

## SME-ENTREPRENEURSHIP GLOBAL CONFERENCE 2006:-

## ELECTRONIC PAYMENT SYSTEMS –

## A BOON OR BANE FOR E-COMMERCE?

Gita Radhakrishna

Legal Advisor, Human Resource Department &  
Faculty of Business and Law, Multimedia University

E-mail: gita@mmu.edu.my

&amp;

Flora Teichner

Associate Dean, Faculty of Business and Law, Multimedia University

E-mail: flora@mmu.edu.my

&amp;

Tay Eng Siang

Lecturer, Faculty of Business and Law, Multimedia University

E-mail: estay@mmu.edu.my

## ABSTRACT

The increasingly complex and dynamic business activities demand continuous enhancements to the regulatory and supervisory frameworks to maintain financial stability. This has led to the enactment of the **Payment Systems Act 2003 (PSA 2003)** which was gazetted on 7<sup>th</sup> August 2003 and came into force on 1<sup>st</sup> November 2003. Its aim is to provide a comprehensive legal framework to ensure that the payment systems are protected from disruptions that may affect financial stability and that public confidence in the payment systems and instruments is preserved. This paper defines certain key words in relation to an electronic payment system, examines the background to the introduction of the electronic payment systems and studies the scope and efficacy of the **PSA 2003** in Malaysia. The research questions addressed are (i) the relevant security issues in electronic payment systems; (ii) the function of an electronic payment system; (iii) the different types of payment systems; and (iv) whether the electronic payment system has improved the efficiency of the Malaysian financial system. Based on the research findings the paper submits certain recommendations.

## 1. INTRODUCTION

## 1.1 What is a payment system?

Commerce always involves a payer and a payee who exchange money for goods or services. With the launch of e-banking and e-commerce, business activities have become increasingly complex, demanding a regulatory and supervisory framework to maintain financial stability. This has led to Malaysia's enactment of the **Payment Systems Act 2003** (hereinafter referred to as the "**PSA 2003**") (**Act 627**) which was gazetted on 7<sup>th</sup> August 2003 and came into force on 1<sup>st</sup> November 2003.<sup>1</sup>

In an electronic payment system as in the non-electronic, there must be at least one financial institution which links "bits" to "money". In most existing payment systems, the latter role is divided into two parts: an issuer (used by the payer) and an acquirer (used by the payee). Electronic payment from payer to payee is implemented by a flow of real money from the payer via the issuer and acquirer to the payee. The internet and all electronic payment systems run on computers, based on digital microchip technology in the form of "bits" of electricity. In an electronic transaction, it is these bits of electricity that whiz around the globe through cables, satellites, and tiny hollow glass tubes (fibre optics). The first essential element for a functional electronic payment system, is a

<sup>1</sup> Bank Negara Malaysia Annual Report 2003 '*The Financial Sector*' p 116. Refer to sections 2 and 69 of the PSA 2003  
Available online:- <http://www.bnm.gov.my/files/publication/ar/en/2003/cp10.pdf>

physical infrastructure capable of managing the formidable flow of binary codes around the globe. Secondly, for feasible electronic transactions there will have to be payment systems in place that will allow us to attach value to these transmissions of transactions. They will be in the form of various financial systems (from private-company-based to governmentally-guaranteed systems) that will actualise, maintain and guarantee the value of electronic money. Finally, there must be safety precautions in place that will facilitate and secure execution of electronic transactions. Legal repercussions for the various types of 'faulty' electronic transactions must likewise be brought into existence.<sup>2</sup>

## 1.2 Definitions

A **payment** is a transfer of monetary value.

