What We Have & Have-Not : e-Government In Malaysia

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ABSTRACT

This chapter investigates the challenges and achievements of e-government development in Malaysia. After carefully examining the findings of e-government ranking world over by the United Nations, The Centre of Public Policy, Brown University, United States of America and Waseda University Institute, Japan; disparities in Malaysia's e-government ranking amongst the three institutions was evident. It is discernible that the different methodological criteria employed by these institutions served as one of the fundamental factors attributable to the varying results. However, findings from these institutions unearthed some major problems and challenges bedeviling e-government in Malaysia. This chapter went further to examine the chemistry of e-government in Malaysia to find out how far it has achieved and to ascertain the challenges undermining its further development. Questionnaires and interviews were used to gather information. Questionnaires were administered to public officials in federal ministries and departments and 7 e-Government pilot project managers were engaged in interviews. The outcome of the survey concluded that while the Waseda University Institute of e-government and the United Nations were exposed to adequate information on e-Government development in Malaysia, the Centre of Public Policy, Brown University, USA, lacked such opportunity and exposure. It is pertinent that e-Government development in Malaysia is still developing and as such, for an accelerated and resilient development, this chapter advocates for an overall consolidation of e-Government mechanisms such as regulations, capacity development, security and policy environment.

Key Words: e-Government, Development, Ranking, Achievements, Challenges, Malaysia

INTRODUCTION

From the 1990s, after the Government of Malaysia announced its e-Government initiative, tremendous efforts have been made towards enhancing public service delivery via electronic means. Most apparent is the construction of facilities and amenities designed to enhance the electronic flow of information to the public. An example is the establishment of the Multi-Media Super Corridor in 1996 which has a key strategic thrust of developing the Malaysian ICT Small and Medium Enterprises (SMEs) so as to proliferate ICT expertise and development within Malaysia's public and private sectors. Unfortunately, institutional and organizational progress was still lagging and as a result, it has exacerbated the effectiveness of information delivery to a considerable extent.

In addition, the unequal accessibility and affordability of computers and Internet services by Malaysians especially the urban and rural poor, creates unfair advantage and retards the progress e-information delivery. Access to computers and the Internet are indispensable to the success of e-government services delivery because the Internet serves as the electronic linkage to e-services. It is discernible that only some especially urban population have access to computers and Internet. Due to this reason, e-government service delivery has not been holistic and as a result, its purpose tends to be hampered as it doesn't reach certain targets amongst the population.

Coupled with the foregoing, there are disparities with regards to the visibility of e-services at the first tier level agencies, specifically ministerial departments. At this level, access to internet and the capacity of public officials to utilize the internet is not encouraging for the development of e-Government. The disparity is apparent when one looks at agencies requiring minimal inter-agency collaboration and integration (Alhabshi, 2001; MNRE, 2006).

In spite of the setbacks inhibiting the rapid development of e-Government in Malaysia, its achievements and level of progress cannot be overemphasized, bearing in mind the time e-Government earnestly started and the present successful reformation of the public sector. Virtually all services rendered by the Government today are via electronic means. Presently, access to Government services are faster, of high quality and public officials have become more responsive following their exposure to computerized means which has reduced burden inherent in the former conventional practice. It has

also made life a lot convenient for citizens. For instance the former conventional process of obtaining an international passport from the immigration department, which takes several months, can now be obtained within a day. Since e-Government in the developing world is still an emerging phenomenon, Malaysia's achievements demands reckoning as the Government is still striving hard to tackle all possible drawbacks inhibiting its development in Malaysia.

This chapter specifically explores the level of Malaysia's e-Government advancement as well as taking into cognisance, the drawbacks that consistently pervade its progress. This is done through intense study of surveys conducted by International e-Government research institutes namely; United Nations, the Centre of Public Policy, Brown University, USA and Waseda University Institute of e-Government, Japan. A direct study on ministries and government departments was also conducted. Web surveys were carried out on 71 agencies within Malaysia's 28 ministries. Questionnaires were also distributed to probe accessibility, administrative and management policy matters; detailed probing was also performed on 7 e-Government pilot projects, simply to obtain first hand data for definite findings which will serve as a rectification of the disparities contained in the e-Government ranking by the 3 e-Government research bodies. The findings were contrasted with the reports from the e-Government ranking by the 3 e-Government research institutes.

This study is very significant as it will assist in delineating a clear path on which e-Government in Malaysia can be traced, thus providing a proper and definite level of its advancement in relation to the challenges bedeviling it. In the long run, it will provide all necessary instruments of remedy and direction for a more rejuvenated e-Government practice and development in Malaysia.

BACKGROUND

e-Government refers to the use by government agencies of information technology tools such as Wide Area Networks (WANs), the Internet and mobile computing, that have the ability to transform relations with citizens, businesses, and other arms of government" (World Bank, 2009). It also refers to the realization of mutual duties and obligations and relations between the state and the individual in modern socialized online and in a secure context (OECD, 2003a).

There are basically three primary delivery models in e-Government namely Government-to-Citizen (G2C), Government-to-Business (G2B) and

Government-to-Government (G2G). There is also an analogous relationship between e-Government and e-Commerce (World Bank, 2007). E-Commerce allows businesses to transact with each other more efficiently (B2B) and brings customers closer to businesses (B2C), while e-Government aims to make the interaction between government and citizens (G2C), government and business enterprises (G2B), and inter-agency relationships (G2G) more friendly, convenient, transparent, and inexpensive.

e-Government is synonymous with digitalisation which accelerates information exchange. Digitalisation allows people from across continents to share ideas with one another and work together to build ideas and projects. It facilitates the dissemination and accumulation of voluminous and accurate information, which in a flash, can be distributed explicitly to a large number of people irrespective of geographical location. Digitalisation has reduced huge and sometimes impossible tasks into simple, fast and reliable tasks that are time and cost effective and such feasibility is accrued to the interconnection of all kinds of computers and other electronic equipments and appliances as one functioning unit. For instance, we see mobile phones exchanging information with computers, mobile phones and computers uploading and downloading files, individual online registration, online information dissemination and so on, have all been made easy through ICT.

e-Government is an integral part of the New Public Management. The New Public Management is specifically an approach to make the operation and service delivery of government services a replica of the private sector style of management which is highly results oriented, innovative and cost benefit as against the traditional or old public administration which is highly bureaucratic and ineffectual in operation and public service delivery. e-Government is simply one of so many mechanisms employed by governments for the reformation of the public sector into a more proactive operating and service delivery venture. The e-Government initiative offers citizens a single door access to government. It creates an avenue for self-service**,** enables the public obtain up to date information, public registration, fee payments and so on. Access to public services has been made flexible and convenient as access is unlimited and easy to execute provided an individual meets the requirements.

One of the bottlenecks to the success of e-Government especially in developing countries is the unequal access to information and communications technology. This setback is associated with the underlying social and economic factors such as race, ethnicity, income, educational level, gender, age, and geography. As such, digital administration definitely requires changes in procedures. However, changes usually make some individuals

uncomfortable as the lines of responsibility, authority and communication overlaps and blur.

In spite of the human and organisational challenges, electronic interactions have shown astonishing potential in transforming the internal activities of all kinds of organisations. The incredible pace of ICT advancement and the dramatic changes in societal needs, the push towards a speedier government delivery process has become inevitable irrespective of its capability or readiness.

