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REINVENTING PUBLIC SERVICE DELIVERY: THE CASE OF PUBLIC INFORMATION SYSTEMS IMPLEMENTATION IN MALAYSIA

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Abstract

In the effort towards promoting efficient and effective service delivery to its citizen, Malaysia has deployed seven public information systems projects. Three of these public information systems projects were implemented to address the government to citizen and government to government interactions while one project was deployed to fulfill the need for government to business interactions. Empirical studies from the users' perspective showed that the implementation of PIS can be regarded as successful. However, as the implementation of the PIS projects is still continuing, further research is deemed to be very necessary to investigate its success. This paper is intended to discuss various public information systems projects that were undertaken by the Malaysian government as part of its e-government effort.

Keywords: Public information systems, e-government, Malaysia

1. Introduction

In an effort towards promoting efficient and effective service delivery to its citizen, many countries have spent billions of dollars in order to provide service automation and computerization. This situation which is generally called an e-government initiative has been very aggressively pursued especially among the developing nations. This is partucularly true in Malaysia's case. In line with its so called Vision 2020, whose aim is to transform Malaysia into a well-developed nation, sustained by a knowledge-based economy, various information and communication technologies (ICT) projects have been deployed. These ICT projects, among others, include the deployment of public information systems (PIS) which are meant to enhance and dramatically improve the quality of government interactions with both business and its citizens . In addition, the PIS projects are also intended to improve the information flow and processes within the government so as to increase the speed and quality of policy development, coordination and enforcement. This paper aims to discuss the implementation of various PIS projects that have been undertaken by the Malaysian government as part of its e-government effort.

2. Concepts of Public Information Systems

Within the spectrum of information systems (IS) literature, numerous scholars and authoritative bodies have provided diverse definitions with regards to information systems. O'Brien (1999), for instance, defines information systems as "an organized combination of people, hardware, software, communication network, and data resources that collects, transform and disseminates information in an organization". However, when the term 'information systems' is combined with the word public, resulting in a three-word-term i.e. 'public information systems', the task of defining this term becomes quite cumbersome. Very few scholars have really attempted to define the term public information systems. One of the simplest definitions is from Sundgren (2005) who defines it as "information systems available for public use". Hence, building upon the definition by O'Brein and Sundgren, this paper defines public information systems (PIS) as "an organized combination of people, hardware, software, communication network, and data resources that collects, transform and disseminates information for public use". Sundgren (2005) further highlights that actors interacting with the PIS can be categorized into three parts, namely, (i) the individual as a citizen or client (ii) organizations either profit oriented or non-profit and (iii) government agencies and statutory bodies operating at differing levels, i.e. central, regional or local.

3. Malaysian Public Information Systems

As the biggest employer and provider of services in the country, the manner in which the Malaysian government operates will have a profound and significant effect on the lives of its citizens. Hence, in order to enhance both efficiency and service delivery to the public while, at the same time, fostering a partnership between the government, citizens and business service delivery, the need to develop and implement PIS is seen as being inevitable. Driven by this realization, various ICT projects have been implemented to serve the needs of the Malaysian electronic government or e-government. According to Karim (1997), e-government, in the case of Malaysia, is a multimedia networked paperless administration linking the government agencies within the new federal administrative centre located at Putrajaya Malaysia and the government centres around the country.

It is envisaged that the deployment of PIS for supporting the Malaysian e-government will revolutionize the manner in which services are provided for the citizens by the public sector. To this effect, the implementation of e-government is intended to (i) transform the administration process of government by using leading edge IT, (ii) to drastically improve the performance of government processes, (iii) provide high-quality, low-cost administrative services to both citizens and business, (iv) to employ multimedia technology to foster government effectiveness, and (v) attract world-class multimedia developers to Malaysia. Among the diverse ICT projects that were implemented, seven PIS projects were deployed to accommodate the needs of the various actors. To address the government to citizen or G2C interactions, three projects were developed namely Electronic Delivery Services (E-services) and Electronic Labour Exchange (ELX) and E-Syariah. Likewise, a total of three projects were also developed to cater for the government to government or G2G interactions i.e. Generic Office Environment (GOE), Project Monitoring System (PMS), Human Resource Information Systems (HRIS). Finally, a project named Electronic Procurement (EP) was developed to address the interaction needs of government to business or G2B.

