

Presentation on
“How the Cashless Society Reshape Commerce in Asia”

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Conference on MarcusEvans’ Card Technology & Strategies
Berjaya Times Square Hotel & Convention Center,
Kuala Lumpur, Malaysia

February 20, 2006

Slide # 1: Title



**How the cashless society reshape
commerce in Asia**

Sayan Pariwat
Senior Director
Payment Systems Department
Bank of Thailand

Presentation to the Card Technology & Strategies
February 20th, 2006

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Distinguished guests,
Ladies and Gentlemen,

It is my pleasure to participate in the Card Technology & Strategies Conference and I want to thank MarcusEvans for their kind invitation.

The today topic, “How the Cashless Society Reshape Commerce in Asia”, is a very challenging issue, not only for Asian countries, but for the entire world as well.

Slide # 2: Agenda



agenda

- 1. Current state in Asia:**
- 2. Fundamental changes in payment environment**
- 3. Cash is costly and inefficient**
- 4. How the cashless society reshape commerce in Asia**
- 5. Strategies to move to 'the cashless society**
- 6. Another factor that is needed to build a stronger and more competitive Asia**

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Today I would like to share with you the Thai regulator's perspective on how moving to cashless economy will be able to foster economic growth and expand business opportunity around Asia region.

First, I will provide a brief overview of the current state in Asia and the fundamental changes in payment environment. Then, showing how costly and inefficient cash is, before pointing out how the cashless society will reshape commerce in our region.

I will close my presentation by outlining the strategies to move to cashless society and indicating another factor needed to build a stronger and more competitive Asia.

Slide # 3: Current state in Asia

1. current state in Asia

Cash usage in Asian countries in 2004

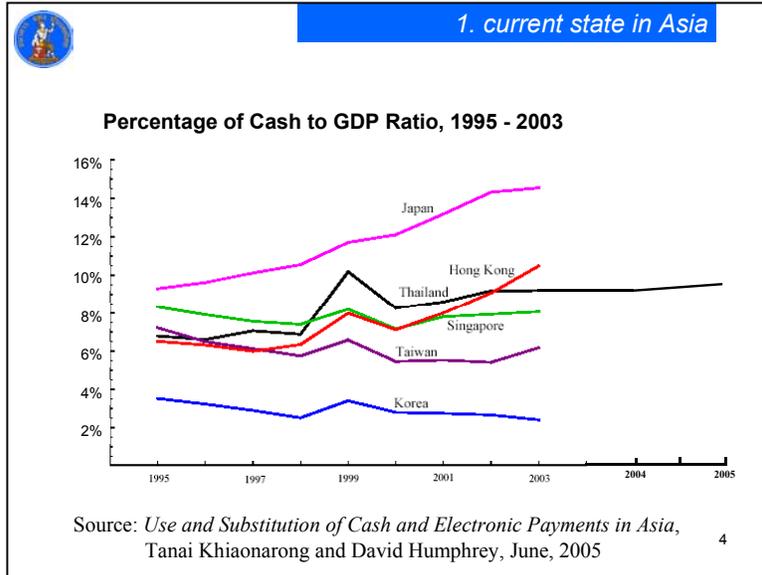
	Cash / M2	Cash / GDP
S.Korea	2.03 %	2.5 %
Taiwan	2.9 %	6.6 %
Malaysia	5.4 %	6.4 %
Hong Kong	3.4 %	10.9 %
Singapore	6.6 %	7.6 %
Indonesia	10.6 %	4.7 %
Philippines	13.8 %	5.4 %
Thailand	10.3 %	9.3 %

Source: Asian Development Bank

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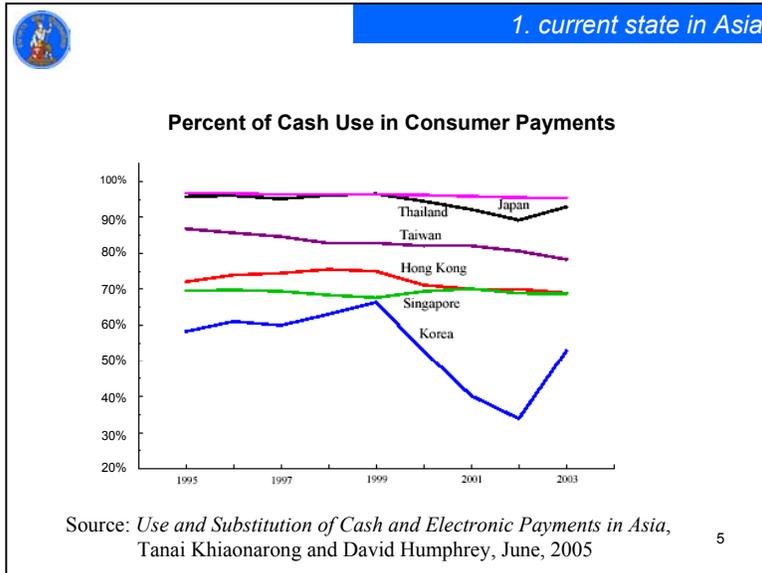
Let me begin by showing the ratio of ‘cash to M2’ and ‘cash to GDP’ of the countries across Asia in 2004. This comparative table indicates how much each Asian country still depends on cash.

