

AN EXPLORATION OF THE ROLE OF WEB AND MOBILE SOCIAL MEDIA IN THE IMPLEMENTATION OF E-GOVERNMENT IN MALAYSIA

Bazilah HJ A Talip
University of Kuala Lumpur, Malaysia

Dr. Bhuva Narayan
Queensland University of Technology, Australia

ABSTRACT

This paper reports on an exploratory study of the role of web and social media in e-governments, especially in the context of Malaysia, with some comparisons and contrasts from other countries where such governmental efforts have been underway for awhile. It describes the current e-government efforts in Malaysia, and proposes that applying a theoretical framework would help understand the context and streamline these ongoing efforts. Specifically, it lays out a theoretical and cultural framework based on Mary Douglas' (1996) Grid-Group Theory, Mircea Georgescu's (2005) Three Pillars of E-Government, and Gerald Grant's and Derek Chau's (2006) Generic Framework for E-Government. Although this study is in its early stages, it has relevance to everyone who is interested in e-government efforts across the world, and especially relevant to developing countries.

1 INTRODUCTION

E-Government is a concept that can reinvent how the government works as well as promote its interaction with citizens and businesses through

improved connectivity and better access to information and services online (Siddiquee, 2008). Governments across the world have used the technology to provide information to citizens and to collect information from citizens, and also provide for transactions with local and federal governments. E-government initiatives have made use of the collaborative nature of new digital technologies for a more inclusive and democratic process of citizen participation. Thus, e-Government has the advantages of being informational, transactional, and collaborative.

E-Government is related to, but different from e-Governance; e-Governance is the broader definition of the two and is a term used for the regulation of technologies and their use within public and private organizations, whereas the term e-Government is reserved solely for the manifestation of e-Governance in the realm of public administration (Lim, Tan, & Pan, 2007). E-Government provides the connection between control, collaboration, culture, and technology in which the main elements make up the engine of e-Government in countries around the world.

In Malaysia, a Malaysian Administrative Modernisation and Management Planning Unit (MAMPU) has been formed and tasked with modernizing and reforming the public sector (MAMPU, 2010). The flagship project for

MAMPU in the last several years has been the e-Government project that has been one of the more prominent and fruitful projects under MAMPU. Nevertheless, barriers still exist to the successful implementation of some of the Malaysian e-Government initiatives.

This paper will examine these barriers in a theoretical perspective and provide some insights into possible future approaches to a more successful implementation of e-Government in Malaysia.

2. MALAYSIAN CONTEXT

There are many challenges and barriers involved in the implementation of effective e-Government initiatives in Malaysia. These include cultural, social, psychological, technological, and administrative barriers that are expressed in different degrees based on the dynamic within the government and its people. Some of these factors are detailed in this section.

2.1 Organisational factors

As with any government initiative, knowledgeable and responsible public officials are a crucial factor in the success of e-Government initiatives. The

Malaysian Government has frequently sent public servants for training at the National Institute of Public Administration and evaluated them according to a set of rigorous performance indicators (Taylor, et al., 2008). Falivene and Silva (2008) highlighted public officials' training and learning processes as an important factor in promoting e-Government initiatives and ensuring that public officials can adapt to technological evolutions.

Hierarchy and formality are the nature of public administration services in Malaysia. Each department has different management styles and service delivery with separate official websites. The predominant proportion of the e-Government initiatives are still at a fundamental level, and many services are ineffective due to a flood of broken links that are either non-functional, in maintenance, or outdated (Siddiquee, 2008). This failure of a unified service delivery and lack of interoperability reflects a deficiency in the awareness of the needs and requirements of e-Government. To correct this, the Malaysian Government has taken initiatives to encourage senior officials to be actively involved in the development of e-Government. The services developed aim to reduce the gap between government and citizens, government and business, and government to government.