A **payment system** consists of the mechanisms – including the institutions, people, rules, and technologies – that make the exchange of payments possible. A payment system comprises a set of instruments, procedures, rules and infrastructure used within a market economy to transfer funds among individuals and institutions. The Bank for International Settlements (BIS) defines a payment system as; “a set of instruments, banking procedures and, typically, interbank funds transfer systems that ensure the circulation of money”.<sup>3</sup>

Finally an **Electronic Payment system** (EPS) is a payment system consisting of electronic mechanisms, which make the exchange of payments possible. In a layman's language EPS can be defined as a payment or monetary transaction made over the internet or simply a network of computers. The technical infrastructure provided by the internet is becoming increasingly popular owing to its speed and convenience. It is based on agreements among the banks and other participating institutions including the central bank and clearing/settlement system operators in the payment and settlement system, subject to the provisions of governing statutes and regulations. Typically payments are initiated from the payment provider's secure website, with notification of the payment being registered electronically. The systems differ according to the type of account from which the funds are drawn, and the payment networks used to complete the funds transfer. A number of providers essentially banks, have developed systems that require establishment of a special purpose transaction bank account as for credit cards and debit cards. In other systems e.g. *Touch 'n Go* card or prepaid phone cards, value is transferred between special purpose non-bank accounts.<sup>4</sup>

The Bank for International Systems (BIS) definition of a payment system focuses on instruments, banking procedures, interbank funds transfer systems, clearing houses and settlement of funds or securities. Missing from the BIS definition is the *intra-bank systems* that give effect to payment instrument transfers within the same bank. This is however overcome in the very broad definition under **section (s) 2** of the Malaysian **PSA 2003** (*discussed below*).

Let us now examine each of these.

• **Instruments** – a mere half century ago this was easy to define. Payment instruments were basically cash and cheques. Today however there is a vast range of payment instruments. Apart from the cheque and cash we now have giro-payments, electronic transfers, internet payments, debit orders, standing orders, credit cards, debit cards, electronic “cash” and so on. And the nature of each is vastly different from the other. Thus **s 2** of the **PSA 2003** defines a payment instrument as “any instrument, whether tangible or intangible, that enables a person to obtain money, goods or services or to otherwise make payment”. Further “designated payment instruments” include:-

- (i) **charge card** where a line of credit is granted by the issuer to the user who has to settle the sum used in full before a certain specified date without any extended credit;

<sup>2</sup> Justin McCarthy:- Consumer Protection in Contemporary Electronic Payment Systems :- A Familiar Wolf in Digital Clothing? [2002] C.O.L.R. II (Cork Online Law Review) University College Cork ; Available online:- <http://colr.ucc.ie/2002ii.html>

<sup>3</sup> Stanley Epstein “A glossary of terms used in payments and settlement systems”, Committee on Payment & Settlement Systems. BIS, Basel, Switzerland. March 2003 (Revised Edition)). Available online:- [http://www.glasgowaccess.org.uk/articles/Business\\_192/What-is-a-Payment-System-\\_98250.html](http://www.glasgowaccess.org.uk/articles/Business_192/What-is-a-Payment-System-_98250.html)

<sup>4</sup> Bank Negara Malaysia Annual Report 2003 ‘*The Financial Sector*’ p 116. Refer to ss 2 and 69 of the PSA 2003.

- (ii) **credit card** where a line of credit is granted by the issuer but where unlike the charge card should the user be unable to settle in full on the due date, the time may be extended subject to payment of interest, profit or other charges;
- (iii) **e-money** is any instrument whether tangible or intangible that:-
  - stores funds electronically in exchange for funds paid by the user to the issuer
  - which can be used as a means of making payment to any person other than the issuer and
  - any combination of that prescribed above.

• **Banking Procedures** – these cover a huge area. Anything that is not an instrument or that does not relate to how that instrument is moved, must, by definition, be related to a banking procedure. Here there are internal bank procedures (such as how a branch initiates payments), payment systems rules, the agreements (such as those between banks, between banks and their customers, between banks and the clearinghouse), national and international payment laws and payment regulations and operational procedures, either manual or technology driven within individual banks that are used to initiate, verify and process the payment. All of these procedures are simply to get the payment ready for the next step, to move it to a transfer system.

• **Interbank Transfer Systems** – this covers local and national clearinghouses (for physical instruments such as paper), Automated Clearing Houses ACHs (for the electronic ones), message carriers such as S.W.I.F.T. (society for Worldwide Interbank Financial Transactions), a financial industry owned co-operative supplying secure message services and interface software to thousands of financial institutions all over the world,<sup>5</sup> switches for ATM transactions, the national and international credit card networks and so on.

