E-GOVERNMENT IMPLEMENTATION IN MALAYSIA: A COMPARISON OF MALAYSIA'S AND KOREA'S E-GOVERNMENT

By

Haniff Zainal Abidin

THESIS

Submitted to
School of Public Policy and Management, KDI
in partial fulfillment of the requirements
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ABSTRACT

E-GOVERNMENT IMPLEMENTATION IN MALAYSIA : A COMPARISON OF MALAYSIA'S AND KOREA'S E-GOVERNMENT

By

HANIFF BIN ZAINAL ABIDIN

In the 21st century, most governments are turning to opportunities of new operating paradigms through technologies to cater the demands from citizenry for more efficient, transparent and timely service. The computer and especially the internet had a profound effect on accelerating the spread of knowledge, foreseeing this potential internet era in improving the government's efficiency, Malaysia had a adopted a bold vision to creating a new IT oriented government. Malaysia had launched The Multimedia Super Corridor (MSC) in August 1996. It is part of a strategy to accelerate Malaysia's entry into the Information Age while gearing itself towards attaining the status of a fully developed nation. Thus E-government was introduced as one of the flagships of the MSC. However, Malaysia faces some obstacles which had slowed the implementation pace.

Meanwhile, the Korean government had been successful in adjusting its organization and administration for the coming digital age. Korea's e-Government can be characterized by four concepts: the Government of Online Service, the Paperless Government, the Knowledge-based Government and the transparent Government. The recent project, the G4C Project has produced a system to provide citizens with greater ease and convenience. Citizens can easily access information kept by various agencies. Thus, information will be shared, therefore reducing the number of documents, and they will be offered information with which they can process the service separately or in a package. This thesis covers certain scopes such as the vision, task and effort done by respective governments in accomplishing their mission. It also clarifies on the current status of the implementation which includes the effectiveness and the efficiency of the programs conducted under the Korea's e-government plan.

Malaysia has done moderately well in implementing the e-government under the roof of the Malaysian Multimedia Super Corridor flagship concept. However, the progress of the implementation is going at a slow phase due to the concept of the ineffectiveness of the pilot project concept and its initiatives in pushing government

and agencies to produce online services to compliment the Government Official Web Portal (My Gov). The slow process of reengineering the work process in ministries is seen as another obstacle. Certain suggestion based on Korea’s success story is hope to improve and accelerate the e-government implementation in Malaysia.

ACKNOWLEGDEMENT

This Thesis would not have been made possible with the support of the KDI School, particularly, Professor Jin Park, a dedicated professor of KDI School which has been a great contributor and advisor for my thesis. I would also wish express my thanks and appreciation to the Government of Korea and the Government of Malaysia for giving me the chance to study in KDI school and produce this thesis. Without the support from both governments, I would not be able to garner priceless knowledge regarding the e-government status of both countries.

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INTRODUCTION

In the era of Information Technology, E-government is perceived as a tool to reinvent the government to a much more efficient mechanism to boost the economy. Malaysia had launched the Multimedia Super Corridor (MSC) in August 1996. The e-government is planned under the MSC as a part of a strategy to bring Malaysia to the information age toward becoming a fully develop nation.

Malaysia has become an example of the most attractive growth markets in Asia, with average growth rates of about 6 - 7% in the last 30 years and a rather solid standing during the downturn of the Asian crisis from 1997 on. With growing consumer spending and a higher level of income of the population, also spending for telecommunication and information technology has been increasing since years.[1]

Economic policies in 2004 continue to focus on achieving sustainable growth with long-term resilience and competitiveness. Budget 2004, therefore, emphasizes on improving the enabling environment for business activity to enhance the contribution of the private sector in spearheading and promoting new sources of growth. During the year, the

[1] **Malaysian German Chamber of Commerce and Industry**, *Market Watch Malaysia 2005 - IT and Telecommunication*, **AHK Studies, 2005**.

Government expended time, efforts and money to ensure a more efficient public sector delivery system in line with pro-business and investor-friendly policies and ensure private investment growth.

Among the improvements made to the public sector delivery system are the simplifications of existing rules and regulations as well as work procedures. To facilitate business activities, approval for licenses and permits for trade, investment and other commercial activities were expedited. To a large extent, these measures contributed to lowering the cost of doing business, increasing efficiency and enhancing the nation's competitiveness.

In the ICT industry, the Multimedia Development Corporation (MDC) gained further ground in its endeavor to make the Multimedia Super Corridor (MSC) a global ICT hub. As at end-August 2004, there were 1,099 MSC status companies, comprising 768 Malaysian-owned, 302 foreign-owned and 29 joint venture companies. The number of jobs created increased by 17.3%, from about 19,100 jobs in 2003 to 22,300 jobs in 2004, out of which 88% constitute knowledge workers in the fields of software development and programming as well as managerial and technical support in sales, finance and marketing. Currently, there are 65 international world-class companies operating in the MSC. In 2004, total sales from

MSC activities is expected to reach RM6.8 billion, of which RM5.3 billion are exports while RM1.5 billion are local sales.[2]

Meanwhile, Korea has become one of the economic giants in this era. History indicates Korea had confronted major obstacles before coming to this far to become one of the most advance countries in the world. During the Korean War (1950-53), United States (US) and other UN forces intervened to defend South Korea from North Korean attacks supported by the Chinese. An armistice was signed in 1953, splitting the peninsula along a demilitarized zone at about the 38th parallel. Thereafter, South Korea achieved rapid economic growth with per capita income rising to roughly 14 times the level of North Korea. In 1993, KIM Young Sam became South Korea's first civilian president following 32 years of military rule. South Korea today is a fully functioning modern democracy. In June 2000, a historic first North-South summit took place between the South's President KIM Tae-Jung and the North's leader KIM Jong Il.[3]

Since the early 1960s, South Korea has achieved an incredible record of growth and integration into the high-tech modern world economy. Four decades ago GDP per capita was

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[2] **United Nations, UNPAN Economic Report**, *Economy Management and Outlook : Malaysia,* **United Nation Publications, 2005,online, (www.unpan.org), accessed 15th December 2005**

[3] **Central Intelligent Agency World Factbook,** *South Korea, Country List,* **1st November 2000,online (www.cia.gov), accessed 15th December 2005**

comparable with levels in the poorer countries of Africa and Asia. This success through the late 1980s was achieved by a system of close government/business ties, including directed credit, import restrictions, sponsorship of specific industries, and a strong labor effort. The government promoted the import of raw materials and technology at the expense of consumer goods and encouraged savings and investment over consumption.

The Korean government took great steps to create the foundation for an e-Government in the mid-1980s through the National Basic Information System project. The first and second stages of the National Basic Information System (1987~1996) involved the compilation of databases that stored information about finances, vehicle registration, and other critical data for governing the nation. When the government-wide computer network was completed, citizens could request government-issued resident registration, real estate, vehicle registration papers as well as other certified documents from any district or local office in the country. Consequently, required documents for submission have been substantially reduced and the time to process a government service has been shortened.

In the mid-1990s, the rapid adoption of information technology around the world spurred the efforts of the Korean government to build a nationwide high-speed communications network. The 'Framework Act on Informatization Promotion' was enacted

and the government channeled resources into upgrading the telecommunications infrastructure. The results from these efforts have made Korea the nation with the highest rate of broadband penetration among member nations of the Organization for Economic Cooperation and Development (OECD). Korea is widely recognized around the world for having the most advanced telecommunications infrastructure.[4]

The success of Korea's and Malaysia's effort in e-government should be compared. Based on the United Nation's Global E-government Readiness Report 2005, Malaysia is placed 42nd whereas Korea's is at the fifth place. This indicates Malaysia's e-government implementation through pilot projects still has a long way to go but is going on the right track. There are some problems which need to be ascertained in order to solve the implementation problem in Malaysia through a comprehensive project management analysis and comparing it to other countries which are more advanced in this arena such as the Republic of Korea.

1.1. **Objective and Significance of Study**

The main of objective of this paper is to study and analyze the success of Korea in implementing the e-government project which had made them among the top

[4] **Ministry of Government Administration and Home Affairs,** *Completion of e-Government Framework, Special Committee for e-Government Republic of Korea,* **January 2003.(www.mogaha.go.kr) assessed 17th December 2005**

5 countries in the list of UN's E-government Readiness Report. A literature review is conducted to generate some ideas on how Malaysia could benefit from Korea's success. Some comparison on the current data of both countries regarding its website measure and IT infrastructure is made to understand the success of Korea.

1.2. Limitations of the Study

This study is only based on secondary data obtain on several websites, government reports and books. The compilation of this thesis is made through a literature review, a simple data comparison and personal observation. Information and data regarding was taken from reports from the Korean and Malaysia Government regarding the implementation of e-government. The limitation of the study is due to the time constraint of conducting interviews and surveys and the difficulties on obtain raw data regarding the actual usage of e-government in Malaysia in a short period of time.

1.3. Research Methodology

1.3.1. Source of Information

The study was based on the secondary data compiled by the United Nation, the Ministry of Government Affairs and Home Affairs (the

Government's official websites and reports), Korea and Economic Planning Unit, Malaysia (the Government's official web portal and books), the Malaysian Commission of Multimedia and Communication of Malaysia.

1.3.2. **Method of Analysis**

This thesis is basically conducted through a literature review and the analysis of the reports made by the United Nation on the e-government readiness in 2005. However, some data comparison of Malaysia and Korea's was made in terms of the IT infrastructure of respective countries. Personal observation of both governments' official websites was conducted to analyze the difference.

CHAPTER 2 : E-GOVERNMENT : A LITERATURE REVIEW

2.1 Introduction To E-Government

What is E-government? E-government's definition depends on the several perceptions of the people. E-government is generally defined as a way or a method use by governments to provide better services to citizens and businesses with a more efficient working system by using the most innovative information and communication technologies, particularly web-based Internet applications. E-government is also a new method in providing services through information technology which minimizes the duration of services provided.

The World Bank refers e-government to the use by government agencies of information technologies such as Wide Area Networks, the Internet, and mobile computing that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.

There are many definitions of e-government, and the term itself is not universally used. The differences are not just semantic and may reflect priorities in government strategies. Basically, definitions fall into three groups (OECD):

I E-government is defined as Internet (online) service delivery and other Internet-based activity such as e-consultation.

II E-government is equated to the use of ICTs in government. While the focus is generally on the delivery of services and processing, the broadest definition encompasses all aspects of government activity.

III E-government is defined as a capacity to transform public administration through the use of ICTs or indeed is used to describe a new form of government built around ICTs. This aspect is usually linked to Internet use.

Definitions and terms adopted by individual countries have shifted as priorities change and as progress is made towards particular objectives. This is as it should be; the area is a dynamic one and policies and definitions need to remain relevant. In the context of the OECD E-Government Project, the term "e-government" is defined as:

The use of information and communication technologies, and particularly the Internet, as a tool to achieve better government.[5]

One of the most important aspects of e-government is how it brings citizens and businesses closer to their governments. There are eight different potential types or models in an e-government system that is useful to define scope of E-government studies: Government-to-Citizen (G2C); Citizen-to-Government (C2G); Government to-Business (G2B); Business-to-Government (B2G); Government-to-Government (G2G); Government-to-Nonprofit (G2N); Nonprofit to-Government (N2G); and Government-to-Employee (G2E). However, the Korean government uses the G4C, which has a much broader concept of e-government, a one-stop centre for citizens to connect with the government electronically.[6]

In State of Texas's Electronic Government Strategic Plan, (Department of Information Resources, State of Texas, January 2001), it is defined as: Government

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[5] **OECD E-Government Task Force**, *The Case for E-Government: Excerpts from the OECD Report*, **OECD Journal on Budgeting – Vol. 3, No. 1, 2003**.

[6] **Fang, Zhiyuan, Ph.D.,** *E-Government in Digital Era: Concept, Practice, and Development*, **International Journal of The Computer, The Internet and Management**, ***Vol. 10, No.2, 2002, p 1-22***

activities that take place over electronic communications among all levels of government, citizens, and the business community, including: acquiring and providing products and services; placing and receiving orders; providing and obtaining information; and completing financial transactions.

Gartner's (2000) definition, "E-government is the continuous optimization of the service delivery, constituency participation and governance by transforming internal and external relationships through technology, the Internet and new media." This includes Government to Citizen, Government to Employee, Government to Business, and Government to Government. Recognize the implication of e-government, it can be defined as – the ability to obtain government services through nontraditional electronic means, enabling access to government information and to completion of government transaction on an anywhere, any time basis and in conformance with equal access requirement – offers potential to reshape the public sector and build relationship between citizens and the government.