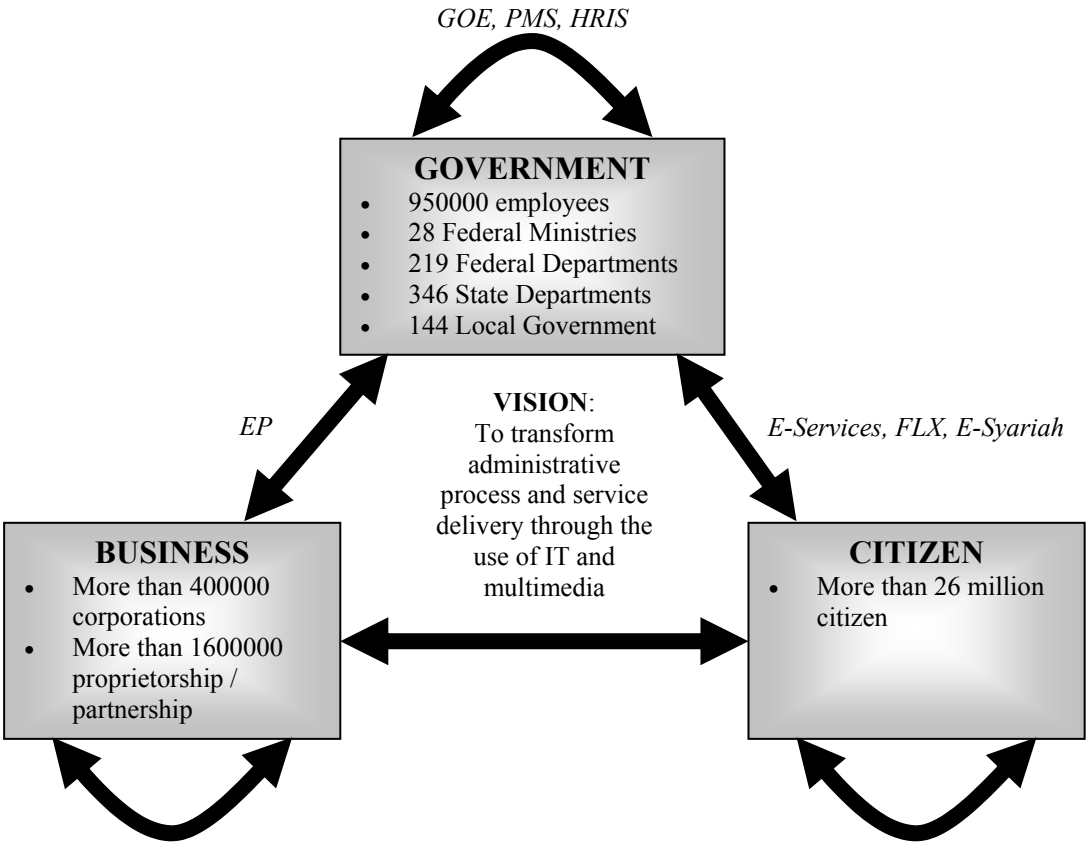

Figure 1. Actors in Malaysian e-government

3.1. Generic Office Environment (GOE)

GOE is an electronic office environment whose aim is to enhance productivity through better information management, communications and collaboration. GOE consists of three modules namely Enterprise Wide Information Systems, Enterprise Wide Communication Management Systems and Enterprise Wide Collaboration Management Systems (Ahmad & Osman, 2006). The objectives of GOE are (i) to provide an efficient preparation and storage of documents (ii) to enable rapid search and retrieval of documents (iii) to provide an effective and productive collaboration and sharing of information and (iv) to provide a secure and traceable access to documents (Multimedia Development Corporation, 2007). The three phases within the GOE project are the pilot phase, the operational review phase and the roll-out phase. In the pilot phase, the system was developed and implemented in the prime minister's office, the deputy prime minister's office and the office of the chief secretary to the governments, cabinet division and Malaysian Administrative, Modernisation and Management Planning Unit (MAMPU). Under the operational review phase, the performance of the vendor was reviewed before the service was extended to all other agencies. As of now, the GOE project is in its third phase (roll-out phase) where the system has been rolled-out to 22 government agencies with the main focus on those ministries within the Putrajaya Administrative Centre.