An **Automated Clearing House** (ACH) is a secure and efficient nationwide batch-oriented electronic funds transfer system governed by the PSA which provide for the interbank clearing of electronic payments for participating depository financial institutions. The MEPS acts as ACH service provider, central clearing facilities through which financial institutions transmit or receive ACH entries.

The key word in the definition is “*set*” - for all these components have to be combined to make up a complete unit. In a payment system each link in the chain can give rise to a serious problem – *risk*. Risk takes on many forms; credit risk, liquidity risk, legal risk, operational risk, settlement risk, systemic risk and put the whole fabric of the payment system in danger.

In prepaid cash-like payment systems, a certain amount of money is taken away from the payer (for example, by debiting that amount from the payer’s bank account) before purchases are made. This amount of money can be used for payments later. Smart-card based electronic purses, electronic cash as well as (certified/guaranteed) bank cheques fall in this category.<sup>6</sup>

This paper investigates the scope and efficacy of Malaysia’s **PSA 2003** by looking specifically at the function of a payment system and whether the EPS has improved the efficiency of the Malaysian financial system.

## 2. BACKGROUND:- HISTORY OF PAYMENT SYSTEMS

**Glyn Davies (1994)**, in his massive study entitled “*The History of Money from Ancient Times to the Present Day*”,<sup>7</sup> remarks that over the last five thousand years there have only been two fundamental innovations in the

<sup>5</sup> SWIFT is a Belgian cooperative society, owned by its member financial institutions with offices around the world with headquarters at La Hulpe near Brussels. Founded in Brussels in 1973, to establish a common language for financial transactions and a shared data processing system and worldwide communications network. As of 2005 it linked over 7,800 financial institutions in 202 countries serving banks, broker/dealers and investment managers, as well as their market infrastructures in payments, securities, treasury and trade. Available online:-  
[http://www.swift.com/index.cfm?item\\_id=43232](http://www.swift.com/index.cfm?item_id=43232)

<sup>6</sup> Abhiraj S. Kulkarni:- Legal Analysis on Electronic Payment Systems Available online:-  
[http://www.asianlaws.org/projects/analysis\\_eps.htm](http://www.asianlaws.org/projects/analysis_eps.htm)

<sup>7</sup> Davies, Glyn “A History of Money from Ancient Times to the Present Day” (Cardiff, University of Wales, 1994) p 18; Quoted in Bernard A Lietaer “The Future of Payment Systems” Unisys Corporation 2002; Available online:-  
[www.unisys.com/financial/insights/insights\\_\\_compendium/WPaper\\_BLietaerbergdahl.pdf&w=future+payment+system+s&d](http://www.unisys.com/financial/insights/insights__compendium/WPaper_BLietaerbergdahl.pdf&w=future+payment+system+s&d)

technology of money. The first was paper money, invented in China during the 9th century and spreading to Western Europe during the late Renaissance. What it enabled was the transfer of the power of creation of money from kings and emperors to the banking system. We are now in the middle of the second fundamental innovation: electronic money. Electronically-based payment systems have been in operation since the 1960s and have been expanding rapidly as well as growing in complexity.

**Andreas Crede (1995)** finds that in most of the major industrialised countries, an inverse relationship exists between the volume and the number of transactions handled electronically. Typically, of business payments around 85-90% or more of monetary value will be processed electronically, while less than 5-10% of the total number of payment transactions will be handled in this way. This has been due to four related factors: (1) proprietary closed networks were developed by banks to handle large and increasingly internationally based payments systems; (2) large value payments are increasingly associated with foreign exchange and global securities transactions, thereby becoming divorced from underlying world trade; (3) large value payment systems were not designed nor are they cost-effective for small value payments; and (4) paper-based non-automated payment systems remain an established part of accepted business practice for varying institutional reasons, thereby remaining ingrained in the economic system.<sup>8</sup>

However, the technological revolution in the fields of information technology and communications has had profound implications in the rapid growth and integration of financial markets, which has caused the proliferation of the number and volume of transfers that take place through payment systems. Already today, over 95% of the money existing in the world resides in the form of bits and bytes in computers at banks and brokers. Payment systems have operated as a privileged space reserved for the banking system.<sup>9</sup>

