Payment Systems: Standardized QR Code in Thailand

Financial Technology Department
Bank of Thailand
1. FinTech & Payment Development in Thailand

2. Using Sandbox to Drive Innovation: Standardized QR Code for Payment

3. What’s next for Thai financial and payments system?
1. FinTech & Payment Development in Thailand

From Cash to Digital

Payment Infrastructures
- RTGS
- cheques clearing
- NITMX

Card-based Payments
- credit card
- debit card
- ATM

Digital Payments
- PromptPay
- QR Code
- biometric
- blockchain

Enablers
- International Standards
- Chip Card Security
- Cyber Resilience
Projects under National e-Payment Master Plan

1. PromptPay
   - Any ID
   - Money Transfer
   - Use registered ID (e.g. citizen id., mobile no.) for funds transfer
   - Lower cost and convenience for SME & e-commerce merchants

2. Card Expansion
   - Card
   - Expand card acceptance points, esp. into rural areas, with lower cost
   - Promote adoption of card payment among consumers

3. e-Tax
   - VAT, WHT, e-Tax Invoice
   - Facilitate e-Business transactions through efficient e-Tax system to promote ease of doing business

4. Government e-Payment
   - Social welfare
   - Social welfare/ Direct disbursement through PromptPay for accuracy
   - Develop and manage central database of social welfare
   - Government electronic payment and collection

5. Literacy and Promotion
   - Use of e-Payment
   - Conduct literacy programs and incentive campaigns to promote the use of e-Payment

Led by BOT
PromptPay: Real-Time Fund Transfer System
Facilitate e-Payment transactions among people, businesses, and governments

- No. of PromptPay registration: 43 Million IDs
- Transferred Volume: 450 Million Transactions
- Total Value: THB 2.2 Tn

as of July, 2018
6 Key Revolutionary Technologies

• **QR Payment**

QR code technology is one of the payment methods to increase consumers’ financial service accessibility, improve operational efficiency and lower business costs.

• **Blockchains and Distributed Ledgers**

A type of data structure that enables identifying and tracking transactions digitally and sharing information across a distributed network of computers with a transparent and secure

• **Biometrics**

The measuring and analysis of such physical attributes as facial features and voice or retinal scans. This technology can be used to define an individual's unique identity, often for security purposes.

• **Big Data / Data Analytics**

Extremely large data sets that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions.

• **Machine Learning / Artificial Intelligence (AI)**

A type of artificial intelligence (AI) that provides computers with the ability to learn without being explicitly programmed such as learn from repetition and experience.

• **Standard / Open APIs (Application Programming Interfaces)**

Standard / Open API is an application programming interface that allows the owner of a network-accessible service to give universal access to consumers of that service.
Building a Sustainable FinTech Ecosystem

The experimental framework for innovation or financial services which leverage new technologies with accommodative regulations under limited environment.

Three main objectives:
1. Promoting financial innovation
2. Protecting consumer rights
3. Containing acceptable risks

Bank of Thailand’s FinTech Strategy

It is vital to have 4 fundamental criteria:
1. Supportive Regulations
2. Open Infrastructure & Interoperability
3. Accommodative FinTech Ecosystem
4. Adequate Communication & Financial Literacy
an open infrastructure and interoperability in payment and financial systems

ONE QR Code for
✓ ANY mobile applications
✓ MULTIPLE payment instruments
✓ ALL merchants
✓ OPEN infrastructure
✓ CROSS-BORDER payments

2. Using Sandbox to Drive Innovation: Standardized QR Code for Payment
Using Sandbox to Drive Innovation: Standardized QR Code for Payment

- Open Infrastructure & Interoperability
- Accommodative FinTech Ecosystem
- Adequate Communication & Financial Literacy
- Supportive Regulations

Public Sector Initiatives

Collaboration among Stakeholders

Communication Strategy

Regulatory Sandbox

BOT initiated the development of Thai Standardized QR Code for Payment based on EMVCo international standard.

Industry engagement and collaboration to establish standard, business rules, and logo guideline.

Press conference was held on August 30th, 2017 to announced the cooperation to adopt QR Code standard for payments.

8 financial institutions tested and exited from the regulatory sandbox (Aug – Dec 2017).

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EMV® QR Code

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The Benefits of Adopting Standardized QR Code for Domestic and Cross-border Payments

For a country

• Supporting open Infrastructure & Interoperability ecosystem
• Providing less expensive & more convenient e-Payment channel
• Enhancing card payment security
• Expanding development of financial innovations and e-Payment

For citizen

• Fit to new lifestyle of customers who usually have mobile phone with them and willing to use mobile payment
• secure, cost-efficient, and convenient e-Payment transactions
The Benefits of Adopting Standardized QR Code for Domestic and Cross-border Payments

For merchants

- Be able to receive both domestic and international payments
- Be able to accept funds from various payment instruments including bank account, credit card, debit card, and e-wallet account with one QR Code
- Ease operational burdens and reduces business costs

For cross-border payment

- introduces better user experience for fund transfer services across countries
- strengthen the financial linkages between countries
- the boom in tourism and trading within the region provides lot of opportunities for growth in cross-border QR Code payments as an alternative retail cross-border payment solution
“Standard QR Code has reached almost 2 million merchants in Thailand”

All merchants in our daily life

- street vendors
- shops
- wet markets
- motorcycle taxis
- dessert café

Government

- Transportation
- Buses
- Trains
- Tuk-Tuks
- Express Boats

School
Use Case in e-Donation Project

Press Conference on 23 July 2018

- A collaboration between Financial Institutions, NITMX, Revenue Department, and BOT to develop e-Donation System.
- The system enables people to easily make a donation via mobile banking application while information will be sent to Revenue Department for tax deduction purpose based on customer’s consent.
- The system leverages on QR Code standard and PromptPay infrastructure, which allows for interbank fund transfers.

Benefits

For people
- Convenient & secure payment method
- Don’t need to keep payment evidences for tax deduction

For receiving institutions
- Money is directly transferred to bank account
- Reduce working process

For country
- Enhance transparency
- Support digital economy
Innovation & Competition: All benefits go to people

Thailand Blockchain Community Initiative (March 19, 2018)

Banking giants instigate price war

Cross-border QR Code payments (March 20, 2018)

Free of Charge for digital transactions (Mar '18)

New Technology & Development for New Products

e.g. alternative credit scoring, informational based lending

Banks launch ‘Thailand Blockchain Community Initiative’

Thanachart Bank joins Lao’s BCEL to accommodate cross-border QR Code payments

‘The cancellation of digital transaction fees will certainly affect commercial banks’ fee-based income, but the move encourages transformation to a cashless society and beefs up some operators’ competitive edge,” said TBA chairman Predee Daochai, the president of Kasikornbank (KBank). “It also compels banks to cut their operating costs.”
3. What’s next for Thai financial and payments system?

Recent Developments: Shared Infrastructures
- Payment Infrastructure (PromptPay)
- Blockchain Community
- National Digital ID Platform
- Standard/Open API Gateway/Hub

Key Drivers
- Customer Centric & Personalization
- Technology Advancement
- Digital Platforms
- Robust Infrastructures
- Cyber Resiliency

Shared Infrastructures & Interoperability
- Variety of Products & Services through Digital Platforms
- Industry Collaboration & Engagement
- Supportive Regulations & Consumer Protection

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- Payment Infrastructure (PromptPay)
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Thank You