Slide # 4: Current state in Asia



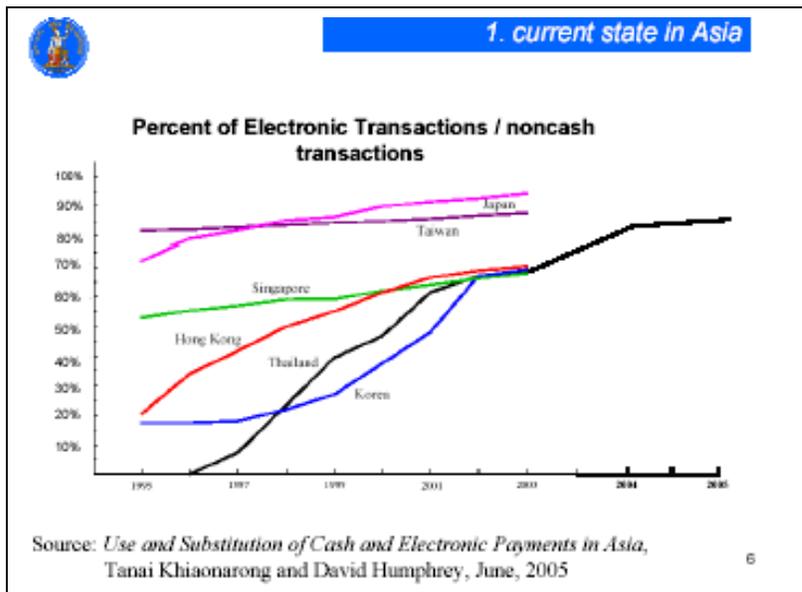
When taking a closer look at the ratio of ‘cash to GDP percentage’ over 1995-2003, it indicates **an upward trend for Japan, Thailand, and Hong Kong** and **a downward trend for Korea and Taiwan**.

Slide # 5: Current state in Asia



This diagram shows how much Asian countries use cash in consumer payments. Once again, **both Japan and Thailand** are still on top of the rank, by using cash for over 90% of their purchases and bill payments while **Hong Kong and Singapore** both rely on cash for 70% of their consumption, and Korea is below 60%.

Slide # 6: Current state in Asia



Although it goes without saying that our Asian economies still highly depend on cash, there is a good sign that several countries in Asia are moving toward cashless economy, as being indicated by an ascending trend of electronic payment transactions from 1995 to 2003.

The greatest increase in using electronic transactions are **Thailand, Korea,** and **Hong Kong**.

In 2005, the number of electronic transactions in Thailand reached its highest point, representing 85% of the noncash category.

Slide # 7: Current state in Asia

		2004		2005	
Thailand: number of cashless transactions (in thousands)					
per-based :		104,300	17%	104,796	15%
Cheque		104,300		104,796	
-Payment Transactions:		515,177	83%	581,949	85%
1. Payment cards :		373,001	60%	432,207	63%
- Card payments (Credit card & debit cards)		353,930	57%	404,207	59%
- ATM-ORFT (Online Retail Fund Transfer via ATM)		19,071	3%	28,000	4%
2. Automated transactions :		142,176	23%	149,742	22%