Most studies on e-Government tend to highlight the discrepancies inherent in the application of ICT in government. Theorists in this category view ICT application in management as compatible with the private sector administration and not the public sector. Following this trend of argument, Kanter (1990) believed that public administrators through e-Government could not possibly manage to meet the fast and flexible demands of citizens, because such characteristics are not within public administrator's norms. Complementing Kanter's argument, Margetts (1999) argued that e-government is almost an impracticable task since government organizations are unlike other organizations, they are huge in size, lacking a 'bottom line', with no threat of bankruptcy, limited accountability, separation of policy and administration, limited public visibility and the fact that they are impervious to pressure. It is implicit from these arguments that most of the challenges bedeviling e-Government results from the application of a private sector design to fit the public sector operation.

In addition to the foregoing, Morison (2002) argues that government is accustomed to working within separate departments and to separate budgets, would not improve services simply by technological innovation and that government has not shown a good record in undertaking large-scale projects of which the e-Government project is much larger than any project administration has envisaged. These arguments can be justified with evidences of failures inherent in the earlier adoption of e-Government in the U.K. Table 1 highlights some of these failures.

Table 1: Government IT Failures

Department	Project	IT Supplier	What went wrong
Benefits Agency/ Post Office	Benefits payments	Fujitsu/ICL	Abandoned after 3 years at cost of £1 billion
Lord	Processing	Fujitsu/ICL	Failure of case-working

Chancellor's	cases		software costing £178m
Home Office	Immigration Applications	Siemens	Abandoned at a cost of £77m when system failed to cope with numbers
Ministry of Defence	Classified Information	Unknown	Abandoned after mounting security and compatibility
Home Office	Passport Agency	Siemens	Delays increased from 10 days to 8 weeks adding £40 m
Contributions Agency	National insurance	Accenture	1,900 separate failures resulted in compensation to 400,000 people at a cost of £38m
Inland Revenue	Various	EDS	Rising costs led to more than double the envisaged spend, adding £1.4b

Source: The Economist May 4, 2002

It is beyond refute that the most discerning obstacle to e-Government success has remained the continuous digital divide amongst government agencies and the citizens. e-Government unlike the conventional traditional practice requires people to have access to computer, Internet and mobile phones. After which, the technical capacity to operate and apply these electronic devices are indispensable. Unfortunately, there is a huge divide between those with accessibility and those without. Following this assertion, Margetts (1999) further argued that there are many public organisations facing the issue of under facilitated and under trained staffs. In some governmental organisations, web development has been hampered by the fact that staffs themselves do not have Internet access and cannot see their own organisation's web sites while at work.

The immense advantages of ICT in government cannot be overemphasized. Government operations and services in the 21st century are almost impossible without ICT. This is due to the emerging challenges and expectations that come with globalization. For instance, intergovernmental relations require ICT for intercommunication between countries, ICT is required for networked database of public officials in a country and fundamentally, it brings citizens'

close to their government. Especially with regards to service delivery, a public service which could take weeks and months before it could be rendered can now be delivered within few hours. It has reduced so much burden on public administrators as most public services have been made self servicing, thus making it convenient and cost effective for citizens and government.

As part of his findings on the effects of ICT in government, Markus (1994) discovered that more effective managers made greater use of e-mail. The point is that computing is changing the communication patterns of organizations and these changes have the capacity to improve communication flows. The most fundamental advantage of the ICT in the public sector is the transformation of the traditional ways of delivering services to the public which is usually ineffectual and time consuming to technologically innovative ways that is very efficient, convenient, cost effective, better accessibility as well as concretizing human capacities to withstand emerging challenges inherent in the transition. e-Government is a phenomenon that has come to stay and will definitely advance to some higher levels of sophistication. However, it remains the responsibilities of governments to employ all the relevant instruments necessary for its success.

Justifying this point, Lau (2003) argues that the success of e-Government initiatives and processes are highly dependent on government's role in ensuring a proper legal framework for their operation. The introduction and uptake of e-Government services and processes will remain minimal without a legal equivalence between digital and paper processes. For example, the legal recognition of digital signatures is necessary if they are to be used in e-Government for the submission of electronic forms containing sensitive personal or financial information. In addition, current public governance frameworks based on the assumption that agencies work alone (for example, in terms of performance management, accountability frameworks, data sharing) can act to inhibit collaboration and information sharing between organizations. Complexity of regulations and requirements on agencies can be another barrier. If agencies are unable to determine what is required of them, then they may be unwilling to invest in a project that may not conform with requirements. In addition, privacy and security concerns need addressed through appropriate legislation and regulations (as well as in practice) before e-Government initiatives can advance. The web of government requirements around ICT procurement, industry support, contract requirements, compliance with security requirements and other standards can increase costs and drag out implementation timetables.

e-Government in Malaysia

Malaysia's e-Government initiative was launched specifically to improve Government's internal operations so as to accelerate and enhance the processes of policy production, coordination, enforcement and implementation. Success in this drive is perceived to create space for convenience and accessibility for interactions between government and citizens, and between government and businesses (Abdul Karim and Khalid, 2003).

e-Government in Malaysia commenced following the launch of the Multi Media Super Corridor in1996. There are seven flagship applications introduced to set off the development of MSC and they are; e-Government, Telehealth, Multi-purpose Card, Smart School, R&D Cluster, Technopreneur Development and E-Business. As shown in Table 2, lead agencies were assigned to oversee these flagships.

Table 2: Lead Agencies and Flagship Projects

	Flagship Project	***Lead Agency***
1	*Electronic Government*	*Malaysia Administrative Modernization & Management Planning (MAMPU)*
2	*Telehealth*	*Ministry of Health*
3	*Multi-Purpose Card*	*Central Bank Malaysia*
4	*Smart School*	*Ministry of Education*
5	*R&D Cluster*	*Ministry of Science Technology & Innovation*
6	*Technopreneur Development*	*Multimedia Development Corporation*
7	*E-Business*	*Ministry of Finance*

The structure of e-Government in Malaysia is made up of two key committees. That is the steering committee and the Government IT and Internet Committee (GITIC). The steering committee has the main task of providing policy direction, approval for e-Government programmes and activities and monitoring implementation progress of e-Government projects as well as pilot projects. Several key policy agencies make up representatives of the steering committee and they are; Economic Planning Unit (EPU); Implementation Coordination Unit (ICU); National Institute of Public Administration (INTAN); Treasury; Ministry of Energy Communications and Multimedia; Malaysian Administrative Modernisation and Management Planning Unit (MAMPU); Office of the Auditor General; Public Service Department; and the Multimedia Development Corporation. The Government IT and Internet Committee's (GITIC) on the other hand, facilitates and coordinates ICT development in the public sector. As an ancillary to the two committees, there is a strategic team established to study and review the setting of Malaysia's e-Government.