The **Cruickshank Report (2000)** to the Chancellor of the Exchequer about the (lack of) competitiveness in UK banking services concluded: "Money transmission services are supplied through a series of unregulated networks, mostly controlled by the same few large banks who in turn dominate the markets for services to Small and Medium Size Enterprises (SMEs) and personal customers. This market structure results in the creation of artificial barriers of entry, high costs to retailers for accepting credit and debit cards, charges for cash withdrawals up to six times their costs, and a cumbersome and inflexible payment system that is only slowly adapting to the demands of e-commerce."<sup>10</sup>

This report found three key features that reduce competition:

- The Association of Payment Clearing Services (APACS) is a *de facto* monopoly, controlling the terms and costs of access to the money transmission system;
- APACS has no direct competitive incentive to reduce its own costs or to provide innovative services;
- The internal decision-making process operates by consensus, so that innovations tend to happen at the pace accepted by the least innovative.
- Furthermore, the supervisory or advisory boards of payment systems have typically no representation at all from outside the banking industry, and specifically no customer representation, be it corporate or individual.

These findings were also reflected in a survey by the **Federal Reserve Bank of New York (2002)**.<sup>11</sup>

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<sup>8</sup> Andreas Crede:- Electronic Commerce and the Banking Industry: The Requirement and Opportunities for New Payment Systems Using the Internet ; JCSC Vol 1 No. 3 (1995). Available online:-  
<http://jcmc.indiana.edu/vol1/issue3/crede.html>

<sup>9</sup> Cruickshank, D. Competition in UK Banking: A Report to the Chancellor of the Exchequer (2000). Reported in Bernard A Lietær "The Future of Payment Systems" Unisys Corporation 2002; Available online:-  
[www.unisys.com/financial/insights/insights\\_\\_compendium/WPaper\\_BLietærbergdahl.pdf&w=future+payment+systems&d](http://www.unisys.com/financial/insights/insights__compendium/WPaper_BLietærbergdahl.pdf&w=future+payment+systems&d)

<sup>10</sup> *Ibid.*

<sup>11</sup> Radecki, Lawrence, J. (AVP, Federal Reserve Bank of NY) "Bank's Payment-Driven Revenues" FRBNY Economic Policy Review (July 1999) pp. 53-70. Reported in Bernard A Lietær "The Future of Payment Systems" Unisys Corporation 2002; (*supra* n 9).

The first **Global Future Forum (GFF) Survey (2001)** of financial services industry, gave 2 examples of cost inefficiencies as a result of a monopoly by Banks under the present system:<sup>12</sup>

- Policies on credit cards prohibit a merchant to provide a discount to customers paying cash. As noted in a recent OECD report, this implies a systematic subsidy from the people who pay cash (typically the poorer people) to those who pay with credit cards (typically the better off).
- When a migrant worker sends USD100 back home, USD30 can be lopped off as a payment charge, a price clearly not related to the costs of providing such a transfer.

There is no technical reason why any organisation that has mastered computer network management could not start providing some services traditionally supplied by banks. This begs the question as to whether this will also imply the transfer of the power of creating money from banks to other agents in society. The regulatory environment has hitherto protected the banking system from most of such inroads with the result that banks enjoyed a monopoly on costs. To quote a critic *“banks are cast in the role of both toll collector and highway robber. And the pickings are very rich indeed.”*<sup>13</sup>

### 3. REGULATION OF ELECTRONIC PAYMENT SYSTEMS

Malaysia's legal framework for regulating the issue of card-based e-money or multipurpose stored value cards is contained in the **PSA 2003**. The **PSA 2003**, which was passed on 23 June 2003, has been introduced to improve the efficiency of the payment-related infrastructure, while maintaining the safety and integrity of the payment system.

**Section 2** of the **PSA 2003** defines a payment system as:-

“any system or arrangement for the transfer, clearing, or settlement of funds or securities, but excludes:-

- a payment system operated by Bank Negara Malaysia (hereinafter referred to as “**BNM**”) under the **Central Bank of Malaysia Act 1958 (Revised 1994) (Act 519)**;
- a ‘clearing house’ recognised under the **Securities Industry Act 1983 (Act 280)**;
- a ‘clearing house’ licensed under the **Futures Industry Act 1993 (Act 499)**;
- an in house payment system operated by a person solely for his own administrative purposes that does not transfer, clear or settle funds or securities for third parties;
- a system that solely facilitates the initiation of payment instructions; and
- such other systems or arrangements as may be prescribed by **BNM**.