Korea's government defines e-government as a service-type government that clients may access and use easily at anytime at anywhere, through various online administration services. E-Government can be characterized by four concepts: the

Government of Online Service, the Paperless Government, the Knowledge-based Government and the transparent Government. E-government would increases productivity and transparency of government by unifying the administration service system and publicly opening it. Government affairs using the cutting-edge information technology and electronic processing of services for people are the core of e-government.[7]

Meanwhile, Malaysia's definition is a multimedia networked paperless administration linking government agencies within Putrajaya (a government administration city) with government centers around the country to facilitate a collaborative government environment and efficient service to businesses and citizens.[8] Malaysia's Multimedia Super Corridor (MSC) was launched as a step to e-governance.

2.2 Types Of E-Government Partnerships

Zhiyuang Fang (2002) identifies and drives implementation of eight types of E-government which can bring significant benefits to the Government, citizens,

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[7] **Ministry of Government Administration and Home Affairs**, *Introduction of e-Government's business*, **online, (www.mogaha.go.kr), 1998-2005,accessed 15th December 2005**

[8] **Multimedia Development Corporation, Malaysia,** *Electronic Government : Malaysia's Experience*, **Kuala Lumpur, 26 March 2002,online, (www.mdc.com.my) ,2002, accessed 12th January 2006**

business, employees and other nonprofit organizations and political and social organizations. Types of E-Government can be classified into eight (8) categories which are:

2.2.1 **Government-to-Citizen (G2C)**

Provide the momentum to put public services online, in particular through the electronic service delivery for offering information and communications;

2.2.2 **Citizen-to-Government (C2G)**

Provide the momentum to put public services online, in particular through the electronic service delivery for exchange of information and communication;

2.2.3 **Government-to-Business (G2B)**

Actively drive E-transactions initiatives such as e-procurement and the development of an electronic marketplace for government purchases; and carry out Government procurement tenders through electronic means for exchange of information and commodities;

2.2.4 **Business -to-Government (B2G)**

Actively drive E-transactions initiatives such as e-procurement and the development of an electronic marketplace for government purchases; and carry out government procurement tenders through electronic means for sale of goods and services;

2.2.5 **Government-to-Employee (G2E)**

Embark on initiatives that will facilitate the management of the civil service and internal communication with governmental employees in order to make e-career applications and processing system paperless in E-office.

2.2.6 **Government-to-Government (G2G)**

Provide the Government's departments or agencies cooperation and communication online base on mega database of government to have an impact on efficiency and effectiveness. It also includes internal exchange of information and commodities.

2.2.7 **Government-to-Nonprofit (G2N)**

Government provides information and communication to nonprofit organizations, political parties and social organizations, Legislature, etc.

2.2.8 **Nonprofit-to-Government (N2G)**

Exchange of information and communication between government and nonprofit organizations, political parties and social organizations, Legislature, etc.[9]

2.3 **Characteristics of E-Government**

Based on the comparison and analysis of E- government types, Zhiyuang Fang (2002), concluded some characteristics of the government based on three segments, Information, Communication Online and Transaction. There are five types of e-government partnership use in understanding the characteristics of e-government. The detail of the characteristics can be seen in Table 1.

[9] **Fang, Zhiyuan, Ph.D.**, *E-Government in Digital Era: Concept, Practice, and Development,* **International Journal of The Computer, The Internet and Management, Vol. 10, No.2, 2002, p 1-22**

Table 1 : Characteristics of E-Government

Items	Information	Communication Online	Transaction
G2C and C2G	Information requests of a firm or the citizen regarding taxes, business licences, registers, laws, political programs, administrative responsibilities, etc.	Information requests and discussion regarding administrative processes and products; communication with politicians, authorities etc.	Online delivery of service and posting of results; electronic voting, providing solution online, and participation online, etc.
G2B and B2G	Information requests of a firm or the citizen regarding taxes, business licences, registers, laws, business programs, business policy, administrative responsibilities, etc.	Information requests and discussion regarding administrative processes for business and products; communication with politicians, authorities, etc.	Online delivery of service and posting of results; electronic transactions of accounting, e-auditing, e-procurement, e-shopping, etc.
G2G	Exchange of information among different authorities and different hierarchical levels, regarding administrative acts and laws, policy making, data, projects or programs, background information to decisions, etc.	Information is exchanged among different authorities and different hierarchical levels; discussion fora; communication in negotiation and decision making; interaction regarding administrative acts and laws, projects or programs, etc.	Inter-organisational workflow and exchange of data, exchanging policy and solution online, information and knowledge management, etc.
N2G and G2N	Exchange of information regarding administrative acts, administrative policy, data, registers, laws, political programs, background information to decisions etc.	Information is exchanged among different organizations and agencies; discussion fora; communication in negotiation and decision making; interaction regarding administrative acts	Intra-organisational workflow, and exchange of policy and solution, data, information and knowledge management, etc.
G2E	Exchange of information regarding works and performance, personnel policy, data, and notice for career management and development of government employees, etc.	Information is exchanged among different department or persons; discussion fora; communication in negotiation and decision making; interaction regarding works and performance, etc.	Interpersonal workflow, and exchange of personnel policy and solution, data, information and knowledge management, participation online, etc.

Source : Zhiyuan Fang, Ph.D., E-Government in Digital Era: Concept, Practice, and Development

CHAPTER 3 : E-GOVERNEMT IN MALAYSIA : AN ANALYSIS

This chapter would give a clearer picture of Malaysia's e-government implementation in parallel with the Multimedia Super Corridor (MSC) vision. The functions of certain parties and how it is implemented is clarified under this chapter.

3.1 Malaysia's E-government Initial Implementation

In the early 1990s, Public Service Network (PSN), a network electronic service, was developed to give the Post Office and Permodalan Nasional Berhad (PNB) [10]access to the government's database. The purpose was levying service fees, revenue sharing with the government and enabling amendments to legislation in order to act as a service provider on behalf of the government.

Total Quality Management (TQM) was introduce in the government promoting quality based services through programs such as the client's charter, benchmarking and ISO9000 quality system programs. It acts as a catalyst for e-government initiatives to provide better services to the society.

[10] PNB is a government investment arm, it a wholly own by the government, main operation focusing on investments and unit trusts.

The Malaysian vision, "VISION 2020" [11], towards becoming a developed country, had pushed the government to reengineer its administration through information technology. The vision was mastermind by the former Malaysian Prime Minister, Dr. Mahathir Mohamed, is a national agenda with specific goals and objectives for long-term development that contributed towards Malaysia's economy growth.

VISION 2020 has lead to establishment of the Malaysia's Multimedia Super Corridor, which was the basis of e-government in Malaysia. In the early stage, through Intense discussion among the country's IT policymakers, the MC Kinsey international consulting group & Multimedia Development Corporation (a government own company) led to two dual objective of Malaysia's e-government, the first objective is to reinvent the government of Malaysia in terms of service delivery through the use of IT and the second objective is to catalyze the successful development of the Multimedia Super Corridor (MSC).

Seven Flagship applications were identified as the pioneering MSC project. E-

[11] Vision 2020 is a vision borne by the former Prime Minister of Malaysia, Dr. Mahathir Mohamad, envisioning Malaysia as an advance country after year 2002.

government is the first flagship under MSC, which makes MSC as the backbone of e-government, Malaysia believe that e-government should be integrated with other flagships such as Smart-schools, Borderless Marketing & Worldwide Manufacturing Web. To ensure the success of e-government implementation, Malaysia Administrative Modernization and Management Planning Unit[12] (MAMPU) under the Prime's Minister Department was given the responsibility to implement the e-government mission.

3.2 National Information Technology Council

NITC was formed in 1994 as national planning body to drive ICT utilization for national development. NITC was provides the infrastructure or basis of MSC which was introduced in 1996. It was chaired by the Prime Minister and MIMOS (a government link company) was the secretariat, the secretary being the President/CEO of MIMOS. The NITC strategic coordination framework shows the various linkages between the relevant players.

[12] The Malaysian Administrative Modernization and Management Planning Unit (MAMPU) was established in My 1977 as an agency within the Prime Minister's Department. The main role of MAMPU is introducing administrative reforms in the public sector to upgrade the quality, efficiency and effectiveness of the Malaysian public service in accordance with national goals.

The framework served not only as a coordination mechanism but also as a planning tool. In 1996, NITC came out with the National IT Agenda (NITA), a document outlining how balanced ICT development ought to be driven. The working model for NITA is the National IT Framework (NITF), which focuses on the balanced development of people, info structure, content and applications to create value, to provide equity and access to all Malaysians, and to qualitatively transform our society into a values-based knowledge society by the year 2020. This document formed the basis for the 'informatization of society' i.e. the use of ICT in all walks of life to improve productivity and enhance quality of life. The focus was more on ICT4D to address the 'equity' issue.[13]

3.3 The Multimedia Super Corridor (MSC)

The Multimedia Super Corridor (MSC) is both a physical area and a paradigm shift for creating value in the Information Age. It is an ICT hub where Malaysia plans to induce IT companies to invest in the area. For Malaysians, it is the "Silicon Valley" of Malaysia. The MSC's area is 15 X 50 km Corridor, stretching from the Petronas

[13] **Shariffadeen, Dr Tengku Mohd Azzman, MIMOS, MALAYSIA**, *National ICT Policy Planning and Strategic Intervention in Malaysia*, **21 February 2004, SitEXPO 2004, 18 –21 Février 2004, Casablanca, Morocco, online, (www.mimos.com.my) accessed 15th December 2005**

Twin Towers in the north to the Kuala Lumpur International Airport in the south; and encompasses Cyberjaya (the Technology Core) and Putrajaya (the new administrative capital of Malaysia). Implementation of the MSC is divided into three phases from 1996-2020. To date, there are more than 900 multinationals, foreign-owned and home-grown Malaysian companies focused on multimedia and communications products, solutions, services and; research and development.[14]

The MSC provides the IT infrastructure for the e-government implementation was a strategic approach. The heart of the government administration, PUTRAJAYA, is located in the heart of MSC. In terms of IT infrastructure, the government has the widest opportunity to create a good e-government through establishing network to the state government throughout the country.

3.3.1 **Top MSC initiatives and flagship applications**

Many innovative flagship applications have been developed in the MSC top accelerate its growth. They are focused on the development of Smart Schools, Telehealth, e-Business, smart card technology, electronic government, technopreneurship.

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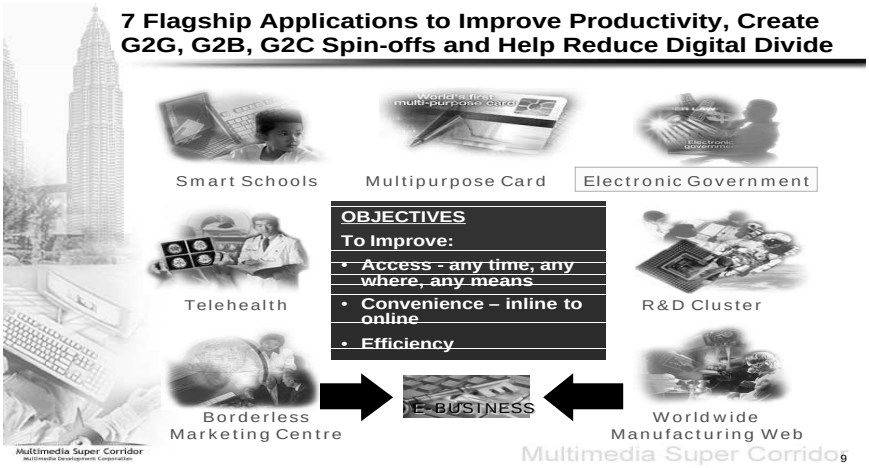
[14] **The Multimedia Super Corridor,** *About MSC,* **Multimedia Development Corporation, 1996-2005, online, (www.mdc.com.my), accessed 16th December 2005**

A brand new initiative of the MSC is the Creative Multimedia cluster, which aims to catalyze the development of the Malaysian creative content industry in Malaysia, engaging the participation of global producers.