2.2 Society and Culture

Malay, Chinese and Indian people comprise the major population demographic in Malaysia, and each has their own unique cultural practices and beliefs, with Muslim, Christian, and Hindu influences. The Malaysian government's public officials are drawn from this same population pool and each brings with them their own unique culture and beliefs. Seng, Jackson, and Philip (2009) highlighted the role of hierarchism, fatalism, individualism, and egalitarianism that have had a huge impact on developing e-Government initiatives in Malaysia. Fatalism and individualism have been shown to be rife in the Malaysian government, but many Malaysian government initiatives aim to change this fatalistic mentality, especially toward technology, in order to be more competitive globally. There are many initiatives and approaches such as improving infrastructure of the internet in rural suburbs, upgrading broadband services to schools, and the plan to distribute one million laptop computers for poor students (PMO, 2010c). Additionally, the Malaysian government is also providing training centres for public officials at the National Institute of Public Administration (PMO, 2010b). This training aims to improve performance including teamwork, interpersonal communication, and public accountability (Falivene & Silva, 2008).

Nevertheless, Taylor, Hamid and Sanusi (2008) revealed that stronger exogenous forces of public accountability in local government through the formulation of relevant policies, procedures and incentives are not guarantees that they could produce better managerial performance because the endogenous values and ethics ingrained through personal learning and experiences are situated within a socio-cultural context with its acceptance of a hierarchical system and unequal relations (Taylor, et al., 2008).

2.3 *Technology and Interoperability*

Across the world, the Internet has changed governments' methods of information dissemination from a heavy dependence on paper to an almost completely paperless medium. Furthermore, the dependence on computers is rapidly vanishing also, as major advancements in mobile phone and PDA technology are in progress. Mobile technology, whilst providing a variety of services, is particularly useful in communications and dissemination of information in that it allows people to access the Internet. This is important for all governments worldwide and something that each should take into consideration when maintaining and developing their government websites, but it is particularly relevant to developing countries like Malaysia where the basic infrastructure is less developed for broadband networks and data

lines, and where the digital divide still plays a factor. Even citizens who would otherwise not have had a computer or landline are now able to access the Internet through the increasingly ubiquitous mobile phones. Some of the bigger technological issues involve interoperability across government agencies. A one-stop e-Government portal can only be achieved if back offices are interoperable (Choudrie & Weerrakody, 2007) and this can only be achieved through an integration of data, processes, communications, and security (Tripathi, Gupta & Bhattacharya, 2011)

2.4 Accessibility

Many policies and website accessibility guidelines have been developed through e-Governance initiatives across the world so that all citizens including those with disabilities can access information. Recently a study revealed twelve e-Government websites in the European Union, Asia and African government institutions do not meet the minimum WCAG (1999) standards (Kuzma, 2009). Given the implications of improper e-Government development, governments worldwide cannot ignore the WCAG requirements in ensuring the service is user-friendly and effective. The website features and functionality is also significant to the success of e-Government initiatives. Rahardjo, Mirchandani and Joshi (2007) highlighted that user-friendliness, accessibility, high quality, efficiency and

personalisation are important to stakeholders' needs and requirements.

2.5 e-Participation

In time, e-Government channels can evolve into e-Participation channels for citizens to become actively involved with government. E-participation is a term that is closely related to e-democracy and can be defined as the exploitation of ICT for engaging citizens to participate as much as possible to democratic procedures, interacting with each other, as well as with politicians and decision makers and providing them with the necessary information and appropriate rights in a way that reinforces their role in the decision making process (Masters, Macintosh, & Smith, 2004). Some methods to support and increase public participation through electronic means is mentioned by Coleman and Grotze (2001):

- Access to balanced information.
- An open agenda.
- Time to consider issues expansively.
- Freedom from manipulation or coercion.
- A rule-based framework for discussion.
- Participation by an inclusive sample of citizens.
- Scope for free interaction between participants.

- Recognition of differences among participants, but rejection of status-based prejudice.

Some of the tools that can encourage e-Participation include chat rooms, blogs, online forums, ePetitions, eTax, eVoting, ePanels, ePolls, eCommunities, and eConsultation tools (Ergazakis, Metaxiotis, & Tsitsanis, 2011). The Malaysian e-Government initiative needs to take these into its long-term planning.

2.6 *The mobile Government (m-Government)*

Malaysian e-Government initiatives use mobile applications extensively to enhance productivity. To date, 171 agencies of Malaysian government departments have been providing 1,715 services via Mobile Government (m-Government) and 2.5 million citizens have registered (Hassan, 2010). M-Government is a derivative of e-Government that enhances the online government services by conveniently providing various applications. In developing countries like Malaysia that do not have an in-built infrastructure for land lines and internet, and where technological developments are fairly new, mobile phones are more common than desktops or laptops. Most citizens have mobile phones (or smart phones) with them at all times. Utilising this knowledge will help the government to get closer to their citizens in better and faster ways.