By this exclusionary definition **BNM**, an approved clearing house for the Futures market, and an approved clearing house for the provision of services for the clearing and guarantee of settlement of transactions in securities continue to be regulated under their respective Acts. The **PSA 2003** essentially recognises the role that both banks and non banks can play in the financial system and the **PSA 2003** provides for the licensing and regulation and supervision of these by **BNM** as provided in s 69 thereof, **BNM** shall:-<sup>14</sup>

<sup>12</sup> Miller, Riel; Michalski, Wolfgang & Stevens Barrie: “The Future of Money: An Analytical Synthesis of the Discussion on the OECD Forum for the Future” (OECD: Luxemburg, July 2001). Reported in Bernard A Lietaer “The Future of Payment Systems” Unisys Corporation 2002; (*supra* n 9)

<sup>13</sup> Logica: “Frictionless Money – The Future of Money and Payments in an Electronic World” pg 8. Quoted in Bernard A Lietaer “The Future of Payment Systems” Unisys Corporation 2002, p 11; Available online:-  
<http://www.google.com.my/search?q=history+of+international+payment+systems&hl=en&lr=&start=30&s>

<sup>14</sup> Malaysia CPSS - Survey of e-money and internet and mobile payments, March 2004 ; Available online:-  
<http://www.bis.org/publ/cpss62.pdf#search='MalaysiaCPSS20March%202004'>

- promote orderly development of e-money schemes in Malaysia by stimulating healthy competition and e-money product innovation while maintaining financial and payment system stability;
- ensure the soundness of multipurpose e-money schemes and the stability, reliability and integrity of the issuers; and
- protect the interests of the public and maintain public confidence in the payment instrument and
- payment systems. In this context it is pertinent to note the provisions of **s 6(1)** whereby **BNM** may, by order published in the Gazette, designate a payment system as a designated payment system if **BNM** is of the opinion that –
  - (a) the payment system poses systemic risk; or
  - (b) the designation is necessary to protect the interest of the public.

**Section 5(1)** provides that a person who operates any payment system shall receive a written notification from the **BNM**. The **BNM** may prohibit a person from operating any payment system under **s 5(4)** where (a) the payment system is detrimental to the reliable, safe, efficient and smooth operation of the payment systems of Malaysia; or (b) the prohibition is in the interest of the public.

By **s 23(1)** **BNM** may, by order published in the Gazette, prohibit any person from issuing or using any payment instrument if:- (a) the issuing or use of the payment instrument is detrimental to the reliable, safe, efficient and smooth operation of the payment systems of Malaysia; or (b) the prohibition is in the interest of the public. Further under **s 24(1)**, if the **BNM** is of the opinion that:- (a) a payment instrument may be of widespread use as a means of making payment and may affect the payment systems of Malaysia; and (b) it is necessary to protect the interest of the public or it is necessary to maintain the integrity, efficiency and reliability of a payment instrument, the **BNM** may prescribe such payment instrument as a designated payment instrument.

#### ***Relevant security issues***

**BNM** requires any issuers of e-money, internet and mobile payments to have adequate safeguards against fraud, forgery and money laundering, adequate controls to manage the risks involved and efficient contingency plans in the event of a system breakdown or any compromise to the scheme. In addition to the security requirements, banking institutions which provide transactional internet banking services were required to put in place the following internet security arrangements:

- data privacy and confidentiality;
- data integrity;
- authentication;
- non-repudiation;
- transaction verification;
- user encryption;
- intrusion detection.

