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**Session 4: Content and Applications**


**Is online access and payment secured,  
convenient and economical?**

**by Mr. Ti Eng Hui,  
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**(Thursday, 8<sup>th</sup> September 2005, 8.15am – 10.00am)**

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## Is online access and payment secured, convenient and economical?

Ti Eng Hui  
Baiduri Bank

7<sup>th</sup> – 8<sup>th</sup> September 2005

National Summit on Information Society

### OVERVIEW

- Internet banking usage in Asia/Pacific
- How secured is online banking?
- What about online purchase?
- What part do Internet users play?
- The convenience of online banking
- Cost-savings with online banking
- Conclusion

## INTERNET BANKING USAGE IN ASIA/PACIFIC

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### A Research Snapshot:

Respondents with an Internet Banking Account	Logged in within the past 3 months	Active users
31.8%*	91.2%*	29.0%*

*Notes:*

1. \*Asia/Pacific total refers to Australia, China, Hong Kong, Korea, Malaysia, Singapore and Taiwan
2. Respondents are urban Internet users
3. Active users = % respondents with an Internet bank account and have logged in within the past 3 months

Source: IDC Financial Insights, 2005

## HOW SECURED IS ONLINE BANKING?

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### The common risks of online banking:

- Fraudulent or spoof websites
- Phishing
- Trojan Horse
- Spyware
- Unauthorised access

## HOW SECURED IS ONLINE BANKING?

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To protect online banking users from the inherent risks, banks in the regions have put in place **SECURITY PRACTICES** supported by the latest information security technology.

## HOW SECURED IS ONLINE BANKING?

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### Examples of widely adopted security practices:

- \* Face-to-face issuance of user ID/access code and PIN for identity verification.
- \* Multiple-level firewalls between bank's internal computer systems and the Internet.

## HOW SECURED IS ONLINE BANKING?

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- \* Use of 128-bit Secure Sockets Layer (SSL) encryption – the highest standard in encryption technology commercially available.
- \* Authentication using User ID and PIN/password, sometimes supplemented with a biometric (e.g. fingerprint).
- \* Dual-factor authentication

## HOW SECURED IS ONLINE BANKING?

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### What is Dual-factor Authentication?

## HOW SECURED IS ONLINE BANKING?

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**Dual-factor authentication** solutions operate on time-based dynamic passwords to protect users against attacks such as phishing, spoof websites, spyware and Trojan horse.

Highly recommended by regulators and bankers associations in Asia Pacific such as Hong Kong Monetary Authority (HKMA) and the Australian Bankers Association.

## HOW SECURED IS ONLINE BANKING?

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### Dual-factor Authentication: How it works

#### \* Security Device



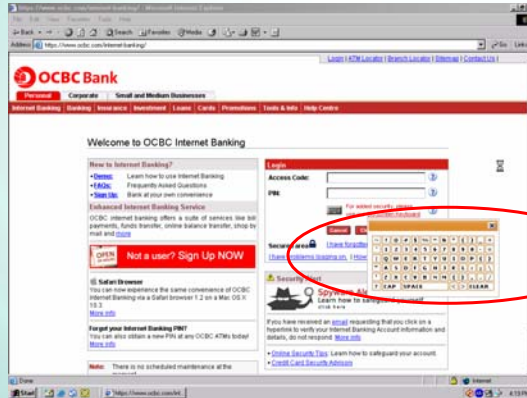
- User keys in Device password or presses button
- Device generates a dynamic, time-sensitive Security Code.
- The Security Code constantly changes and is unique to user's Security Device.
- Code required in addition to User ID and PIN/password for logon and/or transactions.

## HOW SECURED IS ONLINE BANKING?

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### What are the other security practices?

- \* For sign-on: **Virtual keyboard** (OCBC Singapore)



## HOW SECURED IS ONLINE BANKING?

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### What are the other security practices?

- \* For sign-on: **SMS sign-on alert** (Baiduri Bank)
- \* For sign-on: **Dynamic PIN Pad** (Baiduri Bank; Citibank Singapore)

An enhanced login mechanism where numbers displayed on the on-screen keypad are reshuffled with each log-in.

## HOW SECURED IS ONLINE BANKING?

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### What are the other security practices?

- \* For transactions:

#### **Transaction Authorisation Code**

*(Baiduri Bank, UOB Singapore, DBS Singapore)*

A code required for certain transactions e.g. third-party fund transfers and remittances.