3.2. Project Monitoring Systems (PMS)

The project monitoring systems of PMS is an on-line end-to-end project monitoring system creating a collaborative environment in order to provide better management of development projects. PMS contains three services modules, namely, the application services, data services and communication services. The implementation of PMS is aimed at (i) supporting and monitoring the entire lifecycle of Malaysia's 5-Year development programme (ii) producing quality projects (iii) providing a platform for exchanging ideas and demonstrating best practices models in project implementation (iv) providing the source for effective decision making based on analysis/forecasting of project information and an auto-alert with regards to problem projects (Multimedia Development Corporation, 2007) To date, project implementation has been completed at all 28 ministries and federal agencies throughout the country. Post implementation activities are on-going such as the assessment of additional Project Monitoring System (PMS) II capabilities.

3.3. Human Resource Management Information Systems (HRMIS)

Human Resource Information Management Systems or HRMIS is an integrated, technology-enabled human resource management information system for the Malaysian public service. HRMIS features the global best practices in HR and provides a single interface for government employees to perform HR management functions effectively and efficiently in an integrated environment. The development and implementation of HRMIS is guided by the following goals i.e. (i) to provide effective staffing and the correct size for the civil service (ii) to provide an up-to-date consolidated HR data for effective information planning (iii) to automate human resource managerial and operational processes (iv) to improve paperless HRM capabilities (v) to provide an open and flexible human resource management system (Multimedia Development Corporation, 2007). Some of the benefits envisaged from the implementation of the HRMIS are (i) submission and processing of leave and claims applications electronically; (ii) converting the Personnel Service Book into an electronic form; (iii) electronic submission and processing of yearly appraisal and salary increments; and (iv) systematic and integrated consolidation of information for pension benefits. The project started in 1999 and all modules have been completed by September 2006. As of April 2007, 443.175 service data and 337,568 government employees' personnel data from 523 agencies were retained in the HRMIS database.

3.4. E-services

E-services are electronic services that allow the citizens of Malaysia to engage in transactions and utilities payments such as telephone and electricity bills. The e-services are accessed via multi channel service delivery such as the internet and kiosk machines. The objectives of the implementation of e-services are (i) to enhance service access through multiple electronic delivery channels, (ii) to provide internet services where multiple services can be obtained at each delivery channel and (iii) to improve service quality in terms of speed, reliability, transparency and security (Multimedia Development Corporation, 2007).

There are three phases of deliverables for the e-services projects (Ahmad & Othman, 2006). The first phase includes driver licensing, summons services and utility bill payment services. The first phase has been implemented in a specific place known as Klang Valley. A three-month period was given for a proof-of-concept duration prior to the actual full-scale implementation. Upon the success and approval of the first-phase, the second phase implementation would be extended nation-wide.

Subsequently, the third stage implementation will involve vehicle registration plus the Ministry of Health information services. At present, the Malaysian citizens can engage with the e-services application offered by several websites and kiosks (Ahmad & Othman, 2006). For instance, a service named *Rilek* enables members of the public to access general information regarding their outstanding summons through specially built touch screen infokiosks or via the www.rilek.com.my websites. The websites also allow users to pay their utility bills and other payments related to their vehicles and transport.

3.5. Electronic Labour Exchange (ELX)

Electronic Labour Exchange or ELX is a one stop-centre for labour market information, as supervised by the Ministry of Human Resource (MOHR). ELX enables employers and job seekers to communicate on the same platform. It is envisaged that the implementation of ELX will (i) provide an effective and integrated job matching process (ii) provide an effective centre of labour market information and references and (iii) improve mobilization of the nation's human resources and to ensure that manpower utilization is optimized (Multimedia Development Corporation, 2007). According to the Deputy Human Resources Minister Datuk Abdul Rahman Bakar, the statistics released by the Labour Department showed that since the launching of ELX, 131,942 job-seekers have registered onto the systems with 33,133 employers registering 860,832 job offers (Ministry of Human Resource, 2008). Of these numbers, 92,111 were active job-seekers (those who re-register after six months) and 21,793 have been successfully placed. On the average, the websites i.e. http://www.elx.gov.my receives 4000 visitors everyday (The Star, 2007). To further facilitate job seekers registering onto the ELX systems, which is called the Job Clearing Systems of JCS (http://jcs.mohr.gov.my/jcs/index.faces), booth stations and kiosks have been set up in major shopping complexes throughout the nation. JCS matches job seekers seeking suitable jobs with employers free of charge.