#### ***Issuer details***

Under the regulation on e-money, stored value cards are categorised into three e-money instruments *i.e.* single purpose, limited purpose/closed community, and multipurpose. Non-financial institutions may issue single purpose stored value cards but **BNM** requires the issuers to submit information under the **PSA 2003**. Financial institutions as well as non-financial institutions can issue limited purpose e-money instruments, defined as a means of payment in a classified sector, e.g. the Touch 'n Go card and MEPS Cash electronic purse, which is incorporated in the Bankcard and MyKad, is an alternative electronic payment mode to using cash for making retail payments. However, only financial institutions are allowed to issue multipurpose stored value cards.

#### ***Payment system issues***

Banking institutions are the main players in internet payments and e-money issuance. The clearing and settlement arrangements are done via the local automated clearing house, operated by, Malaysian Electronic Payment System (1997) Sdn. Bhd. (MEPS) for e-money, internet and mobile payments. The development of e-money, internet and mobile payments is still in its early stages, and has not significantly affected the amount of notes and coins in circulation or the usage of cheques. As part of a continuing effort in promoting effective, safe and efficient payment systems, the Bank is implementing a "payment versus payment" (PvP) infrastructure for

settling interbank foreign exchange transactions. The PvP mechanism will be established jointly with the Hong Kong Monetary Authority, to facilitate simultaneous settlement of interbank US dollar and ringgit foreign exchange transactions during the Malaysian business hours. Under this mechanism, the ringgit part of the transaction would be settled through the RENTAS while the US dollar part would be settled simultaneously through the USD CHATS system in Hong Kong China. The PvP mechanism would enable financial institutions to reduce the settlement

### ***Oversight issues***

The issuers of e-money as well as internet and mobile payment operators would be regulated under the **PSA 2003** and, therefore, would be subject to oversight and supervision by **BNM**.

### ***Law enforcement***

All parties whether local or foreign wishing to be operators and participants in the payment system must first be approved by **BNM** (s 3 of the **PSA 2003**). **BNM** is by s 69 empowered to regulate, issue guidelines (s 70) and under **Part IV ss 36 - 41 PSA 2003** call for the accounts and in exercise of its powers conferred under the Banking and Financial Institutions Act 1989 (hereinafter referred to as the "**BAFIA 1989**") (Act 372) supervise all operators or participants in the payment system. The **BNM** is empowered under s 34 for the purposes of carrying out its functions to examine, with or without any prior written notice, the premises, apparatus, equipment, machinery, books or other documents, accounts or transactions of an operator or issuer and any of his offices in or outside Malaysia. The **BNM** is also empowered under ss 42 to 55 of the **PSA 2003** to investigate, search and seize with respect to licensed financial institutions as recognised under the **BAFIA 1989**.

### ***Cross-border issues***

At present, there are no problems relating to cross-border or multicurrency schemes, as e-money schemes such as MEPS Cash only allow for a single currency, *i.e.* the Malaysian Ringgit.

## **4. RESEARCH QUESTIONS**

### **4.1 What is the function of a payment system?**

In their simplest form, payment systems offer an account-based transfer service between two final customers. Transfers can occur between personal customers, between businesses or between personal and business customers. Not only is the underlying service simple, but the majority of final customers tends not to think of payment instruments as commodities in their own right. Yet the features of different payment instruments are varied and give rise to a number of different qualities which customers can choose between according to their general needs or their need for a particular transaction.<sup>15</sup>

The key features of payment services are:

- certainty for the payee in terms of when the payment will be forthcoming
- the reliability of the payment service
- the time taken for the payment instruction to clear
- the security of the payment instrument from theft, loss or fraud
- the convenience and cost of making a payment
- the guarantees provided by the payment system provider
- the documentation required to make a payment, and
- whether the payment instrument incorporates a flexible credit facility to address irregularity in cash flow.

### **4.2 What are the different types of payment systems?**

Electronic payment systems can be categorised into two types according to spendings *viz.*, macro payments and micro payments.<sup>16</sup>

<sup>15</sup> UK payment systems:- An Office of Fair Trading market study of clearing systems and review of plastic card networks. May 2003; Available online:-  
<http://www.oft.gov.uk/NR/rdonlyres/10DB2458-FBD9-4B5C-9EE7-CEB7ACA472BB/0/oft658.pdf>

<sup>16</sup> Abhiraj S. Kulkarni:- Legal Analysis on Electronic Payment Systems Available online:-  
[http://www.asianlaws.org/projects/analysis\\_eps.htm](http://www.asianlaws.org/projects/analysis_eps.htm)



Internet payments for items costing less than USD1 or less are called as **micro** payments. Electronic cash is attractive in sale of goods and services below USD10-the cheaper alternative for credit cards as usually credit card Companies charge a processing fee of USD 20 cents which could mean profit to merchants only on amounts above USD10.