- \* For transactions: **Email Alerts** *(OCBC Singapore)*

## HOW SECURED IS ONLINE BANKING?

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### What are the other security practices?

- \* **Restrictions** on the type of transactions, transaction limits and pre-registration of third-party accounts for fund transfers.
- \* **Automatic logout** after a period of inactivity
- \* **Close surveillance** for unusual transactions, amount and patterns.



## WHAT ABOUT ONLINE PURCHASE?

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**Authentication programmes and fraud prevention tools** available to cardholders and online retailers:

- \* MasterCard® SecureCode™
- \* Verified by Visa
- \* CVV2 (Card Verification Value 2)

## WHAT ABOUT ONLINE PURCHASE?

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**How do I recognise a good online retailer?**

- \* **Buyer protection**  
e.g. PayPal Buyer Protection, WorldPay Buyer Protection, Ebay Buyer Protection
- \* Clear statement of **privacy policy** or **privacy 'seal of approval'** e.g. TRUSTe, the Better Business Bureau's BBOnline Privacy
- \* Clear description of the **billing practices**
- \* Clear statement of **shipping policy and refund policy**

## WHAT ABOUT ONLINE PURCHASE?

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### How do I recognise a good online retailer?

- \* **Customer service access** e.g. hotline or toll-free numbers, fax and email
- \* Detailed description of the site's **information security practices and controls**
- \* Adopts **encryption technology** for the transmission of payment data online

## WHAT ABOUT ONLINE PURCHASE?

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### ONLINE PURCHASE SECURITY TIPS:

- \* Avoid buying from little-known or suspect websites.
- \* Release bank/credit card information only when you see a padlock symbol in the lower corner of your browser window or when the URL address begins with **https://** instead of **http://**. These are indications that you are in a **secure session**.

## WHAT PART DO INTERNET USERS PLAY?

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### THE 'GOLDEN RULES' OF ONLINE SECURITY

- \* **Manage username and password carefully**
- \* **Install personal firewalls** – a small programme that stops unauthorised traffic to and from your PC e.g. “Zone Alarm” from Zone Labs and McAfee.

## WHAT PART DO INTERNET USERS PLAY?

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### THE 'GOLDEN RULES' OF ONLINE SECURITY

- \* **Install anti-virus and anti-spyware softwares** e.g. Norton Antivirus 2005 ([www.symantec.com](http://www.symantec.com)) and Spybot Search & Destroy (free at [www.safer-networking.org](http://www.safer-networking.org)).
- \* **Make sure you have the latest security patches**, available for download at [www.windowsupdate.microsoft.com](http://www.windowsupdate.microsoft.com) for Microsoft users.

## WHAT PART DO INTERNET USERS PLAY?

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### THE 'GOLDEN RULES' OF ONLINE SECURITY

- \* **Protect your PC with a password** to prevent unauthorised access.
- \* **Avoid sharing PCs.** Do not perform online transactions using public PCs e.g. at cyber cafes and libraries.
- \* **Remove file and printer sharing in your PC,** especially if you have Internet access via cable modem, broadband connection or similar set-up.

## WHAT PART DO INTERNET USERS PLAY?

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### THE 'GOLDEN RULES' OF ONLINE SECURITY

- \* Keep online session safe by logging in indiscreetly and **always logging out** when session is completed.
- \* **Clear your browser's cache** (default files that may retain images or data sent or received over the Internet) after each online session.
- \* **Email security**

## THE CONVENIENCE OF ONLINE BANKING

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- \* **Access anytime, anywhere**
- \* **Mobility:** More devices that support online access and payment e.g. smart phones, PDAs, Palms, Pocket PCs
- \* Growing number of locations with **wireless connectivity**
- \* For online banking: **comprehensive suite of banking services** now available

## COST-SAVINGS WITH ONLINE BANKING

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- \* **Incentives** such as preferential online banking tariffs and extra loyalty points
- \* **Increasing affordability** due to increased competition in marketplace

## CONCLUSION

- \* **Steady rise** of online access and payment due to stronger security, convenience and cost-savings
- \* Projected rise in **online banking**:  
12-country survey of 6,544 Internet users shows that more than 50% have banked online, registering 30% year-on-year growth for most countries surveyed.

*(Source: "The Face of The Web 2004", Ipsos-Insight, global market research company)*