head of the Innovation and Partnership Department and administrator of the ICT Development Fund at the ITU; and ITU programme officer.

After reaching a mutual agreement, a joint working committee between the National Broadcasting and Telecommunications Commission and the Bank of Thailand will be set up to work on the issue and undertake measures. The collaboration is aimed at addressing better the growing concerns about mobile payment security.

In the joint meeting, the following recommendations are proposed and agreed for promoting digital financial services and financial inclusion in the country:

1. Setting up a joint working group on mobile financial services;
2. (The working group) conducting a national assessment on current circumstances of digital financial services and financial inclusion in Thailand, with a focus on potentials of mobile financial services;
3. (the working group) drawing international experiences (e.g. case studies of practices in other countries as part of the assessment) and conclusions from the assessment, providing recommendations to NBTC and BOT for necessary regulatory measures which may require further analysis;
4. NBTC and BOT are encouraged to engage in ITU activities/initiatives (e.g., GSR, ITU Study Group / Focus Group) and to contribute the country case to
ITU related study group since digital financial services are required not only within Thailand but also between countries and beyond (global) e.g. international remittance;

5. NBTC and BOT may lead in conducting pilot projects: (a) within country; (b) between countries (e.g. Myanmar, Laos, etc.)

6. NBTC and BOT may consider organizing a public seminar on mobile financial services at a later stage.

5. CONCLUSION

The impact of broad smartphone adoption and mobile broadband access is profound, from improving productivity and driving the creation of new businesses and skilled jobs, to delivering mobile financial services and enabling new mobile commerce. Some successful mobile financial service is already offered in Thailand by some operators. The further rollout of 4G network infrastructure in Thailand will provide a platform to significantly extend mobile operator offerings in areas such as mobile money and digital commerce, as well as the creation of new services to respond to the needs of Thai people. In terms of regulation, the main challenge lies in searching the right balance between the very different regulatory concepts, and resulting dynamics, of the mobile communications and financial industries. This paper aims to present the development of mobile financial services in Thailand. Supportive regulatory policies and collaboration in Thailand were described to move forward the direction to faster the adoption of mobile financial services.

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