As mentioned earlier, there are also three levels of e-Government delivery in Malaysia. These settings provide the connection between government and other sectors of the state. The e-Government settings are; government-to-government (G2G), government to citizen (G2C) and government to business (G2B). Within the G2G category, there are three key service providers namely; Human Resource Management Information System (HRMIS) for human resource management and development, the Generic Office Environment (GOE) for general office management system and the Project Monitoring System (SPP II) for monitoring development projects. There are three linkages within the G2C category namely; Electronic Services (E-Services) which provides basic essential needs to the public, Electronic Labour Exchange (ELX) provides information and access to job opportunities and e-Syariah which supports the smooth running of the Syariah (Muslim) court administration. The G2B linkages support procurement services (electronic procurement - EP) which enhance government interactions and communications with government suppliers of goods and services. It is pertinent that these three e-Government linkages are the mechanisms that ensure the holistic coverage of e-services, information and collaboration of the entire socio-economic and political system of Malaysia.

EXTERNAL VIEWS OF E-GOVERNMENT PERFORMANCE IN MALAYSIA

The Centre of Public Policy, Brown University

The Centre of Public Policy, Brown University studied the entire features of e-Government principles available at various national government websites. The study involved an intense analysis of all relevant information on e-Government inherent in the various e-Government web sites visited. The analysis covered several dimensions amongst which includes; contact information that enables citizens to find out who to call or write to in a government agency for clarification or problem solution; materials on information services and databases; features that facilitates e-Government access by special individuals of the population like the handicapped and non-native language speakers; interactive features that would facilitate outreach to the public; and visible statements that would reassure citizens about privacy and security over the Internet. The study involved 2,288 national government websites from 196 nations around the world including a wide variety of political and economic systems offices. Such offices include the executive offices (President, Prime Minister, Ruler, Party Leader, or Royalty), legislative offices (Congress, Parliament, or People's Assemblies), judicial offices (major national courts), Cabinet offices, and major agencies that serve crucial functions of government such as health, human services, taxation, education, interior, economic development, administration, natural resources, foreign affairs, foreign investment, transportation, military, tourism, and business regulation.

Waseda University Institute of e-Government

The approach employed by Waseda University Institute of e-Government, Japan, focused on core administrative and financial reforms. This specifically focused on effectiveness, productivity, and benefits to the citizens. The study covered 6 areas as well as an analysis of 28 indicators. The first area relates to network preparedness with the following indicators; Internet users, broadband users, mobile users, personal computer users, and security systems. The second area required interface functioning applications which encompass indicators like online applications, e-tender system, e-tax system, e-voting system, e-payment system and user-friendly interface. The third area is the management optimisation which includes; EA-ICT investment, system optimisation, integrated network system, administrative and budgetary

systems, and public management reform by ICT. The fourth area relates to homepage indicator which is inclusive of updating frequency, public disclosure, link navigation system, multi-language correspondence. Finally, the fifth area relates to the chief information officer (CIO), having the following indicators; introduction of CIO, Human Resource Development (HRD) for CIO, supporting body for CIO, role and function of CIO, and promotion of e-Government, that is, priority of e-Government planning and strategy, promotion activities, legal framework and evaluation system.

United Nations

The United Nations survey incorporated human capacity, citizens (young and old) business and commerce, politicians, public administrators, programmers, end-users, infrastructure development and access to information and knowledge. The study looked beyond the availability of online services, instead it focused on the methods of delivery and the capacity of a country to absorb content and services through methods of subjective and normative research, asking questions of what is, and what should be, to reach its conclusions.

The broad objective of the United Nations e-Government index is simply to offer insights into e-Government development strategies and themes among regions and across regions. The survey is specifically geared towards providing a comparative assessment of government's ability and willingness to use e-Government and ICT as tools to deliver public services. In addition, it will serve as a benchmarking tool for monitoring the progress of countries with regards to higher levels of e-Government service delivery.

The United Nations e-Government survey produced an e-Government readiness index which is also a composite of indices namely; web measure index, telecommunication infrastructure index and human capital index. The web measure Index measures the generic aptitude of governments. It is based upon a web presence measurement model, which is a quantitative five-stage model. The stage models are as follows; emerging presence, enhanced presence, interactive presence, transactional presence and networked presence. Countries receive scores based on whether or not they provide specific products and services.

Emerging presence is the first stage of e-Government readiness, representing information that is limited and basic. A government web presence is established through an official website, a national portal or an official home page where some archived information such as the head of state's message or tangible documents like the constitution can be posted and made available on

line. Links to ministries/departments of education, health, social welfare, labour and finance may exist, as well as links to regional/local government and branches other than the executive branch of the Federal Government. However, information found in these websites is usually static due to inconsistent updates.

Enhanced presence is the stage whereby e-Government performance remains limited to providing one-way information to the public. At this stage, the government provides sources of current and archived information, such as policies, budgets, laws and regulations, reports, newsletters and downloadable database of very important government agendas; all as strategy of carrying the public along. With regards to public participation, details of relevant government documents such as strategies and policy briefs on specific issues are also made available to the public. Here, the interaction is more sophisticated and unidirectional, thus strictly from G2C.

In the *Interactive presence* stage, e-Government's readiness to provide on-line public services enters the interactive mode as it delivers services that enhance user convenience, which may comprise of downloadable forms for tax payment, applications for license renewal and so on. The only task required by recipients is printing and mailing back the completed document to the particular government agency, a task that traditionally can only be carried out by making a trip to the agency concerned. Where the dissemination of some relevant government information will not be suitable via essays, audio and video means are utilised for the purpose. In addition, sites are updated regularly and government officials can be contacted swiftly via e-mail, fax, telephone and post. However, citizen's participation has not been fully inculcated by the government at this stage, though some inputs from the public are admitted, treated and responded to through the provision of special e-mail address(es).

Transactional presence allows users to complete entire tasks electronically at any given time. It is characterized by simple user-friendly instructions which obviate physical presence of the users or utilization of other means, but electronic means which is compatible for transactions like paying taxes, ID cards application, birth certificates/passports, license renewals and other similar C2G interactions since it allows unlimited submission of transactions online. The users are able to pay for relevant public services or expenses like fines for motor vehicle violations, taxes, fees for postal services and so on through their credit, bank or debit cards. E-procurement services are also available in this stage. These are services that enable providers of goods and services to bid on line for public contracts via secured and certified links.

Networked presence is the most advanced level of e-Government initiative in the schema, characterized by an integration of G2G, G2B, B2G, G2C and C2G interactions. At the networked presence level, the government is willing and able to involve the society in a two-way dialogue through the use of web comment forms and innovative online consultation mechanisms. This is a stage where integration of consultation and collective decision-making is actualized as government actively solicits the views of people acting in their capacities as consumers of public services and as citizens.

The Telecommunication Infrastructure Index builds upon a composite, weighted average index of six primary indices, based on basic infrastructural indicators that define a country's ICT infrastructure capacity. These are: PCs/1,000 persons; Internet users/1,000 persons; Telephone Lines/1,000 persons; On-line population/1,000 persons; Mobile phones/1,000 persons; and TVsets/1,000 persons. Data for countries are taken primarily from the UN International Telecommunication Union (ITU) and the UN Statistics Division, and then supplemented by the World Bank. Data across countries is obtained through benchmarking of six separate indices which as well served as the indicators.

The data for the human capital index is obtained from the United Nations Development Program "education index". This is a composite of the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio, with two thirds of the weight given to adult literacy and one third to the gross enrolment ratio.