3.6. Electronic Syariah (E-Syariah)

E-Syariah is a case management system that integrates the processes relating to the management of cases for the Syariah Courts. It is developed to facilitate the work processes of the Syariah Court and provides features such as workflow in order to streamline work processes, case tracking and monitoring, statistics to conduct analysis and scheduling. The search and retrieval features on the database also provide a base for reference to court cases nationwide. The E-syariah application consists of Syariah Court Case Management System, Office Automation Systems, E-Syariah Portal, Syarie Lawyers Registration Systems and Library Management Systems. The implementation of the E-Syariah is aimed at (i) improving the quality of services of the Syariah Courts (ii) improving the effectiveness of JKSM in coordinating and supervising related agencies under its jurisdiction and (iii) improving the productivity and efficiency of the management of the Syariah courts throughout the country and (iv) upholding the splendors of Islam through the use of ICT (Multimedia Development Corporation, 2007). The E-Syariah project was launched in April 2002 and as of April 2007 the e-Syariah has been implemented at all 110 Syariah Courts in Malaysia.

3.7. Electronic Procurement (E-Procurement or EP)

An electronic procurement system or E-procurement (EP) is a system that enables suppliers to sell goods and services to the government through the Internet. It also

supports the government's end-to-end procurement process from the requesting of quotations, raising requisitions and purchase orders, order fulfillments to payment processing (Rashid, 2006). From the supplier's perspective, the EP systems would enable them to create a virtual marketplace by placing their productinformation in the EP electronic repository. The government procurement officer will be able to view and select products from this electronic catalogue in order to create an electronic requisition and then submit the requisition to an authorized personnel for approval.

The EP systems consists of Supplier Registration/ Central Contract and Direct Purchase Quotation, Tendering modules. In a concise form, the purposes of the e-procurement implementation are (i) to improve turn-around time in processing procurement transactions, (ii) to enable government to become a smart buyer (iii) to enable on-line submission of supplier's registration any day, anytime and (iv) to promote cost savings to the government and suppliers (Multimedia Development Corporation, 2007). Since the rolling-out of the EP project, drastic improvements have been reported. According to Rashid (2006), included in the significant improvements is the dramatic increase in the number of electronic transactions in federal government procurement. In 2005, a total of 107033 purchase orders (PO) were issued amounting to RM1.08 billion as compared to only 13 purchase orders amonting to RM43,000 in 2000. The turnaround time for the average payment period after delivery has been reduced to less than 14 days.

4. Empirical Studies Investigating PIS Success

Considering that the fully-fledged implementation of the aforementioned PIS is still very recent, empirical studies addressing the evaluations of their effectiveness or success are still very scarce. Furthermore, given the mammoth scope and size of these PISs, attempts to investigate their effectiveness would definitely prove to be a significant challenge. Nevertheless, by investigating the literature, it was discovered that several studies have been conducted to evaluate the PIS effectiveness from the user's perspective.

A study by Hussein et al. (2007) measured the PIS effectiveness from four dimensions namely systems quality, information quality, perceived usefulness and satisfaction. Based on the 202 responses of the PIS users, the study found that the users were generally inclined to agree that the PIS they were using fulfilled their systems quality and information quality expectations. In addition, the study also found that users indicated that the PIS used in their daily jobs proved to be both very useful and satisfactory. In another study, Mohamed et al. (2008) assessed the PIS effectiveness in terms of information quality, service quality, and satisfaction. Adopting a cross-sectional data collection involving PIS users in selected government agencies, the study also revealed that the PIS users tended to agree that the PIS they used matched their information quality and service quality requirements.

5. Conclusion

The implementation of PIS in Malaysian government is still and will continue to evolve. In the years to come, the scope and breadth of the PIS implementation will surely be extended to encompass almost all ministries and their agencies. With the existing PIS that are already in place, the citizens of Malaysia have already enjoyed numerous benefits. Gone are the days where Malaysians had to queue up at the counters to settle their utility bills or conducting typical banking transactions. Companies of all level are also enjoying the smooth and easy process of applying

government contracts and projects. Even among the government servants, workloads have become reduced and substituted by computerized information systems. It is apparent that once the PISs are fully implemented, Malaysians can expect even more benefits.

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