Figure 1 : Malaysia's Seven MSC Flagship Application



3.3.2 **Multimedia Development Corporation's (MDC) Role in E-Government**

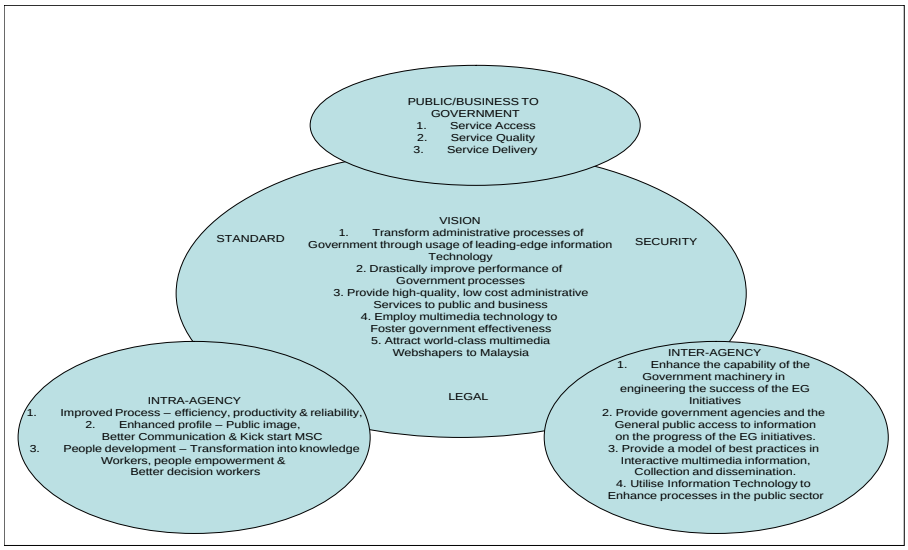
The government believes through a joint venture between the government agency particularly MAMPU and the private sector is the most effective way to implement the e-government in Malaysia. Multimedia Development Corporation, mandated to oversee the development of the MSC is the Multimedia Development Corporation (MDC) based in Cyberjaya. Initially a Government-owned corporation but now incorporated under the Companies Act, MDC facilitates applications by multinational and local companies to re-locate to the MSC. It globally markets the MSC, shapes

MSC-specific laws, policies and practices by advising Malaysian Government and standardizes MSC's information infrastructure and urban development.[15]

3.4 The Vision of Malaysia's E-Government

Malaysia's vision was to transform the government's administrative process and service delivery through the use of Information Technology and Multimedia. It also envisions a future where all components of society can communicate and transact their operations in an effective and efficient manner.[16]

Figure 2 : **The Malaysian Vision of Electronic Government**



Source: Muhammad Rais A. Karim, Reengineering the Public Service, Pelanduk Publication, 1999

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[15] **The Multimedia Super Corridor,** ***About MSC***, **Multimedia Development Corporation, 1996-2005, online, (www.mdc.com.my) accessed 16th December 2005**

[16] **Abdul Karim, Muhammad Rais**, *E-government in Malaysia: The Multimedia Super Corridor And The E-government vision*, **Chapter 2, Pelanduk Publications, Selangor, 2003**.

3.5 **Malaysia's E-Government Services**

The preliminary landscaping was to develop more than 80 applications covering the gamut of citizen/business-to-government, inter-agency and intra-agency service. Each service is categorized in several categories as follow;

I. Lodgment

Enables public to submit and/or process applications electronically to the government for services.

II. Payment

Enables electronic transfer to monies between public and government as payment for services, fees & lines

III. Information

Enables general public to access information on-line about e-government, regulations and services

IV Communications

Enables government to communicate with the public electronically or via multimedia mediums

IV. Procurement

Enables government to procure and or tender electronically with respective businesses

V. Polling

Provides easy yet secured electronic channel for government to reach out to public for surveying purposes

VI. Customer Care Management: Provides general public with a one-stop help desk centre

VII Public Complaint: Provides single interface to public to relay grievance effectively and conveniently.

3.6 **Malaysia's E-Government Structure and Pilot Projects**

The highest level of the E-government implementation structure is the E-Government Steering Committee (EGSC), chief by the Chief Secretary to the Government. Members of the committee include representatives from the Economic Planning Unit (EPU), Implementation Coordination Unit (ICU), INTAN and the Ministry of Finance. The Committee provides the policy direction and approves the E-government programs and activities. The committee also monitors implementation

progress of each pilot project under the responsibility of lead implementing agencies. The pilot projects are:

3.6.1 **E-Services**

E-Services implemented by the Road Transport Department, Malaysia for vehicle registrations including bill payment, driver and vehicle registration and traffic summons payment. E-services or “The Electronic Delivery of Driver and Vehicle Registration, Licensing and Summons Services, Utility Payments and Ministry of Health Online Information” project was selected to showcase a citizen-to-government (G4C) application. In 2001, more than 16 million transactions pertaining to driver licensing, vehicle registration and road transport summonses were transacted between the government and citizen.

Scope of transformation of this project emphasizes online service delivery, aiming to enhance efficiency, productivity and quality of government services anytime and anywhere.

3.6.2 **E-Procurement**

E-procurement is a comprehensive electronic procurement system which enables the government to enhance the procurement process. The Ministry of Finance was given the task to implement this pilot project with the help of various consultants. E-Procurement was chosen based on the high impact delivered by the service and the high feasibility of implementation due to the demand of the public. Government agencies had spent RM35 billion per year on total procurement.

Moreover, the government plans to fully implement the e-procurement system in 2005 but to date it is not fully implemented. There are still 73,000 out of 93,000 Government suppliers still unregistered with the Ministry of Finance's (MOF) e-procurement system in 2004. In 2005, Government is expected to procure some RM1bil worth of supplies through the system compared with RM400mil in 2004.[17]

In order to strengthen the e-procurement implementation, the government through Ministry of Finance had launched a directory for e-

[17] **The Star, Business Section,** *Register with ePerolehan, all suppliers told,* **7 April 2005, online, (www.thestar.com.my), accessed 20th December 2005**

procurement o 25th May 2005, called "*the ePerolehan-Direktori*"[18]. The *ePerolehan-Direktori* also provides a compilation of related articles and Government circulars on supplier registration with the Ministry of Finance via *ePerolehan* and *ePerolehan* enablement for both PTJs[19] and suppliers. It hopes that all suppliers through Malaysia will register by 2006 because all tenders will be conducted online.

Up to the first quarter of 2005, there are only 250 PTJs using the e-procurement amounted to RM69.5 million (USD 18.5 million). The total LO issued under the e-procurement was 18,311 total to RM118.6 million (USD 31.6 million)[20]

3.6.3 **Generic Office Environment**

The Generic Office Environment (GOE) or an electronic office provides a multimedia environment enabling the common functional components required to accommodate a variety of business functions, which

[18] E-Perolehan is a translation of the word E-Procurement in the National Language.

[19] PTJ stands for cost centers are departments or agencies which are given the responsibility to manage their on budget without any intervention of the central agency. The central agency would only send an outright grant to the respective PTJ

[20] **Suara eperolehan Bulletin**, *First Quarter Performance of eprocurement*, **June 2005, translated to English,online, (home.eperolehan.com.my) accessed 20th December 2005**

closely reflect any government agency's business processes. The GOE is customized to suit specific business needs of the Prime Minister's Office. The GOE consist of three modules:

I. Enterprise-wide Information Management System (EIMS)

EIMS provides a universal interface for users to manage, find, retrieve and compose the information they need in day-to-day work.

II. Enterprise-wide Communication Management System

III. Enterprise-wide Collaboration Management System

All three systems work together in an integrated fashion to provide technical transparency to the users and among the expected benefits form the GOE application are timely access to information and knowledge, efficient information management, data sharing and integration in a multimedia and paperless environment as well as better decision making.

3.6.4 **Human Resource Management Information System**

Human Resource Management Information System (HRMIS) is conducted by the Public Service Department with a mission to establish a common HR management system within the public service. HRMIS was

selected as a pilot project to provide a single interface for government personnel to perform human resource management functions. One of the objectives of HRMIS was to achieve effective staffing and rightsizing of the public service through better availability of human resource management information. The overall scope of the project covers areas such as strategy formulation and review, resourcing, development, career management and other related areas.

3.6.5 **Project Monitoring System**

The Project Monitoring System (PMS) is conducted by Implementation Coordination Unit (ICU), Prime Ministers Department. The objective is to establish a common project management system within the public service. The PMS is designed to provide a mechanism for planning, controlling and monitoring of development projects in an integrated manner. It also facilitate management in formulating policies and making better decisions for future planning based on historical information.[21] The system had evolved and currently the government is introducing the second version of the system called PMS II.

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[21] **Abdul Karim, Muhammad Rais**, *E-government in Malaysia :The Multimedia Super Corridor And The E-Government Vision,* **Chapter 4, Pelanduk Publications, Selangor, 2003**

3.6.6 **Electronic Labor Exchange**

Electronic Labor Exchange (ELX) is the sixth pilot project started in 1999. ELX's function aims to improve the mobilization f the nation's human resources and to ensure that manpower utilization is optimized through the systematic matching of job seekers to job vacancies. Job Clearing System (JCS), Labor Market Database (LMD) and the Office Productivity System (OPS) are three main applications o the ELX. These applications form a one-stop centre for labor market information accessible to the public and potential foreign investors.

3.6.7 **E-Syariah**

E-Syariah is the seventh E-Government initiative which was launched in 2002. It aims at introducing administrative reforms to upgrade the quality of services of the Syariah Courts[22] by enhancing the effectiveness of the Islamic Justice Department in coordinating and monitoring its respective agencies and to improve the productivity and efficiency of the Syariah Courts management nationwide.

[22] Syariah Court is a Court System covering such areas such as Marital Issues in accordance to the Islamic Legislation of Malaysia.

3.7 The EG*net

Integration of the government communication network is vital to facilitate the efficient flow of information and collaborative efforts across government agencies. The Government Integrated Telecommunications Network (GITN) Sdn. Bhd, a joint venture between to Government Link Companies (GLC), was formed to provide a single network to link all government applications.

Currently, EG*net is concentrating on linking the agencies implementing the E-government projects. It was first deployed in December 1999 at 12 sites for the Project Monitoring System (PMS II) pilot project. It is also able to provide an extensive range of connectivity services within government today with a high level network security.[23] However, the EG net has encountered some problems in it's implementation because it needs to have an efficient network system to cover hundreds of agencies and government department throughout Malaysia.

3.8 The Malaysian Government Official Web Portal (My Gov)

The Malaysian's Government Official Portal was created as a one stop portal to Malaysian in order to access all the services provided by Ministries and

[23] **Abdul Karim, Muhammad Rais**, *E-government in Malaysia :The Multimedia Super Corridor And The E-Government Vision*, **Chapter 4, Pelanduk Publications, Selangor, 2003**

Government Agencies. It is an integrated website linking all ministries which enables the citizen to obtain information particularly on education, transportation, health and other important issues. Online application was also available for transportation & immigration processes. To date, 2,997 Government forms can be downloaded for free and 364 online services are available on the Portal. The portal is coordinated by MAMPU and was built by several consultants.

CHAPTER 4 : LITERATURE REVIEW : E-GOVERNMENT IN REPUBLIC OF KOREA

4.1 Korea's E-Government Initial Implementation

Korea has started to lay the foundation for an e-Government since the late 1970s. Through the Five National Computer Network project of the early 1980s, the Comprehensive Plan for Korea Information Infrastructure Establishment project, and the "National Basic Information System" project of the late 1980s, the Korean government established a high-speed communications network and stored vital government records.

The Korean government took great steps to create the foundation for an e-Government in the mid-1980s through the National Basic Information System project. The first and second stages of the National Basic Information System (1987~1996) involved the compilation of databases that stored information about finances, vehicle registration, and other critical data for governing the nation. When the government-wide computer network was completed, citizens could request government-issued resident registration, real estate, vehicle registration papers as well as other certified documents from any district or local office in the country. Consequently, required

documents for submission have been substantially reduced and the time to process a government service has been shortened.

Through projects such as the Master Plan for Informatization Promotion and the Cyber Korea 21 project in the 1990s, information technology has been applied to enhance key government functions such as levying custom duties and approving patents while also fostering interagency collaboration. In 2001, the former Korean President announced a national vision for building a knowledge-based information society and gave a presidential order to organize the Special Committee for e-Government. The Committee selected 11 major e-Government initiatives. Among the 11 major e-Government initiatives are the National Pension System, Internal Tax Service, Integrated Local Administration System, National Education Information System, and Financial Management Information System.

The 'Framework Act on Informatization Promotion' was enacted in 1996 and the government channeled resources into upgrading the telecommunications infrastructure. The results from these efforts have made Korea the nation with the highest rate of broadband penetration among member nations of the Organization for

Economic Cooperation and Development (OECD). Korea is widely recognized around the world for having the most advanced telecommunications infrastructure.[24]

4.2 Korea's E-Government Background

Korea is often praised as a global Internet leader, as well as for other information technologies, and boasts one of the world's highest high-speed Internet connection rates. As many as 11 million of the total 16 million Korean households are wired to the broadband network. More than 70 percent of the 48 million population surf the Web on a daily basis (UNPAN, 2004).