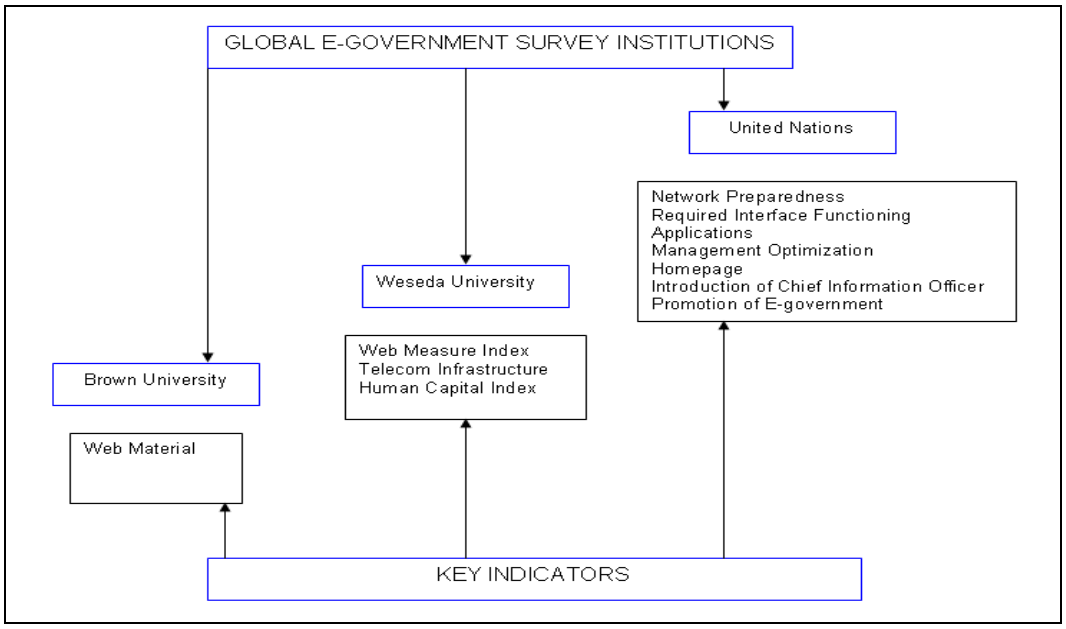
e-GOVERNMENT RANKINGS FOR MALAYSIA

Scores produced by the three e-Government institutions portray ambivalent perceptions of e-Government development in Malaysia. This is due to the varying e-Government ratings for Malaysia arrived at by the institutions. In spite of the different emphasis on the objectives of the study and the different methodologies employed (as illustrated in Figure 1) for their respective surveys, output of each study was perceived very significant and instrumental towards enhancing the understanding of Malaysia's e-service performance.

The survey by The Centre for Public Policy, Brown University ranked Malaysia 84 in 2004 which subsequently regressed to 154 in 2005, remarkably progressed to 39 in 2006 and improved further to 25 in 2007. Rankings provided by the United Nations were fairly constant, placing Malaysia at rank

42 in 2004 regressed by one point in 2005 and 2006 and progressed by 9 points in 2007 to end up at 34. Like the United Nations, scores arrived at by Waseda University Institute of e-Government did not oscillate that much. Malaysia was ranked 9 for two consecutive years, 2004 and 2005, progressed to 14 in 2006 and subsequently 15 in 2007 as shown in Table 3.

Figure 1: Global e-Government Survey Approaches



Source: Designed by the Author

Table 3: Malaysia's E-Government Ranking 2004-2007

Year	*Brown University*	*Waseda University*	*United Nations*
2004	*84*	*9*	*42*
2005	*154*	*9*	*43*
2006	*39*	*14*	*43*
2007	*25*	*15*	*34*

Source: West, 2005-2009; Weseda Institute of e-Government, 2004-2007; United Nations, 2004-2007.

The Centre for Public Policy, Brown University

In 2004, The Centre for Public Policy, Brown University's rating for Malaysia's e-Government performance was comparable to the rating countries like Sudan, Andorra, El Salvador and Afghanistan, Table 4. The contention here lies in the obscurity inherent in the placement of Sudan and Afghanistan within this category. With regards to GDP, an indicator of a country's sustainable economic growth, Malaysia's GDP by far exceeds those of Sudan and Afghanistan. In addition, with regards to the measure of a country's level of development or HDI, Malaysia can be seen to be in the upper middle income category with 0.805%, whereas Afghanistan with a HDI index of 0.346% falls within the low income category. The logic behind this comparison is somewhat vague considering the economic status of Afghanistan having its account deficit largely financed by donor funds of which only a small portion is provided directly to the government budget. The rest is provided to non-budgetary expenditure and donor-designated projects through the United Nations and non-governmental organizations (Asia Foundation Afghanistan, 2007). While Malaysia conversely is one the most economically prosperous and secured countries in Asia which should have ranked higher than Afghanistan with regards to e-Government development.

Table 4: The Centre for Public Policy, Brown University e-Government Survey: Malaysia & Countries with Equivalent Ranking, 2004

Rank	***Countries***	***e-Government Score***	***HDI***	***GDP Per Capita***
82	*Sudan*	*26.3*	*0.516*	*1,949*
83	*Andorra*	*26.2*	*NA*	*9,076*
84	***Malaysia***	***26.2***	***0.805***	***10,276***
85	*El Salvador*	*26.1*	*0.729*	*5,041*
86	*Afghanistan*	*26.0*	*0.346*	*1,490*

Source: West 2004; UNDP, 2005; World Bank 2005

In 2005, Malaysia's rating was comparable to countries like Rwanda, Mauritius, Samoa and Kenya, Table 5. These ratings imply that despite a comfortable income and reasonable HDI, Malaysia was not using its income to improve e-services. For instance Rwanda could be perceived despite its low GDP and low HDI to have allocated attention to e-services. Interestingly, Rwanda is a rural country with about 90% of the population engaged in agriculture and only 10% is allocated for services and industry (Rwanda-Economy and Investment, 2009). While in Malaysia, only 13% of its population engaged in agriculture (estate, i.e. large scale agricultural scheme), the majority are in services and industry with a composition of 31% and 51% respectively (Economic Planning Unit, 2006).

Table 5: The Centre for Public Policy, Brown University Survey: Malaysia & Countries with Equivalent Ranking, 2005

Rank	***Countries***	***e-Government Score***	***HDI***	***GDP Per Capita***
152	*Rwanda*	*20.9*	*0.450*	*1,268*
153	*Mauritius*	*20.9*	*0.791*	*11,287*

154	***Malaysia***	***20.8***	***0.796***	***9,512***
155	*Samoa*	*20.8*	*0.776*	*5,854*
156	*Kenya*	*20.7*	*0.474*	*1,037*

Source: West 2005; UNDP, 2005; World Bank 2005

In 2006 and 2007, The Centre for Public Policy, Brown University's rating indicated that Malaysia's performance improved incrementally as it progressed from 39 to 25 respectively, stepping up to the status of countries with double and triple digits of per capita income like Italy, Finland and the Netherlands, Tables 6 & 7. This study contends that the rising number of Internet users by population is the main factor behind different country's placement. For example, in Brazil 34.4% of its population (68 million), Italy 48.8% (28 million), the Netherlands 82.9% (14 million) and Malaysia 62.8% (16 million) have access to the Internet (Internet World Statistics, 2009).