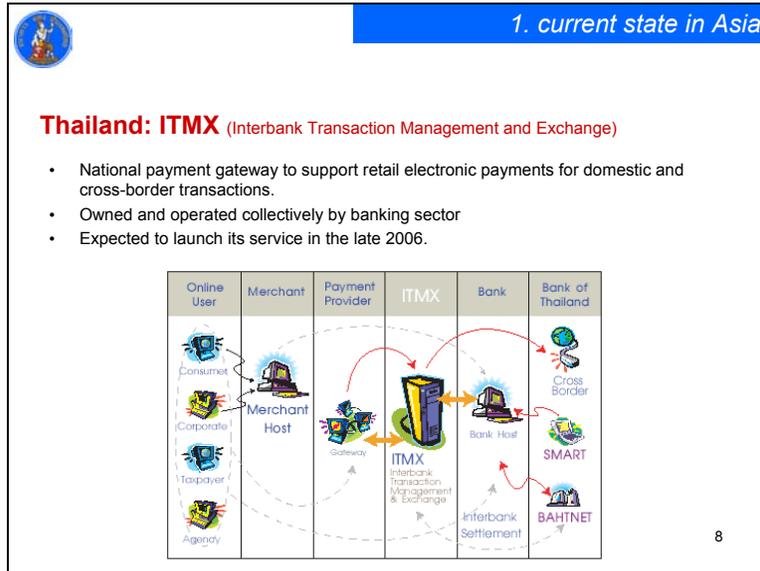
Thailand, like many countries in Asia, is making a move from cash to depend more on electronic means of payments. Bank of Thailand has set the policy agenda to promote the e-payment usage. The number of e-payment transactions has continued its rising trend for many years. Last year, e-payment usage reached its highest point at 581 million transactions.

Of all the noncash transactions, **card payments**, which consist of credit cards and debit cards, shared the highest proportion. The number of credit cards and debit cards in 2005 were 11.2 millions and 11 millions, respectively, comparing to 27.6 million the ATM cards.

ATM-ORFT is the Online Retail Fund Transfer via ATM that allows payers to use their ATM or debit cards to make interbank money transfers from their bank accounts to payees' accounts. Although ATM-ORFT has just been in service for only 6 years, its transaction volume has been increasing dramatically, rising from only a half million transactions in its first year of operation to 28 million transactions in 2005.

Automated Transactions compose of pre-authorized direct debit and direct credit, SMART, and BAHTNET

Slide # 8: Current state in Asia



The latest attempt to shift to cashless society is the Bank of Thailand's initiative to establish ITMX system or Interbank Transaction Management and Exchange

- The ITMX system is expected to be the national payment gateway to support retail electronic payments for both domestic and cross-border transactions.
- It is owned and operated collectively by banking sector and expected to launch its services in the late 2006.

Slide # 9: Fundamental change in payment environment



2. Fundamental changes in payment environment

“two essential factors” that make the shift to cashless society more possible:

1. Proven technology advancement @ acceptable prices
 - Telecommunication networks: landline & mobile phone, internet network, etc.
 - IT & Payment technologies: smart cards, ATM machines, etc.
2. Customers’ **needs** for more efficient payment instruments @ lower costs

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Move to the second topic: Fundamental Changes in Payment Environment

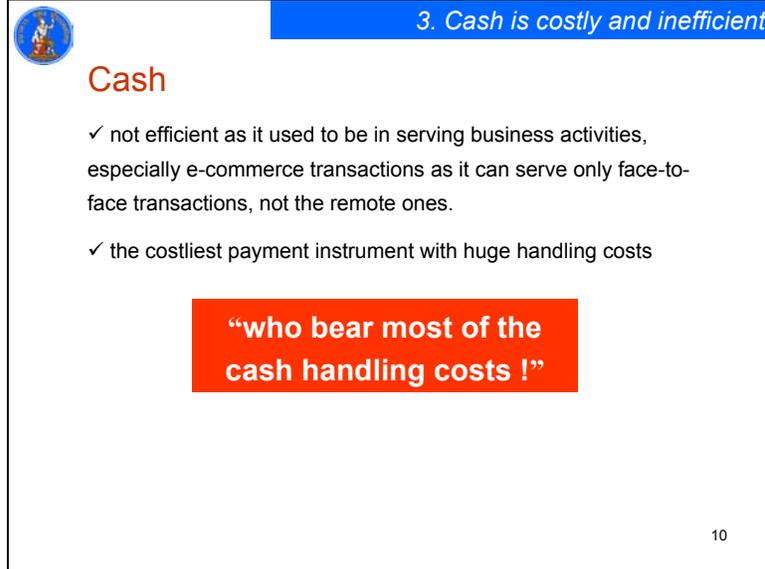
There are ‘two essential factors’ that make the shift to cashless society more possible.

The first factor is the availability of proven technology.

- “Telecommunication networks”, which are very crucial for making e-payment authorization as well as clearing and settlement, become much more efficient. Both fixed line telephone and wireless network can convey not only voice, but data or even images that allow people to make and authorize their payments online on real time basis, especially for the wireless, people now can make their payments anyplace at anytime.
- “IT and payment technologies” such as smart cards or ATM machines enable people to make payments more easily and safely.
- Moreover, these advanced technologies are much more affordable.