Korea began to push efforts into laying the foundation for an e-Government since the late 1970s. Through the Five National Computer Network project of the early 1980s, the Comprehensive Plan for Korea Information Infrastructure Establishment project, and the National Basic Information System project of the late 1980s, the Korean government established a high-speed communications network and stored vital government records- resident registration, real estate, and vehicle records - in a digital format to create the foundation for an e-Government.

[24] MOGAHA, **Korea's e-Government,** *Completion of e-Government Framework, Special Committee for e-Government Republic of Korea,* **January 2003, online,(www.egov.go.kr) accessed 17th December 2005**

Through projects such as the Master Plan for Informatization Promotion and the Cyber Korea 21 project in the 1990s, information technology has been applied to enhance key government functions such as levying custom duties and approving patents while also fostering interagency collaboration. In 2001, President Kim Dae-jung announced a national vision for building a knowledge-based information society and gave a presidential order to the presidential secretary of the Cheong Wa Dae Policy Planning Bureau to organize the Special Committee for e-Government. The Committee selected 11 major e-Government initiatives and reported the successful completion of the project (October 2002) to President Kim Dae-jung[25]. Among the 11 major e-Government initiatives are the National Pension System, Internal Tax Service, Integrated Local Administration System, National Education Information System, and Financial Management Information System.

4.3 **Korea's E-Government Vision**

Korea's vision e-government was very realistic considering to its outstanding IT infrastructure. The vision is to provide citizens with the highest-level service and optimal environment for business activity through constructing an internet based e-

[25] **MOGAHA, Korea's e-Government**, *Completion of e-Government Framework, Special Committee for e-Government Republic of Korea,* **January 2003,(www.egov.go.kr) accessed 17th December 2005**

government single window with secured and credible information distribution infrastructure.[26]

The Special Committee for E-Government (SCEG) was created to promote inter-agency cooperation. SCEG's status as a committee under the Presidential Commission on Government Innovation ensured that this critical support was forthcoming. SCEG directly reported to and received instruction from the President as a body independent of ministerial agendas. To support the committee, two coordinators were appointed: a civilian expert, the President of the National Computerization Agency, along with the Presidential Secretary of Policy Planning, a high-ranking official.

In 2005, SCEG has made some progress in a number of areas: The Government for Citizens (G4C) system has been established to connect the hitherto silo-based databases in the Ministry of Government Administration and Home Affairs (MOGAHA), Supreme Court of Korea, Ministry of Construction and Transportation (MOCT) and other public bodies handling resident registration, real estate, and vehicle registration

[26] **MOGAHA, Korea's e-government**, *Objective And Vision Of E-Government*, online, www.korea.go.kr **accessed 18th December 2005**

The Home Tax Service (HTS) allows taxpayers to file tax returns, receive bills, and process payments from their homes via the internet. The establishment of the Government e-Procurement Service (GePS), had improve the efficiency of procurement processes involving bidding, contract agreements, and payment for services or supplies take place live online.

The National Finance Information System (NAFIS) offers real-time financial information to high-level government employees by interconnecting the independent financial systems residing in each public agency. The databases for health insurance, pension insurance, industrial accident compensation insurance, and unemployment insurance policies which are the four major social insurance systems in Korea have been consolidated into a single network.[27]

4.4 Objective of Korea's e-Government

The Korean government believes a concrete objective would lead to a successful implementation of Korea e-government. The objectives of the e-

[27] **MOGAHA, Korea's e-government**, *Objective And Vision Of E-Government*, online, www.korea.go.kr **accessed 18th December 2005**

government are:

4.4.1 Government of Maximized Productivity and Transparency

The vision of Korea's e-government is to provide citizens with the highest-level service and optimal environment for business activity through constructing an internet based e-government single window with secured and credible information distribution infrastructure.

4.4.2 Realization of Citizen-Oriented Service For People

The realization of citizen-oriented service for people as an objective, through constructing an internet based e-government single window.

4.4.3 Maximization of Work Processing Efficiency And Transparency

It is an objective e-government, as government's service for business, to maximize efficiency and transparency of work processing between government and business by applying/spreading e-commerce process to transactions between government and business.

4.4.4 Maximization Of Productivity And Transparency Of Government Administration Processing

It maximizes productivity and transparency of administration processing by completing an informatization basis for core national tasks and by realizing paperless administration through electronic approval and document distribution.

4.4.5 Construction of Secured And Credible Information Distribution Infrastructure

It is planned to construct a basis for online administration service use through spreading electronic signature for personal information protection, electronic identification verification and etc. in order to construct a secured and credible information distribution infrastructure for information distribution and management infrastructure, and to have a phased construction of integrated computer environment within the government.[28]

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[28] **MOGAHA, Korea's e-government**, *Objective And Vision Of E-Government*, online, www.korea.go.kr **accessed 18th December 2005**

International cooperation between Korea, China and Japan in the area of information technology provides an opportunity for Korea to take a leading role in the world market. Korea plans to lead regional cooperation in IT among Asian countries by establishing a promotion system for the information culture in the Asia-Pacific region.[29]

4.5 Future Plans for Korea's E-government

The Korean government had identified nine major tasks which will strengthen the implementation of its e-government after all 11 major tasks are completed, the future directions are;

I. Expanding electronic civil application services

II. Systematic information management

III. Strengthening Democracy: Policy making process

IV Innovating the government's operating system

V Implementing BPR (Business Process Re-engineering)

VI Attracting e-government specialist from within the government

VII Integrating the management of electronic resources

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[29] **Ministry of Information and Communication Republic of Korea**, *e-KOREA VISION 2006: II Vision: The Global Leader, e-Korea,**online,2002 accessed 15th December 2005**.*

VIII Enlarging infrastructure

IX Greater public-private partnership[30]

4.6 Korea E-Government Features

The Korean e-government features Government for Citizens (G4C), which includes the Home Tax Service, the Social Insurance Information Sharing System and the National Education Information System. Its G2B program includes the e-Procurement System, and the G2G program contains the Personnel Policy Support System, the National Finance Information System and the Local Government Administration Information System. Support systems such as the e-Approval & e-Document Exchange, e-Signature and e-Seal System and the Integrated Computing Environment, complement the Korean e-government system.

4.6.1 The G4C (Government For Citizens) System

The G4C was initiated to solve problems or enhance the government's service by eliminating unnecessary visits to government agencies, introducing one-stop processing of civil applications, and eliminating or reducing

[30] **Ministry of Planning & Budget, Republic of Korea**, *How Korea Reformed the Public Sector, Chapter 8: Electronic Government*, **Samil Planning**, Seoul, 2003.

requirements for auxiliary documents by sharing information through the website.

In attempting to link together all related information currently maintained separately by the agencies that are responsible for these five key civil application – the MOGAHA, MOCT, NTS and the Supreme Court, the G4c addressed this problem by forming a unified pan-governmental system for project implementation through a single working group for planning and inter-agency coordination in order to mediate dissentions and conflicts. In October 2000, G4C Project commissioned s civilian specialist firm for the BPR of 5 major categories of application as the first phase. The first phase public service deliver began in February 2002 and fully-fledged services began in early November 2002.

4.6.2 **Key Features of the G4C Project**

The G4C project can be divided into three major features. The features are;

I. The Portal Site (Single Window) for civil application

The portal was built to enable online civil applications (www.egov.co.kr), which now offers guidance for some 4,000 types of civil applications which mapped by event of the applicant's life cycle, such as birth certificates, marriage licenses, documents pertaining to relocation and real estate sales.

II Building information sharing systems

Through sharing systems, five (5) major categories held by MOGAHA, MOCT, NTS and the Supreme Court; residents, real estate, vehicles, corporations and taxes enables basic information for policy making and administrative processing linked among agencies

III Building Information Infrastructure and Improving laws and Institutions

It is crucial to build watertight security and authorization system for safe and reliable flow of information because information on administration and civil application processing contain private data and important policy items.[31]

[31] **Ministry of Planning & Budget, Republic of Korea**, *How Korea Reformed the Public Sector, Chapter 8: Electronic Government,* **Samil Planning, Seoul, 2003**

CHAPTER 5: FINDINGS: COMPARISON OF MALAYSIA'S AND KOREA'S E-GOVERNMENT

Generally, Korea had managed to plan and implemented the e-government efficiently through the coordination of MOGAHA compared to Malaysia's struggle in making e-government a success. Although, Malaysia had a bigger concept of e-government with the launching on the MSC and had launched the e-government initiative earlier than Korea (launched in 1994) but the implementation is running at slower pace. Korea made impressive progress especially in the G4C project. This is based on the United Nation's e-government readiness report indicating Korea still maintaining at the fifth spot while Malaysia slip down to the forty three spot. In order to further understand the difference of both countries e-government planning and implementation concept three topics is selected to understand the difference.

5.1 Difference between the E-Government Implementation Strategies

Both countries had a quite similar objective in implementing e-government. Korea's comprehensive planning and implementing the e-government system has made was the major success of its e-government. Korea's main idea was to strengthen the IT infrastructure of the country which is the basis of implementing the e-government. Foreseeing the importance of IT infrastructure, The National

Computerization Agency, had laid a concrete foundation since 1987 for Korea to leap forward as an IT stronghold, from spearheading the National Basic Infrastructure System Project to constructing high-speed information networks. Korea was ranked first in the world for four years in a row since 2001 in terms of number of broadband Internet Subscribers (OECD 2005).

The Informatization White Paper' published yearly since 1994 in order to organize and analyze the status of national informatization in a comprehensive way an effective way to boost the informatization status which lead to the success of the e-government. The e-government implementation through it's eleventh (11) initiative was fruitful due to the committed of the President and good IT infrastructure.

In Malaysia's case, the government had also made some plan of the informatization policy. National Technology Information Council NITC was formed in 1994 as national planning body to drive ICT utilization for national development and it is chaired by the Prime Minister The National IT Agenda (NITA) was the main document to implement the informatization policy through NITF working model. However, Korea's effort of analyzing the status of its informatization yearly was a great effort which Malaysia lacks. The informatization policy wasn't the

government's role but the role was given to the private sector such to built and create this informatization policy. MDC and MIMOS were the key players of the informatization project.

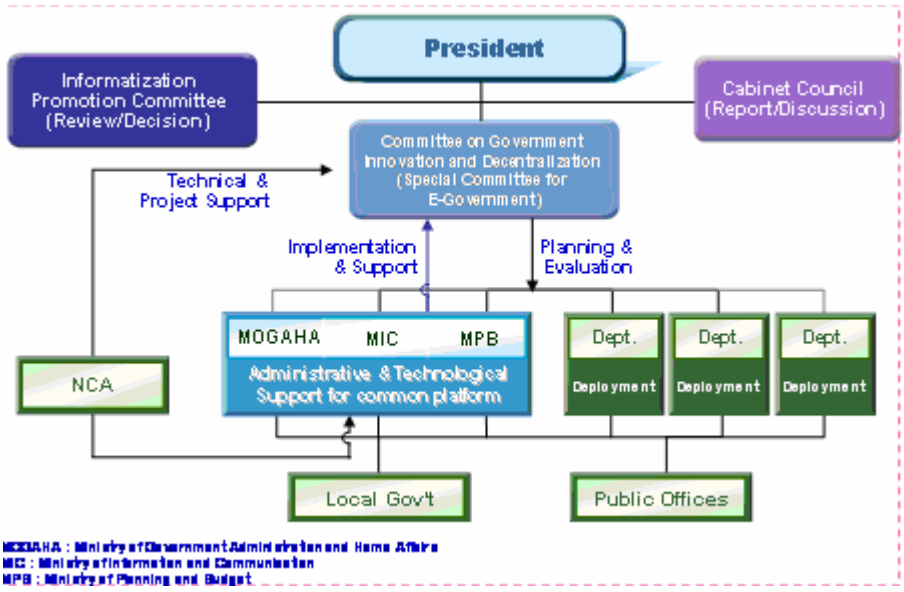
However, Malaysia implemented e-government in a unique way. Without any benchmarking done, the e-government was implemented through Pilot Project method. This indicates the projects will only be implemented in stages to ensure the actual project implemented will be successful. The Pilot Project is conducted by Program Management Group (PMG) assisted by the Project Support Group (PSG). The reason behind implementing the pilot project could be perceived as a measure to ensure the success of the project which is implemented by stages without incurring huge unwanted cost to the government.

5.2 E-Government's Organizational Structure of both Countries

In January 2001, a former Korean President had ordered to organize the Special Committee for e-Government. The SCEG was the main player in creating the master plan for e-government in Korea. Three main Ministries was appointed to implement and support the planning of SCeG, MOGAHA, Ministry of Communication (MIC) and Ministry of Planning and Budget (MPB). Among the

eleventh (11) major e-Government initiatives are the National Pension System, Internal Tax Service, Integrated Local Administration System, National Education Information System, and Financial Management Information System. Before 2003, three (3) ministries played an important role in implementing the E-Government.[32] In Figure 3, There were three main agencies responsible in Implementing the e-government before 2003.