**Macro** payments involve transactions above USD10 and are carried out through electronic payment gateways.

The main payment and clearing systems relating to treasury management in Malaysia are:-<sup>17</sup>

#### **Malaysian Electronic Payment System (1997) Sdn. Bhd. (MEPS)**

**MEPS** was incorporated in December 1996. MEPS is owned by a consortium of local financial institutions. **MEPS**, as the national infrastructure service provider, is responsible for performing all switching, clearing and settlement for Financial Process Exchange (FPX) transactions.

#### **Real Time Electronic Transfer of Funds and Securities (RENTAS)**

**RENTAS** is the major wholesale payment system in the country, settling funds and scripless securities between participating institutions on a real-time basis. The eligibility criteria to participate in the RENTAS system are as follows:-

- i. Financial institutions regulated by **BNM** and universal brokers regulated by the Securities Commission;
- ii. Major clearing houses that facilitate settlement in the money market and capital market; and
- iii. Institutions that are active players in the money market or capital market, and whose average share of settlement consistently exceeds 0.1% of the value of RENTAS transactions.

#### **Sistem Penjelasan bagi Imej Cek Kebangsaan (SPICK)**

Through this check clearing system, checks drawn within one of three SPICK regions are given same day value while checks drawn on one SPICK region and presented in another clear in a maximum of five days. SPICK uses check truncation for faster clearing and settlement between SPICK regions.

#### **Inter-bank Giro (IBG)**

The low value ACH system offers bank customers, whether individuals or corporations, a secure interbank fund transfer system/channel for all sorts of payments through direct debiting of the customers' account(s) and crediting into the beneficiaries account; with any IBG participating banks, e.g. transfer of funds between different accounts of a customer (e.g. savings account to housing loan, overdraft, payment of credit card), transfer of funds between accounts maintained in inter branch of a bank (either same customer or different customers), transfer of fund between two accounts maintained at two different banks (inter bank)

In 2004 **BNM** promoted an open access policy to **IBG** by the removal of barriers to entry by permitting both local and foreign banking institutions to participate.

### **4.3 Has the Electronic Payment system improved the efficiency of the Malaysian financial system?**

From **BNM**'s perspective, a strong motivation for promoting e-payments is in the eventual savings from the reduction of paper processing and printing, and the more efficient distribution of money in electronic form in the financial system that generates immediate economic value.<sup>18</sup>

The policies that only allow banks to offer retail payment services were liberalised to allow qualified non-banking institutions to provide remittance services and banking institutions to appoint collecting agents to receive funds from the remitters in facilitating their remittance transactions. . The payment landscape continues to evolve with the banking and non-banking institutions introducing new payment services that leverages on

<sup>17</sup> Bank Negara Malaysia Annual Report 2005 pgs. 216 – 230 Available online:-  
<http://www.bnm.gov.my/files/publication/ar/en/2005/cp10.pdf>

<sup>18</sup> Zeti Akhtar Aziz: Migration to E-payments:- Keynote address at the Payment Systems Forum and Exhibition 2005, Kuala Lumpur, 28 November 2005. Available online:-  
[http://www.bis.org/review/r051215b.pdf#search=Payments%20Systems%20%20RENTAS'](http://www.bis.org/review/r051215b.pdf#search=Payments%20Systems%20%20RENTAS)



modern technology such as the Internet, smart cards and mobile phones. **BNM** has also permitted more non-bank issuers to enter the electronic money market, e.g. shops, restaurants and business entities through VISA, MASTER and other cards, via electronic, internet, telecommunication means. For example, Digi handphone account holders may transfer credit balance to another Digi handphone account holder either through internet or handphone. There can also be events: donations, Malaysian Idol voting, One in a Million competition voting and the current FIFA Football World Cup 2006 – gaming through handphones whereby the transfer of fund is effected via electronic means.