The second factor is the customers’ needs for more efficient payment instruments. In these days, customers are more demanding and sophisticated. They need better services at lower prices.

Slide # 10: Cash is costly and inefficiently



3. Cash is costly and inefficient

Cash

- ✓ not efficient as it used to be in serving business activities, especially e-commerce transactions as it can serve only face-to-face transactions, not the remote ones.
- ✓ the costliest payment instrument with huge handling costs

“who bear most of the cash handling costs !”

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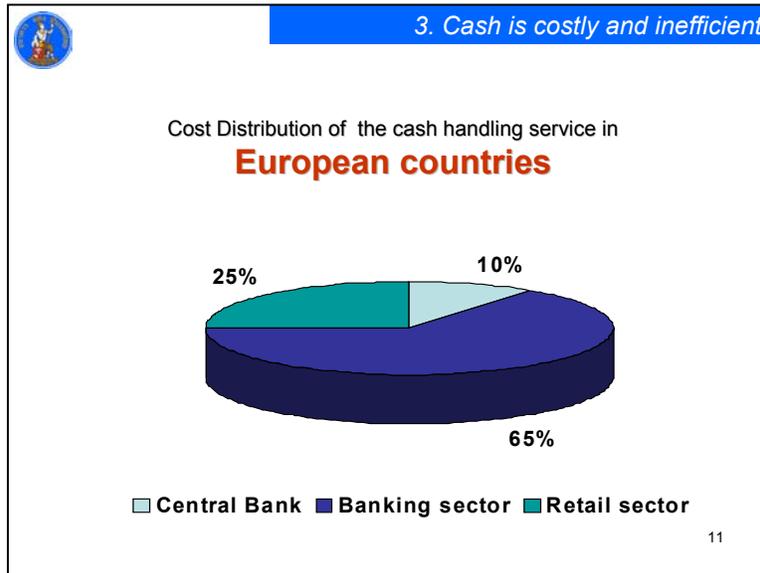
Cash is inefficient and costly.

- Cash is not efficient for the current business environment that is shifting toward the e-commerce era as it requires face-to-face transactions and cannot support remote sales channels.
- Cash is also believed to be the costliest mean of payment with a wide range of hidden costs. Most of its costs consist of labor intensive counting and storing, reconciliation, transport, and the risk of loss and theft.

According to several studies, cash-handling costs vary from 4% to 9% of the value of a purchase transaction.

An interesting question is “who bear most of these cash handling costs?”

Slide # 11: Cash is costly and inefficiently

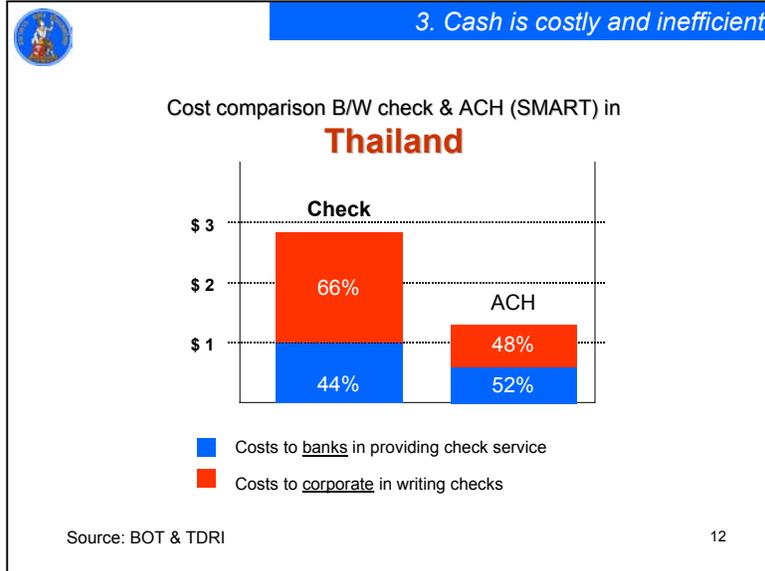


According to **European Payment Council**, There are 3 parties that bear most of the cash handling costs in the systems.

Banking sector and retail sector absorbs 65% and 25% of all costs, respectively. Most of the costs go to transporting, insuring, and distributing process. Central banks in Europe are responsible for the less 10%, which always go to the printing process.

I believe that the cost distribution in Asia is not much different from that in Europe.