Figure 3 : E-Government's structure before 2003

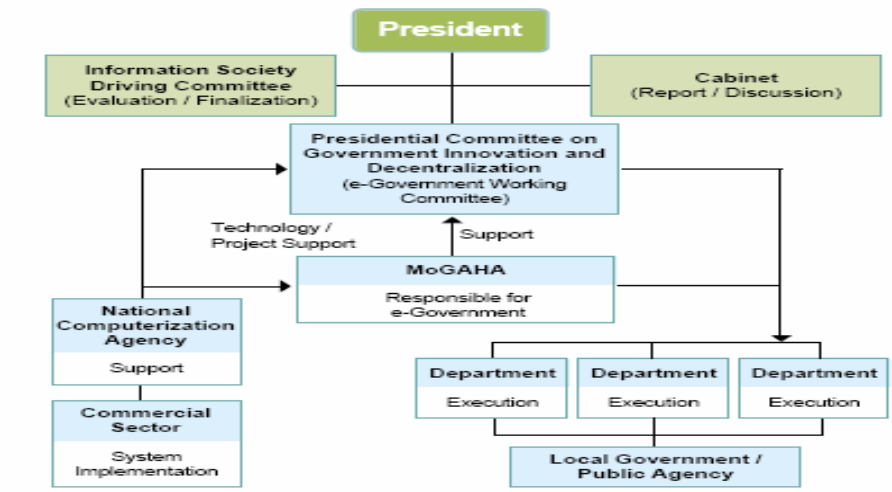


However, in 2003, the Participatory Government changed the role of e-government's driving organizations by assigning it under the Ministry of Government

[32] The concern ministries are The Ministry of Government Administration and Home Affairs, Ministry of Planning and Budget & The Ministry of Communication. All of them played an important role in implementing the e-government through program initiated by the government.

Administration and Home Affairs (MOGAHA) from the Ministry of Information and Communication (MIC), mending the government reform driving structure and amending the government organization law. The reason of this restructuring is to avoid the conflicts between ministries responsible in implementing the e-government, giving it to a single ministry to coordinate the e-government seem to be as the most applicable way for the government to achieve its objective avoiding conflict among ministries.

Figure 4 : E-Government Driving Organization after 2003

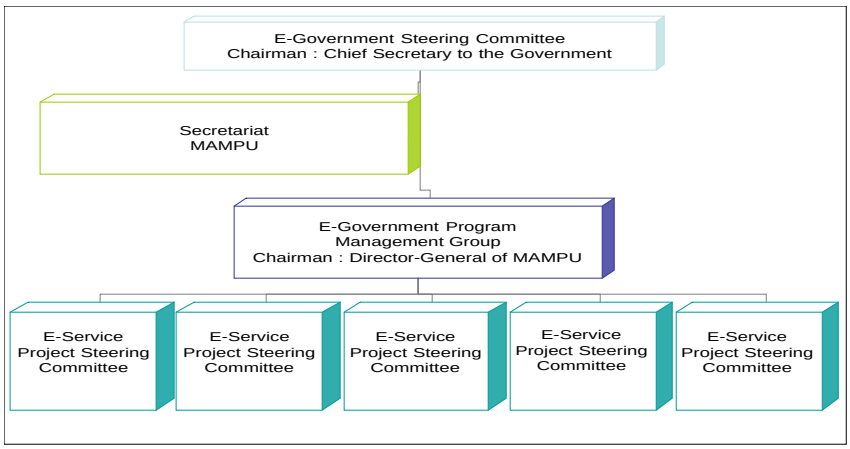


Source : MOGAHA, Republic of Korea

The result of changing the structure can be seen as the Republic had managed to become one of the top countries in managing the e-government (ranked 5th in the government readiness report of UN) compared to 2004 which they manage to obtain the 13th spot.

In Malaysia, The e-government implementation was part of the MSC flagship. The E-government Steering Committee is chaired by the Chief Secretary of the Government and the secretariat is MAMPU. The E-Government Program Management Group was chaired y the Director General of MAMPU. MAMPU dominated the whole steering process and until now the whole committee is still control by MAMPU. MAMPU is directly connected to the Prime Minister's Department enabling the Prime Minister have a clear picture of the status of E-Government. Contrary to Korea where before 2003, there were three main ministries and it has transferred the duty of monitoring the e-government project under MOGAHA. MOGAHA's role is quite similar to the function of the Public Service Department (PSD) of Malaysia except it doesn't function as a home affairs department. However, PSD role is confined to only implementing the Human Resource Management Information System (HRMIS).

Figure 5 : Malaysia's E-government Structure



Source: MAMPU, Malaysia

5.3 E-Government Readiness: Comparison between the Two Countries through the UNPAN Report

United Nation under its Department of Economic and Social Affairs Division for Public Administration and Development Management had conducted a survey on the E-government readiness of its 191 members. The e-government readiness analysis is based on website assessment; telecommunication infrastructure and human resource endowment. The e-participation index assesses the quality, relevance, usefulness and the willingness of government websites for providing online information and participatory tools and services to the people.

UN Global E-government readiness report 2005 indicates Korea are fifth in e-government readiness however Malaysia was only at the forty third spot. Korea has improved significantly compared to previous years Korea was on the thirteen spot in e-government readiness last year. On the contrary, Malaysia had lost grounds in improving the e-government readiness. This fact is reflected in the UNPAN report regarding the e-government readiness index in South and Eastern Asia, obviously Korea still maintain the top spot in this stipulated region while Malaysia has dropped to the fifth spot behind the Philippines which had improved significant compare to prior year. The table below indicates the current status of Korea's and Malaysia's ranking in the Eastern and Southern Asia region.

Table 2 : The E-government Readiness Index 2005 for Eastern and Southern Asia Region

	Country	Index	Global Rank in:		Change
		2005	2005	2004	
1	Republic of Korea	0.8727	5	5	0
2	Singapore	0.8503	7	8	1
3	Japan	0.7801	14	18	4
4	Philippines	0.5721	41	47	6
5	Malaysia	0.5706	43	42	-1
6	Thailand	0.5518	46	50	4
7	China	0.5078	57	67	10
8	Brunei Darussalam	0.4475	73	63	-10
9	Mongolia	0.3962	93	75	-18
10	Indonesia	0.3819	96	85	-11
11	Viet Nam	0.3640	105	112	7
12	Cambodia	0.2989	128	129	1
13	Myanmar	0.2959	129	123	-6
14	Timor-Leste	0.2512	144	174	30
15	Lao, P.D.R	0.2421	147	144	-3
	Average	0.4922			

Source : The E-Government Readiness Report 2005, UNPAN

The E-Government Readiness Survey 2005 assesses more than 50,000 features of the e-government websites of the 191 UN Member States to ascertain how ready the Governments around the world are in employing the opportunities offered by ICT to improve the access to, and the use of ICTs in providing basic social services. Employing a statistical model for the measurement of digitized services, the UN E-Government Survey 2005 assesses the public sector e-government initiatives of Member States according to a weighted average composite index of e-readiness based on website assessment; telecommunication infrastructure and human resource endowment.[33]

Through this UNPAN analysis the difference between Malaysia's and Korea's e-government are measured through several ways, Through the analysis conducted b the United Nation there are several key factors that push Korea to a better position while Malaysia had dropped to the 43rd spot from the previous 42nd spot last year. The table below shows the difference between Korea's and Malaysia's performance.

Table 3 : Comparison Of E-Government Performance Between Korea And Malaysia

[33] **United Nations, UNPAN**, *Global E-government Readiness Report 2005, from e-government to e-conclusion.* **Part I, United Nations Publication, New York, 2005.**

Measurement	Republic of Korea	Malaysia	Difference
E-government Readiness Index	**5th (0.8727)**	**43rd (0.5706)**	
Web Measure Index	**0.9769**	**0.5769**	**0.4**
Infrastructure Index	**0.6713**	**0.3048**	**0.3665**
Human Capital Index	0.9700	0.8300	0.14
Internet data	61.000	34.400	26.6
Internet users Index	0.904	0.510	0.394
PCs	55.800	16.700	39.1
PC Index	0.682	0.204	0.478
Telephone Index	0.5176	0.1746	0.343
Cellular Index	0.5871	0.3702	0.2169
Service Delivery	92.70	54.74	37.96
E-participation Index	4th (0.8730)	33rd (0.1746)	

Source : The E-Government Readiness Report 2005, UNPAN

Two main indexes is the main concern in this paper, the web measure index and the IT infrastructure index which is the most related factor of the e-government readiness performance. The basis of the two main indexes given by the United Nation can be justified as follows;

5.3.1 Analysis of the Both Countries Web Measure Index

In analyzing the web measure index there are five stages which is observed;

I Emerging Presence is Stage I representing information, which is limited and basic.

II Enhanced presence is Stage II in which the government provides greater public policy and governance sources of current and archived information, such as policies, laws and regulation, reports, newsletters, and downloadable databases.

III Interactive presence is Stage III in which the online services of the government enter the interactive mode with services to enhance convenience of the consumer such as downloadable forms for tax payment, application for license renewal.

IV Transactional presence is Stage IV that allows two-way interaction between the citizen and his/her government. It includes options for paying taxes; applying for ID cards, birth certificates/passports, license renewals and other similar C2G interactions by allowing him/her to submit these online 24/7. The citizens are able to pay for relevant public services, such as motor vehicle violation, taxes, fees for postal services through their credit, bank or debit card. Providers of goods and services are able to bid online for public contacts via secure links.

V **Networked presence** is Stage V which represents the most sophisticated level in the online e-government initiatives. It can be characterized by an integration of G2G, G2C and C2G (and reverse) interactions. The government encourages participatory deliberative decision-making and is willing and able to involve the society in a two way open dialogue. [34]

Base on these stages, four stages are selected to analyze the difference between Korea's and Malaysian e-government website is shown in the table below. In this comparison, the method of analyzing is based on main website of respective government covering three areas, the web layout, the information portrayed and the services provided.

[34] **United Nations, UNPAN**, *Global E-government Readiness Report 2005, from e-government to e-conclusion.* **Part I, United Nations Publication, New York, 2005.**.

Table 4 : Comparison of Korea's and Malaysia's E-government website feature

Republic of Korea	Malaysia
Emerging Presence Information given focusing two aspects the the government structure and mission including the e-government introduction, mission, objective and organizational of e-government. The other focus is the services provided and linkage to the services based on respective ministries. Korea has three main website (www.egov.go.kr, www.code.gcc.go.kr & www.korea.go.kr) which caters for different functions. The korea.go.kr is more for foreigner while the others are for the citizens. The one-stop e-procurement (www.pps.go.kr/ www.g2b.go.kr) is relatively easy to use because of its layout.	**Emerging Presence** Information focusing only regarding services provide in the webpage such as online application and linkage to respective ministries. No information of the mission, objective and organizational structure of Malaysia's e-government. Malaysia has only one main website (www.gov.my) but there are two websites regarding online service (www.eservices.com.my and www.myreg.com.my). The one-stop e-procurement (www.eperolehan.gov.my) still need more information to let users understand better of its function.
Enhance Presence Features divided into six prominent service sections such as Civil application, Economic-Finance, National Prosperity, Crime, Law, Justice Rights and Science-Technology. The website has linkage to related ministries and the focus for tourism, Investment and Culture was very informative in the main layout of the webpage.	**Enhance Presence** Divided into four main categories which are Business, Citizen, Government, Non-Citizen The website but doesn't have enough information regarding tourism, country's general information and culture in the main layout on the webpage. Main layout only provides linkage to respective ministries and services provide.
Interactive Presence Provide 4,700 types of civil services and 499 kinds of civil service applications. Online application features much more user friendly with information regarding the online service provided	**Interactive Presence** Provide 2,430 types of services with 3,066 downloadable forms. Online application features is less user friendly most of the online application services are merely on making online complaints. There are about 366 online services provided under the website
Transactional presence Among the transactional services provided are paying taxes; applying for ID cards, birth certificates/passports, license renewals The citizens are able to pay for relevant public services, such as motor vehicle violation, taxes, fees for postal services through their credit, bank or debit card. Providers of goods and services are able to bid online for public contacts via secure links	**Transactional presence** Among the transactional services provided are paying taxes; applying for ID cards, birth certificates/passports, license renewals The citizens are able to pay for relevant public services, such as motor vehicle violation, taxes, fees for postal services through their credit, bank or debit card. Providers of goods and services are able to bid online for public contacts via secure links

5.3.2 **Findings of the Web Measure Index**

Korea has managed to build three main website to cater the needs of its citizens and foreigners about the government administration. These webpage has also put emphasize to deliver information and services to citizens moreover, attracts foreigners to understand more about Korea. The method of the website is user friendly and the step of the documentation of the website is place in a simple manner to ensure users capable of using it efficiently.