Table 6: The Centre for Public Policy, Brown University Survey: Malaysia & Countries with Equivalent Ranking, 2006

Rank	***Countries***	***e-Government Score***	***HDI***	***GDP Per Capita***
37	*Chile*	*32.9*	*0.867*	*12,027*
38	*Italy*	*32.9*	*0.941*	*28,529*
39	***Malaysia***	***32.7***	***0.805***	***10,276***
40	*Slovakia*	*32.3*	*0.863*	*15,879*
41	*Brazil*	*32.1*	*0.800*	*8,402*

Source: West 2006; UNDP, 2006; World Bank 2006

Table 7: The Centre for Public Policy, Brown University Survey: Malaysia & Countries with Equivalent Ranking

Ranking	*Countries*	*e-Government Score*	*HDI*	*GDP Per Capita*
23	*Finland*	*37.3*	*0.952*	*32,153*
24	*Vatican*	*37.0*	*NA*	*NA*
25	***Malaysia***	***36.9***	***0.811***	***10,882***
26	*Netherlands*	*36.8*	*0.953*	*32,684*
27	*Czech Republic*	*36.7*	*0.891*	*20,538*

Source: West 2007; UNDP, 2007; World Bank 2007

The Centre for Public Policy, Brown University took cognisance and scrutinized all elements that contributed to e-Government performance. The 2004 survey reported 100 percent online services; it dropped to 0 percent in 2005, moved-up to 44 percent in 2006 and dropped to 63 percent in 2007. Similar irregular shifts were evident in publications and databases. Databases scored 0 percent in 2004 and 2005, increased to 44 percent in 2006 and dropped to 25 percent in 2007. Summary of the survey pattern for Malaysia is shown in Table 8.

Table 8: Summary from the Centre for Public Policy, Brown University by Features, Malaysia & Countries with Equivalent Ranking, 2004-2007

Survey Year	*Online Services*	*Publications*	*Databases*	*Privacy Policy*	*Security Policy*	*W3C Disability*
2004	*100*	*0*	*0*	*0*	*17*	*17*
2005	*0*	*100*	*0*	*0*	*0*	*0*
2006	*44*	*89*	*44*	*11*	*11*	*0*
2007	*63*	*100*	*25*	*38*	*38*	*0*

Source: West, Various Years, 2004 to 2007

WASEDA UNIVERSITY INSTITUTE OF e-GOVERNMENT FINDINGS

Malaysia's e-service development status was ranked 9th by Waseda University Institute of e-Government in 2004 and 2005. In this ranking, Malaysia was grouped with developed countries that had GDP that is twice and thrice higher than Malaysia's GDP.

Table 9: Waseda University Institute of e-Government Survey by GDP Per Capita & HDI of Countries with Equivalent Ranking to Malaysia, 2004

Rank	***2004***	***HDI***	***GDP Per Capita***
1	*USA.*	*0.948*	*39,676*
2	*Canada*	*0.950*	*31,263*
3	*Singapore*	*0.916*	*28,077*
4	*Finland*	*0.947*	*29,951*
5	*Sweden*	*0.951*	*29,541*
6	*Australia*	*0.957*	*30,331*
7	*Japan,*	*0.949*	*29,251*
8	*Hong Kong*	*0.927*	*30,822*
9	***Malaysia***	***0.805***	***10,276***

Source: Waseda University Institute of e-Government Survey, 2004;

UNDP, 2004; World Bank 2005

In 2006 and 2007, it regressed to 14 and 15 respectively; however, as shown in Tables 10 &11, it maintained a position that can be considered excellent in terms of e-Government development.

Table 10: Waseda University Institute of e-Government Survey by GDP Per Capita & HDI of Countries with Equivalent Ranking to Malaysia, 2006

Rank	2006	HDI	GDP Per Capita
1	*USA*	*0.948*	*39,676*
2	*Canada*	*0.950*	*31,263*
3	*Singapore*	*0.916*	*28,077*
4	*Japan*	*0.949*	*29,251*
5	*Korea*	*0.912*	*20,499*
6	*Germany*	*0.932*	*28,303*
7	*Taiwan*	*0.932*	*29,500*
8	*Australia*	*0.957*	*30,331*
9	*United Kingdom*	*0.940*	*28,180*
10	*Finland*	*0.947*	*29,951*
11	*Hong Kong*	*0.927*	*30,822*
12	*Sweden*	*0.951*	*29,541*
13	*Norway*	*0.965*	*38,454*
14	***Malaysia***	***0.805***	***10,276***

Source: Waseda University Institute of e-Government 2005; UNDP, 2005;

World Bank 2005.

Table 11: Waseda University Institute of e-Government Survey by GDP Per Capita & HDI of Countries with Equivalent Ranking to Malaysia, 2007

Rank	2007	HDI	GDP Per Capita
1	*USA*	*0.951*	*41,890*
2	*Singapore*	*0.922*	*29,663*
3	*Canada*	*0.961*	*33,375*
4	*Japan*	*0.953*	*31,267*
5	*Korea*	*0.921*	*22,029*
6	*Australia*	*0.962*	*31,794*
7	*Finland*	*0.952*	*32,153*
8	*Taiwan*	*0.932*	*29,600*
9	*U.K.*	*0.946*	*33,238*
10	*Sweden*	*0.656*	*32,525*
11	*Germany*	*0.935*	*29,461*
12	*France*	*0.952*	*30,386*
13	*Hong Kong*	*0.937*	*34,833*
14	*Italy*	*0.941*	*28,529*
15	***Malaysia***	***0.811***	***10,882***

Source: Waseda University Institute of e-Government 2007; UNDP, 2007; World Bank 2006.

It is discernible that all the findings from the four surveys categorized Malaysia amongst countries with high GDP Per Capita and a proven track record in ICT development which extends e-services to virtually all its citizens. These countries invested heavily in ICT development which is also a catalyst for economic development. The finding accrued Malaysia's success to the increasing government spending on ICT since 2001 as shown in Table 12.

Table 12: Development Expenditure and Allocation, Malaysia

Programmes	***8MP 2001-2005***	***9MP 2006-2010***
	Expenditure	*Expenditure*
Computerisation of Government Agencies	*2,125.0*	*3,734.2*
Bridging Digital Divide	*2,433.1*	*3,710.2*
School	*2,146.1*	*3,278.2*
Communication Infrastructure Service	*254.0*	*150.0*
***Provision Programmes**:*		
Telecentres	*18.1*	*101.0*
ICT Training Services	*15.9*	*180.0*
ICT Funding	*1,125.6*	*1,493.0*
MSC Multimedia Applications	*1,153.1*	*1,100.5*
e-Government	*537.7*	*572.7*
Smart School	*363.9*	*169.8*
Telehealth	*91.8*	*60.0*
Government Multipurpose Card	*159.7*	*298.0*
MSC Development	*320.8*	*377.8*
ICT Research and Development	*727.5*	*474.0*
Total	*7,885.1*	*12,888.9*

Source: EPU, 2003 & 2006

UNITED NATIONS FINDINGS

Malaysia was ranked 42 in 2004, 43 in 2005 and 34 in 2007 by the United Nations, as shown in Table 13. All three surveys placed Malaysia amongst countries with equivalent HDI ranking as well as income level. In a similar approach to Waseda University Institute of e-Government, the United Nation's evaluation of Malaysia's e-Government performance reflects Malaysia's huge commitment with regards to ICT budgets which has been progressing towards higher level of achievement each year, Table 14. Most development government sectors got increased ICT budget, thus increased ICT expenditure to an annual growth rate of 10.1% from 2001 to 2005.