Slide # 12: Cash is costly and inefficiently



As I have just mentioned earlier that the total costs of cash-based transactions are hard to be calculated, then, “**check**” is a good option to represent how costly the paper-based payments is, comparing to electronic services.

This slide indicates the cost comparison between check and ACH transactions which was studied by the Bank of Thailand in 2005.

The study showed that writing one check costs the entire economy almost US\$ 3 whereas the cost of making one ACH transaction is less than US\$ 1.2.

Slide # 13: Cash is costly and inefficiently



3. Cash & check are costly and inefficient

Two big reasons why cash & check still gain their popularity among consumers

1. Lower service fees, especially on consumer side, comparing to other non-cash payment means
2. Easy and convenient to use, comparing to some e-payment services.

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There are two big reasons why cash & check still gain their popularity among consumers

1. Low service fees, especially on consumer side, comparing to other non-cash means of payments
2. Easy and convenient to use, comparing to some e-payment services.

Slide # 14: How cashless society reshape commerce in Asia

4. How cashless society reshape commerce in Asia

↑ efficiency among households, businesses, and governments in making payments

↑ e-commerce transactions

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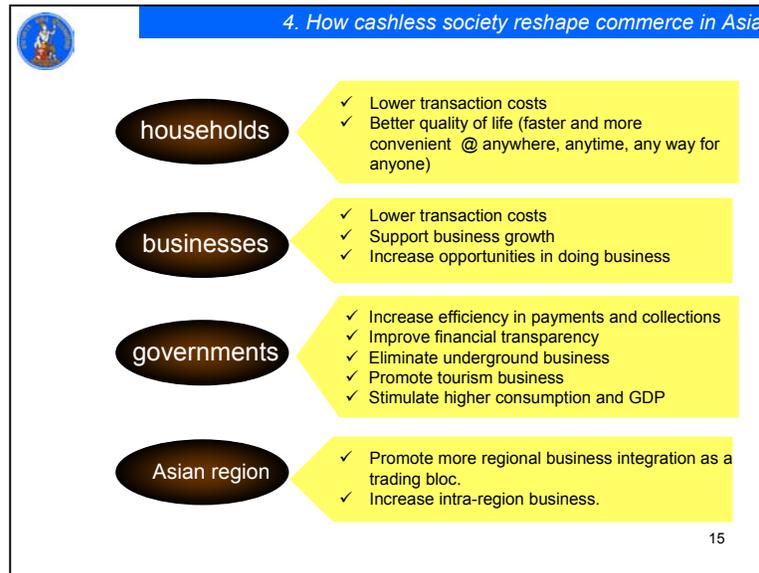
Move to a very important issue of my presentation - “How cashless society reshape commerce in Asia !”

Firstly, cashless society increases efficiency among households, businesses, and governments in making their payment activities.

It drives many forms of economic modernization and foster economic growth.

Secondly, cashless society helps promote e-commerce transactions in Asia.

Slide # 15: How cashless society reshape commerce in Asia



Let's take a closer look at how cashless society increases efficiency among households, businesses, and governments in making payments.

For households, their payment fees will get much lower. Also, their quality of lives will be getting a lot better, with faster and more convenient services that can get accessed anywhere, anytime, any way for anyone.

For businesses, especially the small and medium-sized enterprises or SMEs will gain benefit from the lower transaction costs that help improving their profitability. Cashless payment systems also support business growth of the SMEs which are major drivers for the entire economy.

Cashless payment services also increase opportunities in doing business. One good example is the retailer business, accepting credit cards will increase their sales volumes because credit cards allow customers to buy goods and services despite having no liquidity at that time. As a result, cashless payment does not only increase opportunities of retailers and buyers, but the whole economy.

By accepting credit cards, businesses can also expand their sales channels through internet, telephone or mobile phone orders and enlarge their market to cover overseas markets.

For governments,

- Cashless payment systems will help increasing efficiency in **payments and collections** because government is the single largest purchaser of goods and services in the country, as well as the collectors of funds such as collecting taxes and fees. With cashless payments, government will have a lot of cost saving and reduce the tax evasion and other fraudulent activities.
- Cashless payment systems help improving financial transparency because electronic payments are easy to trace and monitor, contrary to the cash-based payments. This will reduce the possibility of corruptions and increase government's integrity both locally and internally.
- Cashless society also eliminates underground businesses because cash is anonymous mean of payment that is always used to supports illegal business. According to IMF, underground business account for 35%-44% of GDP in developing countries, comparing with a range of 21%-30% of the OECD members.
- Cashless services also play an important role in promoting tourism business, which is a major source of income for many Asian countries, by attracting more travelers into the country and making them to spend more as e-payment services can be offered in various forms and also disregard the currency differences.
- Finally, for the government, moving to cashless society will stimulate higher consumption in the country as well as increasing GDP.