Malaysia has only one main website which delivers information regarding the service provided but lack of information regarding the structure and objective of Malaysian e-government. MYGOV portal is more focus on only processing and online application without clear information of the government e-government strategy in the web page.

In terms of online services & downloadable forms, Korea had managed to create 4,700 types of civil service and applications covering all administrative entities had been provided in Korea. Korea's has managed to create the G4C system under MOGAHA with 499 kinds of civil service applications on the internet. The electronic procurement system is being used

by some 30,000 public institutions and over 150,000 businesses. The procurement transaction is worth KRW 25 trillion won (about USD 25 billion) with 120,000 cases involving 18 million people.

In Malaysia's case, there are 2,430 online services offering more than 2,500 downloadable forms. The electronic procurement application which currently has 95,000 registered suppliers, of whom 28,231 are enabled to transact electronically with the Government. A total of 583,835 transactions worth RM16.8bil (USD 5 billion) were conducted through electronic fund transfers in 2004. The Road Transport Department's "JPJ Electronic Driving Test Taking" facility which has enabled 500 candidates to take their driving tests each week, versus the 50 per week before the system was introduced.[35] Nevertheless, Korea's e-procurement service is five times bigger than Malaysia in terms of transaction volume.

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[35] **CHARLES F. MOREIRA**, *Ninth Plan to ready Malaysians for global market,* **Business Section, The Star, Tuesday June 28, 2005,online, (www.thestar.com.my) accessed 16th December 2005**

5.3.3 **Analysis of the Telecommunications infrastructure index**

The telecommunication infrastructure index 2005 is a composite weighted average index of six primary indices based on basic infrastructural indicators, which define a country's ICT infrastructure capacity. These are: PC's/1000 persons; Internet users/1000 persons; Telephone Lines/1000 persons; Online population; Mobile phones/1000 persons; and TV's/1000 persons. Korea's is has a higher rate of all the factors mention in this category. Detail of Korea's IT Infrastructure as attached in Appendix I and II. Table 5 shows the summary of the establishment of the communication infrastructure in Korea.

For the past five years, Korea's had shown significant progress of its infrastructure. The high speed internet subscriber has increase more than 100 percent from year 2000 until 2004. The citizen participation had shown the success of the infrastructure. Where as table 2 indicates the Malaysia's Information regarding the telecommunication infrastructure index. Comprehensive detail regarding Malaysia's IT and Telecommunication data can be referred to Appendix III and IV.

Table 5: Korea's Establishment and Utilization of Information Communications Infrastructure

	2000	2001	2002	2003	2004
High Speed Internet Subscriber (unit:10,000 persons)	395	781	1041	1118	1192
Internet users (unit : 10,000 persons)	1904	2438	2627	2922	3158
Spread of PC (unit : 10,000 units)	1862	2249	2350	2425	2620

Source: MOGAHA, e-government in Korea, online,www.mogaha.co.kr

Table 6: Malaysia's Establishment and Utilization of Information Communications Infrastructure

	2000	2001	2002	2003	2004
High Speed Internet Subscriber (unit:10,000 persons)			8	45	98
Internet Dial-up users (unit ; 10000 person)	710	880	1050	1140	1270
Spread of PC (unit : 10,000 units)	940	1250	1450	1660	

Source : Malaysian Commission of Multimedia & Communication, online,www.mcmc.gov.my,2004

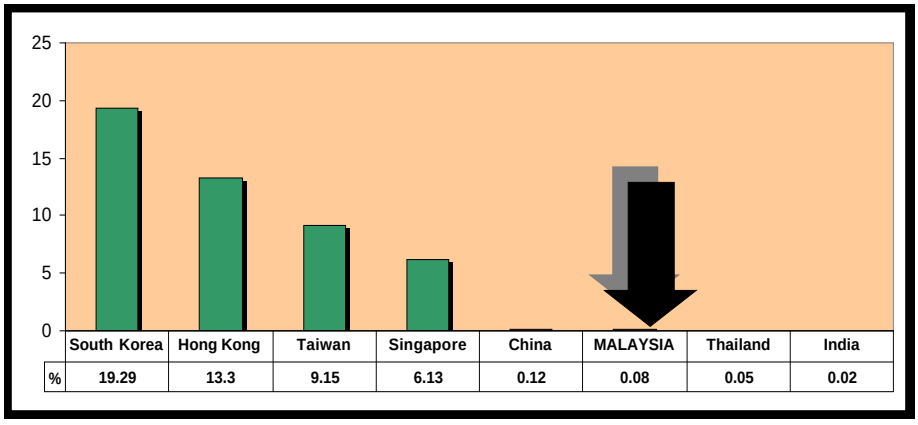
Based on the figures about Korea has 1,192 high speed internet subscribers compared to Malaysia which only have 98 high speed broadband subscribers. In terms of the Internet users, Koreas has 3,158 internet users per 10,000 person while Malaysia only has 1,270 user per 10,000 person. However, in terms of the spread of PC the gap is as large as the other factors, which is only 2,425 per 10,000 unit for Korea while Malaysia is 1,660 per 10,000 unit. This indicates that the IT advancement of Korea is far greater than Malaysia.

5.3.4 **Findings of the Telecommunications Infrastructure Index**

Through the comparisons, two main reasons were identified for Korea's higher performance in compared to Malaysia :

I Korea's GDP per capita (PPP) is approximately USD20,000 while Malaysia has only achieve a GNP per capita (PPP) of USD10,000. This enables more Korean citizens to afford the broadband services provided by the government.

Table 6 : Broadband Penetration 2002 in Asian Nations (Selected Countries)

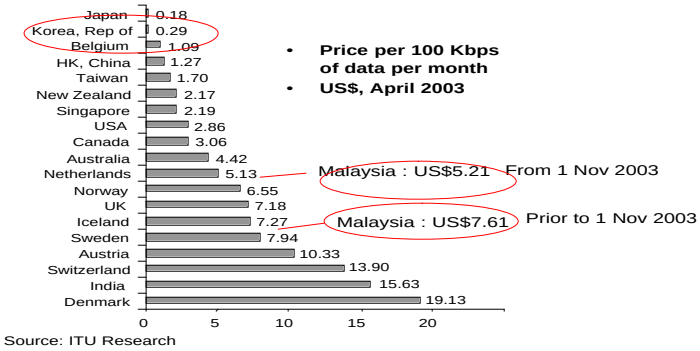


Source : MCMC, Malaysia

II The price of broadband services is cheaper compare to Malaysia which is still much more costly avoiding citizens to subscribe the services. Korea's cost per 100kbps is only USD0.29 while Malaysia's cost from 2003 is USD5.21[36]

[36] **Ministry of Energy, Water and Communications, Malaysia**, *National Broadband Plan–Connecting*

Table 8 : Broadband country comparison based on cost per 100 kbps



Source: ITU Research

Korea's success in e-government in recent years had improved significantly throughout the years, the main success factor was the comprehensive and sophistication of IT infrastructure which enables its citizen to access internet easily. The IT broadband policy is the main contributor of e-government in Korea. Since the launching of commercial internet in 1994, the number of users has reached 30 million in only ten years. The high-speed internet subscribers per every 100 person are the highest in the world with the rate of 24.9 followed by Netherlands, Canada and Belgium. High-speed Internet Service has spread to most households, with the number of subscribers nearing to 12 million or almost 80% of the total households having broadband

access.[37]

5.4 Conclusion on Findings: Korea's Experience

Through personal observation and findings, we can conclude Korea's has a better performance for its web measure and IT Communication Infrastructure compare to Malaysia. The factors contributing to Korea's success in E-government are as follows;

5.4.1 Construction of Advanced Information Infrastructure

The government managed to increase the internet users enabling millions of citizen to use the G4C. As of the end of 2001, the number of internet users totaled 24.38 million (or approximately 52% of total population), where 7.81 million households (or approximately 53% of total number of households) had access to broadband Internet services. Now, mobile telephony in addition to fixed line telephony has become a basic telecommunication device for the general public. As of March, 2002, the number of mobile subscribers has reached 30.31 million, surpassing the 22.95 million fixed line subscribers.

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[37] **Ministry of Government Administration and Affairs**, *e-Government in Korea*, **National Computerization Agency, online,www.nca.go.kr, accessed 15th December 2005**

5.4.2 **Increased levels of Informatization**

IPC through its Framework Act on Informatization Promotion enacted in 1995 had played an important role in informatization of the overall administrative processes in the government, it has increased not only administrative efficiency but has also established a solid foundation for the e-Government.

The government presented the visions and strategies for the information society, the 1st Master Plan for *Informatization Promotion* and *Cyber Korea 21*, founded on the direction by the head of the nation. In order to implement these master plans, the Korean government has formed a close partnership with the private sector.

The application of information technologies has spread to major manufacturing industries. In addition, information technologies are extensively being utilized in economic or social activities including financial transactions and health administration. Recently, the popularity of online financial transactions has risen dramatically with 11.31 million customers subscribed to Internet-based banking services. For example,

66.6% of the total monetary value of stock trades is handled on the Internet as of December, 2001.[38]

5.4.3 The Growing IT Industry

The IT industry has become an industry which increases the competitiveness of other industries and leads the growth of the Korean economy. With an annual average growth rate of 18.8% since 1997, the IT industry has played a pivotal role in overcoming the Asian Financial Crisis in the late 1997's and in revitalizing the national economy. During the last 4 years, the share of IT products has increased to 26.8% of the overall exports. Among the leading products are the world-class CDMA technologies, semiconductors, and TFT-LCD.[39]

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[38] **Informatization Promotion Committee**, *e-Korea Vision 2006*, **www.ipc.go.kr/ipceng/policy/vision_ground.jsp, online, 2006, accessed 15th December 2005**

[39] **Informatization Promotion Committee**, *e-Korea Vision 2006*, **www.ipc.go.kr/ipceng/policy/vision_ground.jsp, online, 2006, accessed 15th December 2005**

Table 9 : Comparison of Korea's Information Society Indices

	end of 1998	end of 2001
Proportion of e-approvals in the government (%)	21.2	80.6
Proportion of e-procurement of the government (%)	19.3	87.5
Proportion of e-trade (%)	3.7	66.6
Number of households with access to high-speed internet(thousands)	14	7810
Number of internet users(millions)	3.10	24.38
Number of personal computers(millions)	8.27	20.70
Number of mobile phones subscribers(millions)	26.82	29.04
Size of e-Commerce market(trillion won)	0.05	88.5

Source: MOGAHA, E-Government in Korea

Promotion of online services through 'one stop' portals has been extremely successful in increasing the efficiency of government processes, when coupled with significant re-engineering of the back end that facilitates information sharing across departments. In Korea, through the **Government for Citizens Project (G4C),** government officers can freely share and reuse information compiled by four major government agencies – resulting in increased business efficiency and reduced administrative costs in the amount of US $400 million annually. The G4C project has, in totality, saved the Korean Government at least US$ 1.5

billion per year.[40]

5.4.4 IT Infrastructure Oriented

The government has implemented continuous upgrading of existing information networks. More specifically, the nationwide PSTN constructed in 1980's and the information systems built as a part of National Computerization Project were upgraded and integrated into the information infrastructure. In addition, the government made initial investments in CDMA technology and promoted market competition in broadband and mobile telecommunication services in order to stimulate private sector investments. Furthermore, the rapid rise of the Internet population is partly a result of the compatibility between the Korean culture and the Internet.

5.4.5 Strategic E-government Planning

The country's administration has achieved a high degree success with its government IT projects as a result of strong support from the top of government, a clear demarcation of responsibility for e-government planning, and one of the world's best developed communications infrastructures.

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[40] **The World Bank Group,** *Implementing E-Government Portals***, (www.worldbank.org), online, 2005**

Government spending for information technology doubled between 1998 and 2001, from US$544 million to US$1.1 billion. IT spending currently represents 1.4 per cent of the government's total budget, and counts among the government's top ten expenditures. Korea has made pursued IT development in the public sector as a major enabler of a knowledge-based economy, believing that an increasingly IT-literate population will demand greater participation in how they are governed, and how they access government services.

The speed of technology change is faster than the ability of the government bureaucracy to incorporate the new opportunities. As a result, the country's public sector has benefited from a series of initiatives to create government technology 'centers of excellence' responsible for mapping out the future direction of government IT for the wider administration. It is this structural approach to managing the e-government learning experience that has enabled the Korean administration to become a leading user of technology both in the region, and on a global basis.