Table 13: Summary of United Nations e-Government Ranking for Malaysia In Comparison to Other Countries

Rank	***2004***	***Score***	***2005***	***Score***	***2007***	***Score***
1	*USA*	*0.913*	*USA*	*0.906*	*Sweden*	*0.916*
2	*Denmark*	*0.905*	*Denmark*	*0.906*	*Denmark*	*0.913*
3	*United Kingdom*	*0.885*	*Sweden*	*0.898*	*Norway*	*0.892*
4	*Sweden*	*0.874*	*United Kingdom*	*0.878*	*United States*	*0.864*
5	*Republic of Korea*	*0.857*	*Republic of Korea*	*0.873*	*Netherlands*	*0.863*
6	*Australia*	*0.838*	*Australia*	*0.868*	*Republic of Korea*	*0.832*
7	*Canada*	*0.837*	*Singapore*	*0.850*	*Canada*	*0.817*
8	*Singapore*	*0.834*	*Canada*	*0.843*	*Australia*	*0.811*
9	*Finland*	*0.824*	*Finland*	*0.823*	*France*	*0.804*
10	*Norway*	*0.818*	*Norway*	*0.823*	*United Kingdom*	*0.787*

34	***Malaysia***	***0.541***				
42			***Malaysia***	***0.571***		
43					***Malaysia***	***0.606***

Source: United Nations Various Years, 2004-2007

Note: No survey was conducted in 2006.

Table 14: ICT Expenditure by Sector, 2000-2005

	****RM million***			***% of Total***			***Average Annual Growth Rate (%)***
Sector	*2000*	*2004*	*2005*	*2000*	*2004*	*2005*	*2001-2005*
Agriculture	*200*	*128*	*138*	*0.8*	*0.4*	*0.4*	*7.2*
Mining	*222*	*224*	*234*	*0.9*	*0.7*	*0.7*	*1.1*
Manufacturing	*12,188*	*13,652*	*14,367*	*47.5*	*45.6*	*44.6*	*3.3*
Utilities	*378*	*430*	*470*	*1.5*	*1.4*	*1.5*	*4.5*
Construction	*112*	*126*	*136*	*0.4*	*0.4*	*0.4*	*3.8*
Wholesale & Retail Trade	*1,585*	*1,735*	*1,870*	*6.2*	*5.8*	*5.8*	*3.4*
Transport and Communications	*1,221*	*1,581*	*1,770*	*4.8*	*5.3*	*4.8*	*7.7*
Finance and Business Services	*1,894*	*2,563*	*2,845*	*7.4*	*8.6*	*8.8*	*8.5*
Other Services	*140*	*62*	*70*	*0.5*	*0.2*	*0.2*	*-12.9*
Government	*1,389*	*1,981*	*2,245*	*5.4*	*6.6*	*7.0*	*10.1*
Consumer	*6,314*	*7,440*	*8,104*	*24.6*	*24.9*	*25.1*	*5.1*
Total	*25,643*	*29,922*	*32,248*	*100.0*	*100.0*	*100.0*	*4.7*

Source: Economic Planning Unit Various Years

*Note: 1 US$ = RM 3.2

ANALYSIS OF FINDINGS

It is pertinent that the findings on Malaysia's e-Government performance by Waseda University Institute of e-Government and the United Nations ideally reflect the main e-Government operations as well as credits due for its performance. Whereas findings by The Centre of Public Policy, Brown University is not coherent due to the inconsistent portrayal of e-Government activities in Malaysia. Since the early 1980s so much attention has been given to ICT development in all sectors of the economy, but an aggressive and pragmatic effort towards ICT earnestly started in the 1990s especially with the introduction and establishment of the multimedia super corridor, a true bedrock for ICT advancement which remarkably set the base for attracting ICT experts and skills to Malaysia as well as the outburst of ICT networking and infrastructure. ICT has come a long way in Malaysia and to treat its development with somewhat understanding is very unproductive and might be perceived as a political strategy to sideline its development. The findings by The Centre of Public Policy, Brown University tends to be misleading with regards to the real situation in Malaysia. This is accrued to the methodology employed which appears overly simplistic in comparison to Waseda University Institute of e-Government and the United Nations. This claim is supported by the findings arrived at from the researcher's survey of 28 ministries.

Case Study Findings

Data was arrived at through questionnaires distributed and responded to by 71 officers from 28 ministries. The questionnaires posed to officers contained inquiries on structure, means of communication within the organization and between other organizations, administrative issues covering matters on accessibility to computers, Internet and Intranet. Information was also derived through interviews carried out on 7 seven pilot managers and web searches as well as an intensive sourcing of relevant information through websites of 28 ministries.

Staff Accessibility to Internet

Accessibility to computer and the Internet is the most fundamental index of e-Government performance as it serves as a medium of communication between government to citizens and businesses and vice versa. This survey discovered the accessibility of the internet by ministries staff. At department level, 87% had access while 4% were still without Internet access. With regards to

websites, all 28 ministries had a website, however efficiency of the websites vary amongst ministries as shown in Table 15 & 16.

In line with the United Nations definition of e-service as a service that involves its entire transactions online, only 18% or 5 ministries offered online services while other ministries offered access to a range of services within their ministries and linkages to other government institutions, however they restricted submission of forms online. In accordance with the United Nations' e-Government categorisation this would place them in stage 2 of e-Government development.

Table 15: Availability of Website amongst Departments within a Ministry

Website Availability	***No***	***%***
Had official website	*61*	*85.9*
Will have by year-end	*1*	*1.4*
Planning to develop a website	*6*	*8.5*
No plan to develop a website	*1*	*1.4*
No response	*2*	*2.8*
Total	*71*	*100*

Source: Author field survey, 2008.

Table 16: Status of Ministry Website

	Ministry	***Interactive Web Presence (Stage 3)***	***Enhanced Web Presence (Stage 2)***
1	*Prime Minister's Department*	×	√
2	*Ministry of Agriculture & Agro-Based*	×	√

	Industry		
3	*Ministry of Culture, Arts and Heritage*	×	√
4	*Ministry of Defence*	×	√
5	*Ministry of Domestic Trade & Consumer Affairs*	×	√
6	*Ministry of Education*	×	√
7	*Ministry of Energy, Water & Communications*	×	×
8	*Ministry of Entrepreneur & Co-operative Development*	×	√
9	*Ministry of Federal Territories*	×	√
10	*Ministry of Finance*	√	×
11	*Ministry of Foreign Affairs*	×	√
12	*Ministry of Health*	√	×
13	*Ministry of Higher Education*	√	×
14	*Ministry of Home Affairs*	√	×
15	*Ministry of Housing and Local Government*	×	√
16	*Ministry of Human Resources*	×	√
17	*Ministry of Information*	×	√
18	*Ministry of Internal Security*	√	×
19	*Ministry of International Trade & Industry*	×	√
20	*Ministry of Natural Resources & Environment*	×	√
21	*Ministry of Plantation Industries &*	×	√

	Commodities		
22	*Ministry of Rural & Regional Development*	×	√
23	*Ministry of Science, Technology & Innovations*	×	√
24	*Ministry of Tourism*	×	√
25	*Ministry of Transport*	×	×
26	*Ministry of Women, Family & Community Development*	×	√
27	*Ministry of Works*	×	√
28	*Ministry of Youth & Sports*	√	×

Source: Author field survey, 2008.