For the Asian region, electronic payment systems will promote more regional business integration and increase intra-region business.

Slide # 16: How cashless society reshape commerce in Asia



4. How cashless & checkless society reshape commerce in Asia

Trading Trend in Asia

1. intra Asian cross-border retail payments will grow from US\$ 32 billion in 1998 to US\$ 92 billion in 2008*.
2. To start building regional linkage, Asia **need payment mechanisms to act like an infrastructure that supports cross-border trading to spur our regional competitiveness.**

Source: * the Boston Consulting Group

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Trading Trend in Asia

1. According to the Boston Consulting Group, intra Asian cross-border retail payments will grow from US\$ 32 billion in 1998 to US\$ 92 billion in 2008.
2. In order to build regional linkage, Asia need payment mechanisms to be an infrastructure that supports cross-border trading to increase regional competitiveness.

Slide # 17: How cashless society reshape commerce in Asia


4. How cashless society reshape commerce in Asia

P2P	←	<ul style="list-style-type: none"> • Goods & services • Debt services • etc. 	←	<p style="text-align: center;">e-payment services as alternatives to Cash-Based Payments</p> <ul style="list-style-type: none"> • ACH (Automated clearing House) (credit transfer & debit transfer) • Card payments (ATM / debit / credit cards) • M-payment • e-money (card & software based) • e-banking (Direct debit & direct credit, ATMs, M-banking, Internet banking, Phone banking, etc.) • Internet payment • RTGS
B2C B2B	←	<ul style="list-style-type: none"> • Goods & services • Payroll • Installment loans • mortgages • Insurance payments • Dividends • etc. 	←	
G2C G2G	←	<ul style="list-style-type: none"> • Taxes • Governmental fees • etc. 	←	

Key success factor in moving to cashless society:
[Customize each e-payment services or expand its services to better serve various needs of each market segment](#)

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I am confident that most of us here are very familiar with each of the electronic payments being shown on the right side of this slide, which represent alternatives to cash-based transactions.

The important reason that why the moving to cashless society is not as fast as it should is because e-payments can not really serve what customers want.

Key success factor in moving to cashless society is to customize each e-payment services or expand its usage to better serve various needs of each market segment which are P2P, B2C, B2B, G2C to G2G.

Slide # 18: How cashless society reshape commerce in Asia

4. How cashless society reshape commerce in Asia

	Initial services	Extended services
ACH	<ul style="list-style-type: none"> recurring payments batch payment 	<ul style="list-style-type: none"> nonrecurring payments or one time payment (domestic & cross border) What's next?
ATM	<ul style="list-style-type: none"> cash withdrawal balance inquiry 	<ul style="list-style-type: none"> Payment @ ATM Machines <ul style="list-style-type: none"> ✓ Bill payments ✓ e-commerce payments Money transfer (domestic & cross border) for P2P, B2C, etc. Cash advance for credit card users What's next?
Credit card	<ul style="list-style-type: none"> making payment @ POS (point-of-sales) retail payment 	<ul style="list-style-type: none"> Payment @ & internet P2P Payment Large value payment (corporate card and government card) What's next?

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This slide explains how service providers expand their payment services to serve wider customer bases.

For ACH services, in many countries, ACH system is allowed to serve only recurring transactions, such as paying payroll, installment loans, insurance payments and tax payments. However, in some advanced economies, ACH system is also developed its applications to provide services for nonrecurring transactions, such as making payment at the point-of-sales for goods and services, and providing both domestic and cross-border payment services.

For ATM services, in the past, ATM machine can provide only traditional banking services, such as cash withdrawal, transferring and balance inquiry, but today its services are expanded to cover bill payments, e-commerce transactions, and money transfers for both domestic and international transactions.

For credit card services, in the past credit card usage is constrained only to face-to-face transactions by making payment at the point of sales (POS), but today we can use credit card to make payment via the internet which has led to the rising number of credit card usage for P2P payment. Credit card issuers also expand their market bases from individual to larger market segments such as big corporate and government.