CHAPTER 6: ENHANCING MALAYSIA'S E-GOVERNMENT THROUGH KOREA'S ACHIEVEMENT

Through the literature review of both country's e-government implementation and the comparison made on the web measure and IT infrastructure, several issues and challenges hinders Malaysia on gaining a higher achievement on the e-government implementation. The government efforts in channeling funds for the e-government and the MSC flagships was huge enough to create a successful e-government implementation from the year 2001 until 2005 the government had allocated approximately USD175 million (1USD equals to RM3.70) to ensure the success of the e-government implementation.

Table 10 indicates the breakdown of the total allocation given to MAMPU to ensure the of the e-government and MSC flagship execution. The largest allocation under MAMPU's development budget was focused to enhance the e-government readiness amounting to USD150 million (RM557 million). The commitment of the government focusing 85% of the total budget for electronic government doesn't justify the performance unless an impact study is conducted.

Table 10 : Development Budget of MAMPU, Malaysia

Projects	**2001-2005** **USD million**	**2006** **USD million**
Electronic Government (e-syariah,e-court,e-PBT,e-services,e-Land)	150	45.4
Integrated Application	3.3	2.78
The Public Service Portal (MY GOV)	3.2	1.75
Generic of Environment (GOE)	13.3	
Total	169.8	49.93

Source : MAMPU, Malaysia

The impact of cost saving through the implementation of e-government in Malaysia is still under study and there isn't any concrete statistics to conclude the effectiveness of the e-government. This is another major issue of the implementation in Malaysia because there are no specific Key Performance Indicators (KPI's) to guide the implementation process.

Nevertheless, several aspects which Malaysia needs to readjust or restructure the existing e-government system in order to achieve better outcome. The factors needs to be considered in reorganizing the current e-government structure includes

I. The Current E-government Structure and Administration

II. Roadmap of Malaysia's E-government

III. The Informatization policy

IV. The Website and Online Services Development

V. ICT Skill Gap Among Public Sector

6.1 The Current E-Government Structure and Administration

The integration of the E-government incorporated under the roof of MSC seems to be the main obstacle to implement the e-government program. The MSC's objective bringing Malaysia to a new paradigm shift in the information age is too broad to concentrate on the implementation of e-government. MSC is an integration of both IT infrastructure development and e-government implementation. MSC also is a concept developed from the Silicon Valley of the United States, which envision a multicultural web of hundreds of large and small mutually dependent international and Malaysian companies collaborating to deliver new products and services around the world.

Nevertheless, this MSC concept had overshadowed the e-government implementation which more on enhancing the delivery system of the government. Although, E-government is the responsibility of The E-government Committee chaired by the Chief Secretary of Malaysia which is

separated from the MSC committee, the e-government implementation wasn't a priority. The government is more focus on MSC whereas the e-government seems only as a part of the MSC plan. The government needs to push the priority of development E-government similar to the priority of MSC.

The seven pilot projects initiated by the government are still implemented according to plan but faces several inevitable problems. The main problem of implementation lies on the concept of the "pilot project" which is still perceived by the government officials as a 'testing project'. This perception has hindered the development of E-government for the G2G concept. For instance the implementation of HRMIS is running at a slow pace because the government workers perceived it as a trial system. The database development is still under progress and the data collection is running at a slow pace. Several ministries and government agencies are still learning the HRMIS system and the database of the system is still incomplete and doesn't put any high priority in executing the system.

As mentioned Malaysia had implemented some pilot projects related to the vision of e-government. However, being a pilot project and with no

benchmarking available globally, the achievement of this vision has encountered implementation difficulties. The first three of which involve the government interfacing with citizens and/or industry, the last three are internal to the public service:

Some of the six (6) pilot projects are delayed, largely due to outsourcing problems and because the learning curve is longer and steeper than anticipated by the planning consultants when developing the initial timelines.

The issue of the digital divide also remains a concern for the Government as the skills both among the citizens and within small and medium enterprises may not be adequate. MAMPU faces strong challenges to ensure the smooth, timely and holistic implementation of these projects focusing on the development of state-of-the-art applications and at the same time addressing the human resource and change management issues.[41]

MAMPU, as the anchor of the e-government implementation played a

[41] **Dr Lucy Firth**, *Broadband : The Case of Malaysia,* **International Telecommunication Union (ITU), 29 April 2001**

key role in both the rowing and steering committee, the two key role has create inefficiency of its implementation especially on the rowing committee. The government is more focus on developing plan for e-government through its pilot project and had overlooked the coordination of the pilot project. The coordination is basically centralized under MAMPU although all major departments and agencies such as ICU and PSD but without any proper key performance indicator and research of the policy outcome.

MAMPU has too many roles in the implementation of e-government, both in the steering and rowing committee. There must be a separation between the steering and rowing committee to oversee the problems and manage the implementation properly. Other obligations of MAMPU focusing on innovation and delivery system of the government administration are seen to be another obstacle in its role in coordinating the implementation of e-government. Although, certain implementation of the e-government is been done by outsourcing it to the private sector *Accenture Pt. Ltd*[42] the government must not lose sight on the coordination and performance.

[42] Accenture Sdn Bhd is a local company with the backing of the world's leading management consulting and technology service organization.

6.2 **Roadmap of Malaysia's E-government**

The vision and goals created under the Malaysia e-government looks very promising. The vision of strategically transforming administrative processes of government through the using edge leading information technology accompanied with an integrated framework consisting of program management, technology, process and people will ensure the success of the implementation. However, there are certain areas, needs better emphasis. Program management of the e-government needs to be improved particularly on its time management. Korea's had faced some time management difficulties during its implementation process. Under the leadership of KIM, Dae-Jung, the initial plan was to finish e-government projects within the President's term (February 1998.until February 2003). However, it faces certain difficulties completing the task due to inadequate negotiation with certain labor unions under implementation of the National Education Information System.[43]

Based on Korea's experience, the Malaysia government needs to have a comprehensive time management planning under the current program

[43] Prof Park, Jin, KDI School of Management and Public Policy, personal interview, 2 May 2006.

management. To date, the government doesn't have any specific road map either in converting the pilot project into a more effective concept. The Key Performance Indicators (KPI) introduce for certain pilot project such as PMS II doesn't focus time management of the project. The focus is more on the time of the work processes involved not on the implementation of the system itself. Eventually, the delay of implementing certain program happens on most programs due to lack of time management of the implementing the pilot project. Through my analysis, there is any study conducted on the time management of the e-government implementation.

Although the e-government concept had been implemented almost ten (10) years, but the performance in terms of duration haven't been measured accurately. The major concern is there isn't any dateline of the pilot projects implemented and there isn't any specific roadmap. In order to improve the performance of the implementation, MAMPU needs to create a strategic roadmap until 2020 for every government agencies and other parties related could work on it. Certain obstacles hindering the expansion of the e-government implementation need to be identified. In my opinion, the major obstacle is to change the mentality of the government servant and conduct the

reengineering of the existing work procedure.

6.3 The One-stop Portal (G4C concept)

The web measure of building a comprehensive one-stop portal for all government online services is still at an early stage compare to Korea's one-stop portal. Basically, the design of Malaysia's portal "My Gov" webpage is full of information about ministries and its function but still lack of online services. The problem with the availability of online services will not be solve unless the respective ministries reengineer its work processes built up a good online service system. The My Gov portal depends on the success of ministries and agencies building online services. To date, there are still a lot of forms which doesn't exist in the internet such as online scholarship application for primary and secondary schools[44].

The slow progress of online services is due to the lack of commitment of certain ministries and agencies. The online services weren't a priority in certain ministries because there wasn't any specific guideline or circulars to assist the ministries to develop their online services. However, certain

[44] The scholarship application for primary and secondary school uses the OMR form, students or respective teachers needs to fill in the form and submit to the Ministry of Education, Malaysia.

agencies and departments such as the Road Transport Department and the Immigration department had successfully developed online services due to the pressure of public and the critics from politicians.

MAMPU, the My Gov coordinator, ought to create online services guidelines or directives to all government agencies forcing them to develop the online services based the stipulated time given.

6.4 The Informatization Policy

Although the Malaysia government has huge plans to introduce broadband to all 9,000 schools and 3,000 hospitals throughout Malaysia before 2020, the main problem is the existing broadband infrastructure needs to be improve. Although, the broadband backbone infrastructure has cover 70,000 km throughout Malaysia by six (6) companies such as Telekom (5454.8km), Maxis (1,381km) and Celcom (609.7 km)[45], the current broadband services are still limited to certain cities. The current price offered by the companies for

[45] **Ministry of Energy, Water and Communications, Malaysia**, *The National Broadband Plan*,**11-13 October 2004,UNCC, Bangkok, 2004.**

broadband is still high of an average of USD25-30 per month which is considered expensive among middle income families.

The Malaysia's concept of giving the responsibility to private companies to build the broadband network throughout Malaysia seems to be running on a slow pace. Some of the companies such as *Maxis* and *Celcom Bhd* had also promoted the 3G technology as an alternative to broadband have encountered problem the demand of the 3G service is very low compare to the amount the have invested which have been more than USD100 million.

The government informatization policy doesn't have a specific structure. On the other hand, Korea had managed to plan and implement the informatization policy through its Informatization Promotion Committee (IPC). However, Malaysian informatization committee isn't effective enough, the Ministry of Multimedia and Communication Technology, Malaysia plays a significant role in implementing the national informatization policy didn't help to push the informatization policy to a new paradigm. Nevertheless, the Malaysian government needs to create more structured Informatization

Promotion Committee consisting of MAMPU, NITC and the private sector to ensure the success of Malaysia's Informatization.

Due to the low demand of broadband in Malaysia and the government needs to intervene to reduce the prices of the facility. Although several broadband service providers such as TMNET[46] and Maxis Broadband[47] provided a variety of broadband services but the broadband industry doesn't grow to the expected rate. Several measures such as financing the broadband facility and infrastructure could help reduce the price of the services in order to ensure high consumption.

6.5 ICT Skill gap Among Public Sector Personnel

The implementation of e-government systems such as HRMIS needs to be handled by ICT skill workers of the public sector. In mid 2000, technical ICT personnel in the government constituted an estimated 5,000 or 0.75% of the total public sector personnel[48]. This is a small number and indicates the

[46] TMNET is a broadband company wholly own by Telekom Malaysia (Government Link Company) offers a varity of broadband services for business and personal usage. STREAMYX is the brand of the broadband services provided.

[47] Maxis Communications Berhad is the provider of Maxis Broadband. The company started operations in 1995 and was listed on July 8th, 2002.

[48] **Abdul Karim, Muhammad Rais**, *E-government in Malaysia: The Multimedia Super Corridor And The E-*

lack ICT personnel in the public sector. However, if the government focuses on outsourcing the IT function to the private sector this is not a main concern. The current scenario is the public sector personnel is the major taskforce of the e-government implementation.

The government needs to give intensive training to workers related to the e-government implementation. INTAN, the National Institute of Public Administration in Malaysia has conducted courses to overcome the lack of ICT skill problems of government personnel. However, INTAN could cope to train thousands of workers within years because of staff constraints; the government needs to find other ways to solve this ICT problem by outsourcing the training to the private sector to ensure adequate training given to related public sector personnel.

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government vision, **Chapter 11, Pelanduk Publications, Selangor, 2003**.

CHAPTER 7

CONCLUSION

The E-government Implementation in Malaysia faces a lot of challenges particularly due to slow and moderate implementation of the public sector. The concept of Pilot Project needs to be converted to a more effective implementation concept to ensure the e-government implementation will be a success within five years. The Pilot Project is perceive as a testing project which isn't a priority in government agencies. The Pilot Project concept should have a time limit and needs to be convert to a full force project to ensure the effectiveness of the implementation. The implementation of e-government among government agencies should become the first priority of the respective agencies and ought to be based on certain yearly key performance indicators to ensure all government agencies put more effort in implementing it

The low Web Measure Index indicates the portal needs to be reorganize and insert more services for the public. To ensure more online-service available a web committee needs to be establish in every departments and monitoring of the web committee should be conducted aggressively by certain central agencies to ensure

every department manage to produce more online services based on agreed Key Performance indicators.

The core concept for Malaysian portal development should be the provision of citizen centric service – citizens should be able to access services as quickly and efficiently as possible, ‘anywhere and anytime’, with services organized in a manner that facilitates their access, and with a citizen’s point of view. Information in a government portal needs to be well organized to facilitate navigation. Online services should, therefore, be designed based on what the citizen needs, and how best to facilitate their access, e.g. have services organized by topic (health, education, etc) as opposed to the traditional method via departmental listings.