According to Kuscu, Kushchu and Yu (2007) m-Government is inevitable as it is complimentary to e-Government and also a key approach to interacting and communicating with citizens, especially in rural areas. Mobility services have been shown to reduce data redundancies, human mistakes and cost whilst speeding up the deliverance of technological services (Roggenkamp, 2007). For example, in Estonia, the government in the city of Tartu, where 92% of its citizens have mobile phones, has been developing services through mobile communication channels; the *m-teacher*, *m-clinic*, *m-neighbourhood* and *m-library*. These services are still in the development phase. However, scholars have investigated the awareness, importance and readiness of services among Tartu inhabitants. Reinsalu (2006) revealed that each group of citizens have different expectations regarding e- and m- services provided by the Tartu Government. Therefore, it is essential to reflect on the fact that each demographic has different needs and expectations for any services provided by government (Reinsalu, 2006). For example, parents view the m-teacher service positively, for it helps them monitor their children's progress at school; however this is not considered an important function from a child's point of view. Implementation of mobile services provides many advantages to a community; however as with any form of

technological development there are some inherent and cultural disadvantages. Concerns remain about security and privacy also. Scholars have raised issues also regarding the implementation of mobile government, such as safety and reliability of service delivery, adoption to an available device and the available network type and bandwidth (Roggenkamp, 2007). On the other hand, when one speaks of connectivity, they refer to the speed; bandwidth and geography that significantly reduce the digital divide within a nation by providing mobility services (Tavani, 2004).

2.7 *MyKad, MyID, MyGovXchange and other services*

The Malaysian Government's Multipurpose Card is known as *MyKad* in Malaysia. It is a major project of the e-Government initiative and has made Malaysia the first country in the world to use multipurpose smart cards that store biometric information and facilitate transactions with government agencies and private organizations (Siddiquee, 2008). The objective of introducing the *MyKad* was to make Malaysians' life easier; however total convenience has still not been achieved. It is vital for the government to ensure that personal information is protected and the card is accessible. The US Government also uses the smart card system for Driver's Licenses for purposes of efficiency and cost but the privacy of the cardholders is

protected by law enactment (Hochberg, 2010). It is essential also for the Malaysian Government to ensure that the *MyKad* system enhances government services without compromising citizen privacy.

Lack of access to appropriate systems, knowledge, and motivational support could explain the unsuccessful use of *MyKad* (Eynon, 2006). The smart card was supposedly designed to be of multipurpose use to help citizens save time and cost, and to provide services for border control, electronic payments, user authentication, loyalty programmes, education, mobile applications, and others (Boonruang, 2010).

The *MyGovXchange* client provides online payment systems and online forms submission (Hassan, 2010). The purpose is to develop a channel that can help citizens make payments easily while helping reduce existing digital divides (PMO, 2010a). Extending the broadband penetration by providing e-Kiosk is also an e-Government initiative to reduce the gap between the government and citizens in rural areas. Providing various channels of services help citizens at different geographical locations interact so they may engage better with the government. Kumar and Best (2006) revealed that eKiosk services at Tamil Nadu, India helped in reducing the corruption issues while increasing the effectiveness of public

administration. The eKiosk service is beneficial to Indian citizens in India as it saves the citizens money when dealing with the public servants who have previously taken bribes. This form of corruption is not limited to isolated regions of India but has been observed worldwide. This issue further addresses the necessity of e-Government initiatives especially for the Malaysian Government, which has compiled the National Key Result Areas (NKRAs) that includes strategies to combat corruption (PMO, 2010c).

2.8 Web 2.0 technologies

Increasingly, social media applications (blog tools, wiki tools, social networks, video sharing, mashups, and folksonomies) are used to provide additional channels to communicate closely with citizens, such as the Australian Government 2.0 Taskforce (Gruen, 2010), Natural Resources Canada's wikis, and Australian Senator Kate Lundy's campaign: *Public Sphere 2: Government 2.0 blog* (Lundy, 2010). The ultimate goal is to provide room to allow people to share, discuss and vote for better ideas as well as respond to questions/topics of interest. Recently, the US Department of Housing and Urban Development devised a strategic plan and fulfilled stakeholders' needs and requirements as outlined at UserVoice (2009). The Australian e-government initiative also uses social media to interact and communicate, such as providing a standard business reporting

(SBR) blog (Australian Government, 2010). The SBR blog (2010) provides a discussion board for businesses, reporting professionals, software developers and other members of the public to share their knowledge virtually. The Malaysian Government can use these services as benchmarks.