Slide # 19: How cashless society reshape commerce in Asia



4. How cashless & checkless society reshape commerce in Asia

Instruments & channels that will play an important role in moving Asia to the cashless society faster;

<u>Instruments</u>	<u>Channels</u>
<ul style="list-style-type: none"> → Card payments <ul style="list-style-type: none"> - Smart Cards → e-money <ul style="list-style-type: none"> - card & software based 	<ul style="list-style-type: none"> → Banks (branches & ATM machines) → Post offices → Mobile → Internet

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Instruments & channels that will play an important role in moving Asia to the cashless society faster;

- For payment instruments, card payment and e-money are the driving force to shift away from the cash-based economy, as consumers need payment tool that can offer higher convenient. According to Visa, Asia Pacific is the fastest growing for card payments.
- For payment channels, ATM machines, post office branches, mobile phone and internet will take a leading role in gearing to cashless based economy.

Slide # 20: How cashless society reshape commerce in Asia

4. How cashless society reshape commerce in Asia

Network convergence b/w banks and post office in Thailand

Banks ↔ Strategic partners post offices will be banks' channel of distribution ↔ **Post offices**

Trend in Thailand:
there will be a network convergence b/w bank and post office to provide payment services both for A/C-based and Non-account based customers.

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In Thailand, we will witness a network convergence between two alliance - banking sector and post office industry- to provide payment services both for account-based and non-account based customers. This collaboration will speed up the process of moving to cashless society.

Slide # 21: How cashless society reshape commerce in Asia



4. How cashless society reshape commerce in Asia

Mobile & Internet are going to increase its influence as new channels in making payment thanks to their high penetration rate.

Mobile

- Mobile penetration rates in Hong Kong, Taiwan, and Singapore is over 70% ¹ and in Thailand is 43%

Internet

- Internet penetration rates in Australia, Hong Kong, Japan, Korea and Taiwan are over 30% ¹ and Thailand is 11%

Source: ¹ Ovum Research

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Mobile phone & Internet are going to increase their influence as new channels in making payment. Thanks to their increasingly high penetration rate.

- Mobile penetration rates in Hong Kong, Taiwan, and Singapore is over 70% and in Thailand is 43%
- Internet penetration rates in Australia, Hong Kong, Japan, Korea and Taiwan are over 30% and Thailand is 11%

Slide # 22: Strategies to move to ‘the cashless society’



5. Strategies to move to ‘the cashless society’

Four Strategies to move to ‘the cashless society’

1. Promote cost-based pricing
2. Develop e-payments to fit customers’ needs
3. Remove legal framework that impede e-payments and foster ‘public trust’ in cashless society
4. Educate customers to know the benefits of e-payments

All four strategies require cooperation of all relevant parties, by having central bank to take a lead role.

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There are four strategies to move to ‘the cashless society’

- **Promoting cost-based pricing** which could encourage greater use of more efficient payment instruments. An inappropriate pricing between paper-based and electronic-based payment services is a chronic problem that impedes a widespread of e-payment. As we can see that in many countries, fees charged for paper-based payment services are cheaper than electronic payment services.

So, the regulators have to be sure that prices charged for payment services are not diverging too much from their cost

- **Developing e-payments to fit customers’ needs** which I have already touched on in the previous slides.

- **Removing legal and regulations that impede e-payments and foster ‘public trust’ in cashless society.** Legal systems in many countries were developed at a time when payments were made in cash or check. They do not suit for electronic payment systems. Therefore, it is important that regulators have to review the legal and regulatory framework to remove barriers to the improvements of electronic payments and foster ‘public trust’ in cashless society. One good example of how to foster public trust in e-payment is to have legislation on Certification Authority (CA).
- **Educating customers to know the benefits of e-payments and to have literacy in information technology**

All these four strategies require cooperation of all relevant parties, by having central bank to take a lead role.

Slide # 23: Strategies to move to ‘the cashless society’



5. Strategies to move to 'the cashless society'

Thailand experience:

- **Government Fiscal Management Information System (GFMS)** is a Thai Government initiative to move all governmental payments from paper-based transactions to electronic systems which are SMART and BAHTNET, starting in 2003.
- **Government’s program that requires all government agencies to use credit cards for travel expenses, meeting organizing, and allowance.**
- **BOT’s pricing project on payment services** in 2004, to promote cost-based pricing.

Project results: Reducing fees of several electronic payments and raising fee of paper check

- **BOT’s project to promote the uses of e-payments and discourage paper-based payments** in 2005-2006

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Thailand experience:

- **Government Fiscal Management Information System (GFMS)** which is under *‘the e-Government Program’* is a Thai Government initiative to move all governmental payments from paper-based transactions to electronic systems which are SMART and BAHTNET, starting in 2003.
- **Government’s program that requires all government agencies to use credit cards for travel expenses, meeting organizing, and allowances** which total around \$ 400 million, each year.
- **BOT’s pricing project on payment services in 2005**, to promote cost-based pricing.