One of the key lessons learned is to utilize focus groups, representing a wide spectrum of citizenry. Before rolling out portals, it is important to have these focus groups comment on alternative designs from a taxonomy, usability, and ease of navigation perspective. User feedback is also crucial in determining prioritization of service.

The Malaysian Government needs to begin by listening to citizens’ voices, giving attention to their interests and lifestyle choices. This has to be a systematic

process to gauge user requirements. Perhaps this is an opportunity for government to leverage the internet to deliver a more targeted range of services to particular groups within the population – such as the disabled, the elderly, foreign residents. One thing is for certain, the next stage of e-government innovation needs to be a demand-led process. Nevertheless, E-government serves not only as a means of administration, but also as a primary tool of collective and democratic decision-making, and participation for society.

An “innovative zone” initiative should be introduced in order to create a better e-government services, the government needs to think “outside the box” to enhance the e-government services.

APPENDIX

APPENDIX 1

PCs Penetration In South Korea

(Unit : Number of PCs)

	Population	Desktop					Notebook	Others	Total PCs
		486 or below	Pentium	Pentium 2	Pentium 3	Pentium 4			
Total		**1,141,008**	**3,176,659**	**3,960,138**	**9,380,801**	**2,243,886**	**2,260,601**	**331,864**	**22,494,957**
Household	**14,311,807**	**860,002**	**1,849,828**	**2,489,950**	**4,743,471**	**1,786,844**	**807,611**	**274,673**	**12,812,379**
Area									
Seoul	3,085,936	159,025	408,306	511,458	1,319,474	408,306	193,408	64,470	3,064,447
Busan	1,120,186	84,014	135,356	163,360	308,051	126,021	51,342	37,340	905,484
Daegu	759,351	29,020	58,040	135,426	251,505	101,569	48,366	19,346	643,272
Inchon	747,297	47,516	203,023	77,753	228,941	107,991	25,918	4,320	695,462
Kwangju	408,527	14,419	33,643	110,542	124,961	38,450	52,868	9,612	384,495
Deajeon	413,758	9,094	50,015	54,562	168,231	54,561	50,015	4,547	391,025
Ulsan	306,714	28,754	52,716	19,170	91,056	23,962	14,377	4,792	234,827
Kyonggi	2,668,886	220,991	382,484	628,973	832,964	365,484	106,245	46,748	2,583,889
Kangwon	487,420	47,322	70,983	75,716	179,825	52,055	14,197	-	440,098
Chungbuk	461,463	32,962	32,962	42,379	155,391	51,797	42,379	9,418	367,288
Chungbnam	589,144	35,706	62,485	66,948	169,602	35,706	58,022	35,705	464,174
Jeonbuk	601,965	23,699	52,139	118,498	194,335	113,757	28,439	4,740	535,607
Jeonnam	664,287	32,747	84,205	177,767	145,020	56,137	46,781	-	542,657
Gyeonbuk	887,917	42,734	90,216	161,440	251,656	123,454	28,489	-	697,989
Gyeonnam	951,393	43,245	120,125	115,320	278,691	105,710	33,635	33,635	730,361
Jeju	157,563	8,754	13,130	30,638	43,768	21,884	13,130	-	131,304
Establishment	**442,655**	**281,006**	**1,326,831**	**1,470,188**	**4,637,330**	**457,042**	**1,452,990**	**57,191**	**9,682,578**
Industry									
Agriculture&Fishery	2,781	605	1,204	1,253	13,687	15,688	1,904	112	34,453
Light Industry	39,301	11,088	38,501	48,995	158,330	21,796	17,966	18,235	314,911
Heavy Industry	43,374	31,630	93,866	148,841	332,252	39,595	39,973	1,319	687,476
Petrochemical	20,249	9,632	26,202	35,763	104,365	10,112	16,335	484	202,893
Construction	31,161	15,553	31,374	41,265	90,933	20,056	21,848	196	221,225
Distribution	149,931	62,617	333,952	187,815	1,301,047	44,603	1,134,950	7,917	3,072,901
Finance & Insurance	25,261	32,188	122,852	150,220	340,872	54,392	91,509	2,209	794,242
Other Service	130,597	117,693	678,880	856,036	2,295,845	250,800	128,506	26,720	4,354,480
Employees									
5-9	246,124	72,167	116,089	123,352	367,391	44,225	48,677	10,928	782,829
10-49	168,257	86,983	525,163	465,543	1,501,397	122,948	1,193,734	18,758	3,914,526
50-299	26,078	66,404	351,330	516,853	2,072,002	158,035	115,600	21,722	3,301,946
300-999	1,885	37,311	237,170	251,072	471,105	107,308	59,313	3,966	1,167,245
1,000 or more	311	18,142	97,079	113,369	225,435	24,525	35,666	1,818	516,034

1. As of Dec. 2001
2. Source of the number of households : National Statistical Office, *2000 Population and Housing Census*
3. Establishment : Establishments with 5 employees or more (Source : NSO, *The Census on basic characteristics of establishments,* 2001)
4. Other PCs represent computers using non-Windows/Intel components such as Macintosh etc.

APPENDIX 11

Networked Establishments of South Korea

(Unit : Number of Establishments,%)

	Networked establishments	Linkage Pattern					
		LAN		MAN		WAN	
		N	%	N	%	N	%
| Total |	**196,280**	**171,529**	**87.4**	**43,673**	**22.3**	**13,909**	**7.1**
Area							
Seoul	67,259	59,915	89.1	8,650	12.9	2,236	3.3
Busan	11,657	10,062	86.3	4,391	37.7	2,210	19.0
Daegu	12,236	11,082	90.6	3,440	28.1	268	2.2
Inchon	9,351	7,521	80.4	1,518	16.2	970	10.4
Kwangju	4,964	4,814	97.0	1,237	24.9	860	17.3
Daejeon	3,720	3,093	83.1	1,991	53.5	257	6.9
Ulsan	2,986	2,355	78.9	1,184	39.7	276	9.2
Kyonggi	31,118	27,210	87.4	5,066	16.3	2,122	6.8
Kangwon	4,267	3,626	85.0	804	18.8	138	3.2
Chungbuk	7,178	5,737	79.9	2,516	35.1	910	12.7
Chungnam	6,664	5,775	86.7	2,362	35.4	144	2.2
Jeonbuk	6,298	4,838	76.8	1,833	29.1	879	14.0
Jeonnam	7,255	6,617	91.2	2,909	40.1	1,585	21.8
Gyeonbuk	11,371	9,975	87.7	3,651	32.1	110	1.0
Gyeonnam	7,151	6,912	96.7	1,931	27.0	292	4.1
Jeju	2,807	1,997	71.1	189	6.7	654	23.3
Industry							
Agriculture & Fishery	739	739	100.0	90	12.2	67	9.1
Light Industry	13,375	11,999	89.7	2,024	15.1	1,112	8.3
Heavy Industry	18,983	18,541	97.7	1,718	9.1	884	4.7
Petrochemical	6,262	5,825	93.0	993	15.9	310	5.0
Construction	11,765	11,430	97.2	485	4.1	97	0.8
Distribution	52,059	41,010	78.8	17,166	33.0	4,201	8.1
Finance & Insurance	22,791	20,097	88.2	10,219	44.8	2,648	11.6
Other services	70,305	61,887	88.0	10,977	15.6	4,589	6.5
Employees							
5-9	74,883	63,334	84.6	15,523	20.7	5,326	7.1
10-49	98,024	87,009	88.8	21,864	22.3	6,289	6.4
50-299	21,264	19,283	90.7	5,425	25.5	1,769	8.3
300-999	1,801	1,609	89.3	707	39.3	407	22.6
1,000 or more	308	293	95.1	154	50.0	119	38.6
Type of Establishment							
Independent Establishment	138,083	122,883	89.0	21,088	15.3	8,830	6.4
Main Office	11,535	10,884	94.4	1,831	15.9	303	2.6
Branch Office/Business Store/Factory	46,663	37,761	80.9	20,753	44.5	4,776	10.2

1. As of June 2002
2. Establishment: Establishments with 5 employees or more (Source : NSO, *Census on basic characteristics of establish.*, 2001)
3. Network : Designated networks excluding modems
4. Networked Establishment : including network scheduled establishments
5. LAN : Interconnection of network within a limited geographical area such as buildings or campus
   MAN : Interconnection within a single corporation between buildings located more than 5KM apart
   WAN : Interconnection of LANs over wide geographical areas
6. Multiple Choice by each network type

APPENDIX III

Malaysia Basic Indicators and Internet Dial-up Subscription

Petunjuk-petunjuk asas Malaysia

Malaysia basic indicators

Tahun	Suku	Penduduk (juta)	Isirumah ('000)	KDNK (RM)			Indeks Harga Pengguna (IHP)	Kadar penembusan		
				Harga semasa (bilion)	Harga malar 1987 (bilion)	Per kapita harga semasa		Telefon selular (per 100 penduduk)	Internet 'dial-up (per 100 penduduk)	Telefon tetap (per 100 isirumah)
1998		22.18	4,621	283.243	182.237	12,770	95.8	9.7	1.8	19.7
1999		22.71	4,732	300.764	193.422	13,243	98.5	12.0	2.9	19.5
2000		23.49	5,108	342.157	209.538	14,563	100.0	21.8	7.1	19.7
2001		24.01	5,220	334.309	210.640	13,922	101.4	30.8	8.8	19.6
2002		24.53	5,333	361.624	219.309	14,742	101.4	36.9	10.5	18.8
2003		25.32	5,504	394.200	231.674	15,569	104.4	43.9	11.4	18.1
2004		25.86	5,622	449.609	248.954	17,307	106.5	56.5	12.7	17.2
2005	1	25.99	5,650	115.211	62.576	...	107.6	60.9	13.2	16.8
	2	26.13	5,680	119.434	64.268	...	108.1	63.3	13.7	50.0
	3	26.26	5,709	...	...	...	108.6	66.8	13.8	49.7

Year	*Qtr*	*Population (millions)*	*Households ('000)*	*GDP (RM)*			*Consumer Price Index (CPI)*	*Penetration rate*		
				Current prices (billions)	*Constant prices 1987 (billions)*	*Per capita current prices*		*Cellular phone (per 100 inhabitants)*	*Internet dial-up (per 100 inhabitants)*	Dels (per 100 households)

Langganan Internet 'dial-up'

Internet dial-up subscriptions

Tahun	Suku	Internet 'dial-up'				Anggaran PCs	
		Jumlah ('000)	Kadar pertumbuhan (%)	Kadar penembusan	Anggaran bilangan pengguna ('000)	Jumlah ('000)	Setiap 100 penduduk
1998		405	97.6	1.8	1,215	1,360	6.1
1999		668	64.9	2.9	2,004	1,800	7.9
2000		1,659	148.4	7.1	4,977	2,200	9.4
2001		2,113	27.4	8.8	6,345	3,000	12.5
2002		2,614	23.7	10.5	7,842	3,600	14.5
2003		2,881	10.2	11.4	8,643	4,200	16.6
2004	1	3,139	8.7	12.3	9,444	...	...
	2	3,117	-1.0	12.2	9,351	...	...
	3	3,171	1.7	12.3	9,513	...	...
	4	3,293	5.6	12.7	9,879	...	...
2005	1	3,439	4.4	13.2	10,317	...	...
	2	3,570	3.8	13.7	10,710	...	...
	3	3,621	1.4	13.8	10,863	...	...

Year	*Qtr*	*Internet dial-up*				*Estimated PCs*	
		Total ('000)	*Growth rate (%)*	*Penetration rate*	*Estimated number of users ('000)*	*Total ('000)*	*Per 100 inhabitants*

APPENDIX IV

Number of Broadband Subscriptions by Technology in Malaysia

Bilangan langganan jalur lebar mengikut teknologi

Number of broadband subscriptions by technology

Tahun	Suku	Bilangan langganan				Kadar Penembusan
		ADSL	SDSL	Lain-lain	Jumlah	
2002		18,511	542	249	19,302	0.08
2003		108,173	1,931	302	110,406	0.45
2004	1	139,862	2,168	302	142,332	0.56
	2	170,516	2,432	1,286	174,234	0.68
	3	213,589	2,616	1,799	218,004	0.85
	4	247,802	2,834	1,865	252,501	0.98
2005	1	288,882	2,995	5,300	297,177	1.15
	2	344,412	3,257	5,549	353,218	1.35
	3	420,611	3,651	6,299	430,561	1.64
Year	*Qtr*	*Number of subscriptions*				
		ADSL	*SDSL*	*Others*	*Total*	*Penetration Rate*

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