#### 4.4 What is the Usage of Electronic Payment system among Small and Medium-sized Enterprises?

The term ‘small and medium-sized enterprises’ is not defined under the Payment Systems Act, thus a borrowed definition may be of assistance, the European Commission generally defines Small and Medium-sized Enterprises or SMEs as companies whose headcount or turnover falls below a certain limit. Such types of businesses could also mean Small or Medium sized Business or SMBs.

In Germany such a company has about 500 employees and in Belgium such an industry has about 100 employees. Today the European Union recognizes companies with fewer than 50 employees as ‘small’, and those with fewer than 250 employees as “medium”.

However, Sean Ong, the director for commercial business, Cisco Systems Malaysia, may not be in favour of using employee strength as a measurement to determine the nature of the business. He clarified that there should be a distinction between the very small businesses and the larger enterprises with a staff strength of hundreds.

“From research carried out by Cisco it can be understood that for SMBs or SMEs, are more concerned about calculating costs first, then customer reaction, securing business assets, operational effectiveness and competitive pressure — in that precise order”.<sup>19</sup>

However, it cannot be denied that this mode of payment systems generally provides the following advantages to all types of businesses, such as:

- giving an immediate payment alternative to cash and cheques; and
- speeding the purchase and payment process or “line busting”

Besides these facilities, payment systems also reduce cost. In the physical world, where payments are made through cash or cheques, the cost of handling cash and cheques, are significant. The payment system removes this cost, this mode of payment assists the conversion of cheque and cash transactions to credit or a debit transaction without replacing or modifying the current infrastructure.

The **PSA 2003** is aimed at ensuring and encouraging small and medium type of businesses to use the new mode of paying systems as this system would boost the economy and the same time allow the **BNM** to supervise and intervene if it is of the opinion that these businesses do not go in line with the set objectives.

An example of a Large Enterprise using the payment system would probably be as follows: The Malaysian Electronic Payment System (MEPS) MEPS Interbank GIRO Payment System (MEPS IBG) is an interbank fund transfer system provided by (MEPS) precisely facilitates payment and collection processes. This system is open to all BIMB customers to allow fund transfer be done faster, more convenient with security guaranteed.

It was identified in 1996, that the status of using E-commerce among those SMEs in Malaysia is comparatively low and one of the reasons being that many lack confidence in doing online payment systems. However, the types of SMEs which could currently use this facility could probably be the services and manufacturing sectors compared to the agricultural sector. This is because they both these sectors have better access to computers and the internet. Furthermore, these sectors are able to the financial assistance which is needed to accommodate the payment systems compared to agricultural sector.

## 5. CONCLUSION & RECOMMENDATIONS

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<sup>19</sup> *SMEs need to embrace ICT*, Computerworld, The Monthly For Malaysia’s IT Leaders, January/February 2006.

Generally the payment system in Malaysia remains predominantly paper-based with cheques still accounting for 95.1% of the total value of non-cash payments in 2005.<sup>20</sup> In September 2005, **BNM** undertook a study in Malaysia, identifying reasons for the issuance of large value cheques. Discussions with several high issuers of cheque revealed that the main reasons were due to its:-

- wide acceptance.
- convenience and a relatively cheaper payment instrument.
- several inherent limitations in the electronic payment systems currently offered such as:-
  - the absence of payment reference and notification,
  - lack of account validation procedures,
  - higher charges imposed for electronic payments,
  - payment limits imposed on electronic payments via the ATM and Internet banking facilities,
  - limited participation of banking institutions compared to the cheque system and
  - limited infrastructure to facilitate the accessibility of electronic payment services.

In conclusion it can be said that while electronic payments have been made available in the marketplace, with **BNM** having very wide powers of licensing, regulating and supervision, additional measures and initiatives needs to be undertaken to address the concerns highlighted in the 2005 study to popularise electronic payments generally and among those SMEs specifically. These include conducting awareness campaigns as to their security and convenience while equally importantly making electronic payments more cost effective.

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<sup>20</sup> Bank Negara Malaysia Annual Report 2005 pgs. 216 – 230 Available online:-  
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