Project results: Reducing fees of several electronic payments and raising fee of paper check

- **BOT’s project to promote the uses of e-payments and discourage paper-based payments in 2005-2006**

Slide # 24: Strategies to move to ‘the cashless society’

5. Strategies to move to 'the cashless and checkless society'

Thailand experience (cont.):

Although the use of cash & check is still great in Thailand , there are some good signs

- Increasing transactions, both in value & volume, of e-payments
- Declining number of checks processed in recent years at very fast rate.

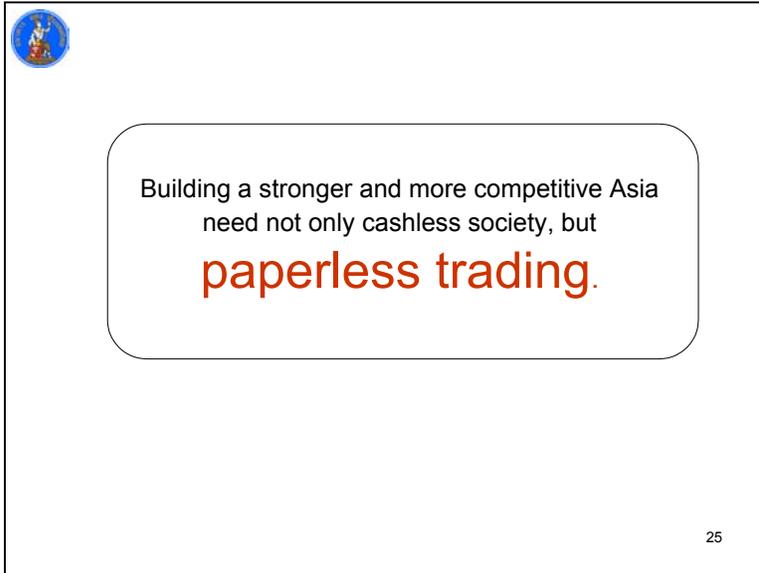
24

Thailand experience (cont.):

Although the use of cash & check is still great in Thailand , there are some good signs;

- Increasing transactions, both in value & volume, of e-payments
- Declining number of checks processed in recent years at very fast rate.

Slide # 25: Another factor needed to build a stronger and more competitive Asia

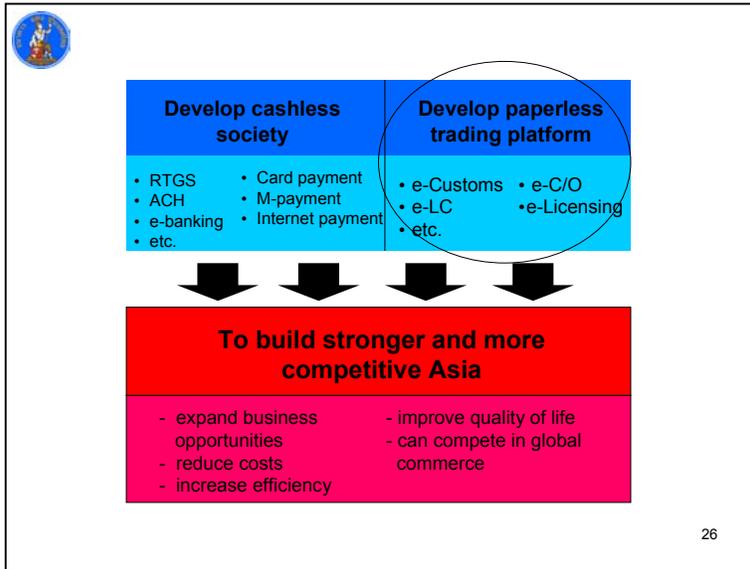


Building a stronger and more competitive Asia
need not only cashless society, but
paperless trading.

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One last point that I would like to add is that to build a stronger and more competitive Asia need not only cashless society, but paperless trading.

Slide # 26: Another factor needed to build a stronger and more competitive Asia



This slide shows ‘*e-commerce blueprint*’. Besides having cashless society, Asia countries will need to develop the paperless trading platform which, at least, has to consist of developing e-Customs, e-LC, e-C/O, e-licensing and e-logistics in order to build a stronger and more competitive Asia to survive in the e-commerce era.

In closing, although the road to cashless society is still a long way to go, many Asian countries have made us believe that they are ready for the journey. I want to thank you for your attention and your willingness to move to cashless society which is a good sign for the future of businesses in the region.