Level of Effectiveness

All ministries were either at level 2 or 3, an indication of having and maintained basic e-Government features like contact details (telephone, address, email, etc.), links to government sites, office location and staff directory. About 83% of ministry's websites and email services offer feedback and query services. With regards to feedback, this survey observed that 30% of the 28 ministries replied within the same day, 50% within a few days and the remaining took more than 30 days to reply. It is obvious that they are effective as 80% of the 28 ministries would reply within a few days.

Search feature which is very important feature in websites was common amongst ministries website. The feature enables web visitors to search and find relevant information with ease such as names of relevant officers, affiliations, expertise, areas of interest and so on before proceeding with their official interests or transaction. Another common feature evident in ministries website is outreach which allows a two-way communication between citizens and officials and vice versa.

News on current and up-coming events was considered essential for creating awareness on the ministry's activities and where necessary attract

participation. All websites had this feature, however most websites offer specific ministry-related publications and general relevant government policies and guidelines for viewing and downloading. In addition, all web pages were bilingual using Malay and English languages.

All sites have no links to commercial products or services, except to government-linked companies. For example, the Ministry of Tourism has linkages to government hotels. However, these links only offer room reservation. Most adverts on government websites are products of ministries and its subsidiaries. For example, the statistics Department of the Prime Minister's Department and the Department of Mapping Malaysia, under the Ministry of Natural Resources and Environment advertise their respective departmental documents for sale. To date, online purchase transaction has not materialized due to legislation on Internet security which is still in its infancy stage. As such, privacy and security signage posted on all ministries' sites are mere formality.

Another element investigated was staff's general perceptions of Malaysia's e-Government prospects. Majority of staff expressed their contentment with the present development and the continuous commitment by their various offices towards e-Government development. This view is in line with an initiative taken by the government to move towards fully integrated web presence.

EVALUATION

This study specifically explored the yardsticks that contribute to the development of e-Government. The base of this study rests with the findings gathered from three sources; the United Nations e-Government survey which looks at the methods of delivery and the capacity of a country to absorb content and services. The index it produced is a composite of three indices: the web measure index, telecommunication infrastructure, and the human capital index. The Waseda University Institute of e-Government focused on administrative and financial reform, that is, on effectiveness, productivity, and usefulness of e-services to citizens. Six areas were investigated to produce its e-service index. While The Centre of Public Policy, Brown University evaluates websites of national government for the presence of features dealing with information availability, service delivery and public access. Overall the approaches used by institutions differ thus the indices produced carry different interpretations of e-Government. However, common among these studies is the focus on efficiency and effectiveness of service delivery to public by

public agencies, Table 17. e-Government evaluation is achieved by this study against the backdrop of the three studies.

Table 17: Variables of e-Government Measurements

	Approach	**Key Variables**
The Centre of Public Policy, Brown University	Web based	Contact information Material on Information services and databases Features for special populations Interactive features Privacy & Security statements
Waseda University Institute of e-Government	Administrative and financial reform	Network preparedness Interface functioning Management optimization Homepage indicators Chief Information Officer & Human resource Development
United Nations	Subjective and Normative	Availability of on-line services Capacity of absorption

Some of the points highlighted by these institutions reflect the dynamism of Malaysia's e-Government activities. The Waseda University Institute of e-Government usage of six variables, for example, categorized Malaysia's e-Government services with those of high GDP per Capita countries and simultaneously among countries with high ICT investment. Findings of this study validate the claims by Waseda University Institute of e-Government following various evidences of Malaysia's aggressive ICT investment and development effort which has started since 1980s.

Based on the Fifth Malaysia Plan Report (2004), ICT investments and implementation progressed steadily during 2001 to 2005. Based on the plan, within 2001-2005, government embarked on efforts to position Malaysia as a regional as well as an ICT and multimedia hub. Out of the actions taken is the

promotion of a competitive environment for ICT and multimedia industries. The effect of the initiatives was the growth of so many advanced value added services, including voice, data and text based applications as well as market expansion for electronic based contact and data centres. The spill over extended to companies operating in the multimedia super corridor which pushed for tariff upgrading for leased line communication services. Internet backbone infrastructure was also increased (by Joint Advanced Integrated Networking - JARING) to 2.5 gigabits per second transmission speed.

The Malaysia Plan (2001-2005) also reported completion of ICT infrastructural expansion to rural and remote areas. In terms of basic telephony, such as Internet services, the government allocated the Universal Service Provision (USP) fund. The fund enables a considerable number of districts as well as rural schools access to fixed line. The plan also reported ICT expenditure provided to various economic sectors for ICT systems and processes, as well as the improvement of web-based applications. Usage of ICT also expanded into the government sector. One of the expansion efforts was the introduction of the ICT strategic plan to improve linkages between government agencies, businesses and citizens.

Online education and training was also undertaken during the Fifth Plan period, one of such strategy to enhance education and training was the introduction of the Malaysia Grid for Learning (MyGfL), which served as a repository and directory for sharing digital contents. In addition, the National e-Learning Consultative Committee (NeLCC) was set up to provide direction and monitoring initiatives with regards to formulation and implementation of strategies and programmes. Waseda University Institute of e-Government and the United Nations picked up these variables as positive development indicators.

Infrastructural Support for Malaysian e-Government Applications

As earlier mentioned, the support framework for Malaysia's e-Government applications has commenced as early as the 1980s. One concerted effort was the construction of inter and intra - governmental agency communication and the introduction of the Government Integrated Telecommunications Network (GITN) in the 1990s. The implementation of GITN enables the integration of networking and the channelling of information flow in the public sector and improves the efficiency and effectiveness of inter-departmental and intra-departmental communication. In this development process, the Malaysian government has learnt fundamental administrative innovations, such as the

establishment of one-stop-shops that offer a range of services from agencies to departments to citizen groups.

The government has spent approximately US$9 billion of public funds to develop its IT infrastructure and amenities (EPU, 2006). Among the key expenses was financial support to the Putrajaya Campus Network (PCN). The core technology of PCN is Asynchronous Transfer Mode (ATM), which has the capability of integrating voice, video and data into a single network. The bandwidth available at the core of PCN is OC-3 or 155 Mbps. Shared Services Outfit (SSO) provides the planning and operations arm for PCN. SSO manages the migration of Government agencies and ministries to Putrajaya, ensuring that the new building's network designs integrate well with the existing PCN. SSO also performs the daily monitoring and maintenance of PCN to ensure network availability to its present users. Operationally, PCN currently supports approximately 16,000 users for 58 government agencies and ministries.

The United Nations study places Malaysia in the mid-range level; comparatively aligned with Malaysia HDI and telecommunication infrastructure indices. It highlighted Malaysia websites which are limited to offering one-way information to the public. The United Nations findings are in accordance to this study findings. It observed deficits in accessibility to Internet among departments and street-level officers and communication devices among citizens were only partially sufficient. Furthermore, the United Nations study also highlighted IT infrastructure and amenities to rural and remote areas has been slow. This view is linked to the issue of telecommunication providers which is controlled by one company Telekom Malaysia (TMNet).

JARING (Joint Advanced Integrated Networking) which belongs to TMNet was the sole Internet Service Provider for Malaysia until year 2000 when additional licenses were granted to Celcom Malaysia Sdn. Berhad, Maxis Communications Sdn. Berhad, DiGi Telecommunications Sdn. Berhad and TIME dotCom Berhad. However, while there was liberalisation of the ISP market, TMNet remained the strongest player. In June 2001, TMNet had 1.05 million subscribers, claiming 70 per cent of Malaysia market and making it the largest ISP in South East Asia. With TMNet almost having monopoly power, Internet hook-up cost is perceived to be relatively high for a large sector of the society, thus worst for the rural and interior societies. This discrepancy has made Malaysia's Internet penetration rate relatively low in comparison to its investment in ICT infrastructure, Table 18.

Table 18: Internet Penetration Rate 2000-2007

Survey	Population	Internet	Penetration Rate
		Subscribers	*Per 100 Inhabitants*
2000	*21,793,000*	*4,977,000*	*22.80*
2001	*23,274,700*	*6,346,000*	*27.26*
2002	*24,300,000*	*7,842,000*	*32.27*
2003	*25,080,000*	*8,643,000*	*34.46*
2004	*25,347,368*	*9,879,000*	*38.97*
2005	*26,160,000*	*10,040,000*	*38.37*
2006	*26,640,000*	*11,016,000*	*41.35*
2007	*27,170,000*	*14,904,000*	*54.85*

Source: MCMC, 2004-2007 and Department of Statistics, 2005 and 2007

Another contributory factor is low level of local broadband access to the Internet. Apart from the business sector, few homes and small businesses had high-speed Internet access at the end of 2000. Several factors contributed to this situation. First, there was limited wireless technology. Secondly, the TMNet's Internet service 'Streamyx' was unreliable coupled with alternative ISPs unwillingness to invest in infrastructure to support Internet services. Instead, these ISPs depended on TMNet's infrastructure and this to some extent has discouraged TMNet from improving its infrastructural capabilities. Thirdly, it was highly cost ineffective and inconsistent with TMNets development plan by allowing its competitor ISPs to use its infrastructure. This scenario was not productive, thus led to suspicion and questioning the decision making of the telecommunication regulator MCMC. According to TMNet, MCMC was too lenient towards the promotion of independent telecommunication infrastructure for competing ISPs, such as MAXIS, CELCOM and DIGI. Fourthly, according to TMNet officers, Streamyx subscribers lacked knowledge of network interface. Often residential/office configuration and network hardware connections were the source of Internet disruption or problems and not the TMNet line.

In spite of the fact that the number of Internet subscribers more than doubled in previous years, penetration into the population was pretty low. For example, in 2004 Internet penetration per 100 inhabitants was 1%. In 2005, Internet subscribers doubled, lifting broadband penetration to just over 2%. In 2006, there was about 80% expansion, which improved penetration per 100 inhabitants to just over 3%. This represented a household penetration of around 11%. Malaysia remained well behind the regional leaders where broadband household penetration was typically running at above 50%.

This survey indicates that there is cultural resistance to e-Government development in Malaysia. The resistance comes from lack of confidence in new technologies among users. To complement the foregoing, Spears et al. (2000) contends that government has not been able to show clear benefits in terms of time, money, or an increase in quality from e-service delivery, and the possible transaction costs that may result from such change.

The transaction costs of change, of transition to using an electronic medium, can create a strong initial barrier for citizens to adopt electronic communication with government (Burrows, 2000; Spears et al., 2000; Thomas and Wyatt, 2001). For people to change, an established way of doing things (such as filing a paper & income tax form) to adopting a new technology or channel of communication (submitting electronic tax form), there is a substantial immediate cost. That is, the cost of finding relevant information, the time and possibly frustration costs of learning new ways of doing things.

CONCLUSION

Different ways abound when characterizing the development of e-Government. These approaches help to delineate some of the internal dynamics that in one way or the other undermine e-Government development. United Nations (2008) proposed some factors which can be perceived as contradictions to e-Government development. First is the wasteful approach - one that engages resources but does not result in optimisations of government operations. Secondly is the pointless approach - even if government operations are optimised they may have no (or only minimal) effect on the development objectives preferred by society. Thirdly is the meaningful operation - where a government operation is optimal and supports human development, that is, empowers people/raising human capabilities, and in this framework people are equipped for genuine participation in the inclusive political process which supports a variety of values.

Malaysia's e-Government development cannot be overemphasized. The government has put in tremendous efforts towards to bolstering e-Government development to its most optimal level. The obligation now rest with the people to make it work as Malaysia is currently in the third path of its e-Government development. The ninth Malaysia plan allocated a large portion of the countries budget (about US$10 billion) for the enhancement and consolidation of e-Government to a higher and more sustainable path.

In line with Weseda and United Nations' findings, Malaysia has to focus on enhancing privacy and accountability matters if the country actually aspires to make it to the next desired path of development. Privacy and accountability empowers the Internet to deliver and receive fast, efficient and unbounded information when dealing with the public sector. The public sector, which substantially differs from the private sector, is bound to many rules and regulations when handling and liberating vast information in their holdings, especially decisions to liberate information require tedious inter- and intra-departmental agreements and endorsements usually by ministers or elected politicians. This issue must be improved so as to efficiently and effectively disseminate useful information to the citizens.

Regulations and policy environment are also important. Appropriate legislation and regulations (as well as in practice) are essential before e-Government initiatives can advance. This is because the web of government requirements around ICT procurement, industry support, contract requirements, compliance with security requirements and other standards can increase costs and drag out implementation timetables. With regards to policy environment in realising e-Government initiatives, old laws have to be changed and new laws are needed. In accordance with Caldow (2001), implementation could be successful if legislators learn new technologies and relinquish old approaches.

Contextually, it is also very significant for Malaysia's websites to depict unique features of its national heritage. For instance, government websites of Taiwan and the Republic of China depict images unique to their national heritage. This means e-Government approaches do not have to be the same, they must be determined by each country according to its own needs, provided it meets its respective objectives. Heeks (2004, 7-8), contends that:

It would be a mistake to conceive the inter-relation between technology and context as a kind of simple duality…. The context of invention is not the same as the context of design, which is not the same as the context of

deployment…these differences are fundamental to the outcome of e-Government projects…. e-Government technology must therefore be seen not in a uni-dimensional, reductionist manner but in a systemic manner as a group of related dimensions that are drawn from the context within which that technology is designed.

It is the conviction of this chapter that the present status of e-Government development in Malaysia demands reckoning. Though it is striving hard to reach a much desired excellence, much is expected of the government's operating mechanisms to abide by the e-Government strategies and adopt innovative techniques that will act as synergy and catalyst for a groundbreaking e-services performance and delivery.

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