Politicians across the world have used 'Tweets' (via Twitter) as a medium to interact with their citizens. Similarly, the current President of America used 'Tweets' in his first election campaign and maintains a blog and actively solicits citizen input (Wright, 2009). However, social media is not something widely used by all countries due to native privacy and security issues, regardless of the policy issues worldwide. Marque (2010) outlined some e-Government initiatives' failures because of the challenges of controlling digital communication and lack of policy. Previously, e-Government initiatives of the Brazilian Presidency and the House of Representatives' sites provided similar and duplicated information that wasted government resources. Therefore, the Brazilian Government is unwilling to invest in developing, maintaining and providing new platforms allowing the citizens to participate virtually (Marques, 2010).

In contrast, Tanner (2010) wrote that the social media could be a form of

good governance if its use is both proactive and productive in the deliverance of services. Social media is also beneficial for governance in many ways; however, individual reliability is difficult to handle and poses a great challenge for the governments (Gupta, 2010). The challenge lies in dealing with the policy of digital communications of an application that is freely used without monitoring by any authorities (Gupta, 2010). Policy development is important to counter the challenges as it can prevent misuse of privacy information that can be harmful to both the individuals and/or organizations.

The Malaysian Government currently does not use social media effectively due to lack of proper policy procedures and their inability to control digital communication, and consequently as a last resort, have been imposing filters on their respective internet networks (Bertot, Jaeger & Grimes, 2010). Following the recent people's movements across the world in 2011 beginning with Tunisia's so-called *Jasmine revolution* where social media was a tool for change, governments need to understand the prevalence and power of this medium and also governments' inability to control this medium in a local manner. Online social media and mobile phones appeared to be essential in protest movements (Wang, 2011). Social media such as Facebook and Twitter also proved to be one of the vital tools in

emergency management and was used effectively by the state government of Queensland and its agencies in Australia during the 2011 natural disasters associated with flooding and cyclones (QUT, 2011). According to social media researcher Axel Bruns, “They delivered timely advice about flood peaks to people who could not get it in other ways, about road closures, about the needs of communities which had been cut off and to co-ordinate responses. They were also used by authorities to correct false rumours as soon as they started.” (QUT, 2011).

In summary, the four elements in developing e-Government seem to distil down to collaboration, government control, cultural diversity, and information technology. All are essential in order to make e-Government successful. However, there is no existing model or theory to connect these four main elements, although numerous scholars have investigated why some e-Government initiatives are ineffective and some services are inefficient or underused. Cultural barriers also play a role in why e-Government in Malaysia is not as successful as anticipated (Seng, et al., 2009). Hence, this study aims to apply and model an e-Government framework based on the theoretical frameworks outlined in the next section. Culture is a natural phenomenon that is used by individuals and countries as a symbolisation and for personalization. The Malaysian

Government is based on hierarchy and formality, but there is no study of how culture influences Malaysian e-Government initiatives. Consequently, the existing research does not demonstrate how the cultural barriers can be overcome.

3 THEORETICAL INSIGHTS

Some existing theoretical frameworks in the area of e-Government are informative tools that can be used to develop and improve services of any nature. Three frameworks have been chosen in proposing a new model for the Malaysian e-Government: The generic framework for electronic government (Grant & Chau, 2005); the three pillars structure (Georgescu, 2007), and the grid and group theory (Douglas, 1996). In the first section, the three frameworks are illustrated along with the elements that are chosen to propose a new framework. It is followed by how they can improve e-Government initiatives in Malaysia. The second part illustrates what key factors influence e-Government development and outlines how to develop a robust framework that can be employed by e-Government initiatives worldwide.

3.1 Generic Framework of e-Government

The Generic framework for e-Government proposed by Grant and Chau (2005) was developed based on institutional needs that allow

them to organise accordingly.

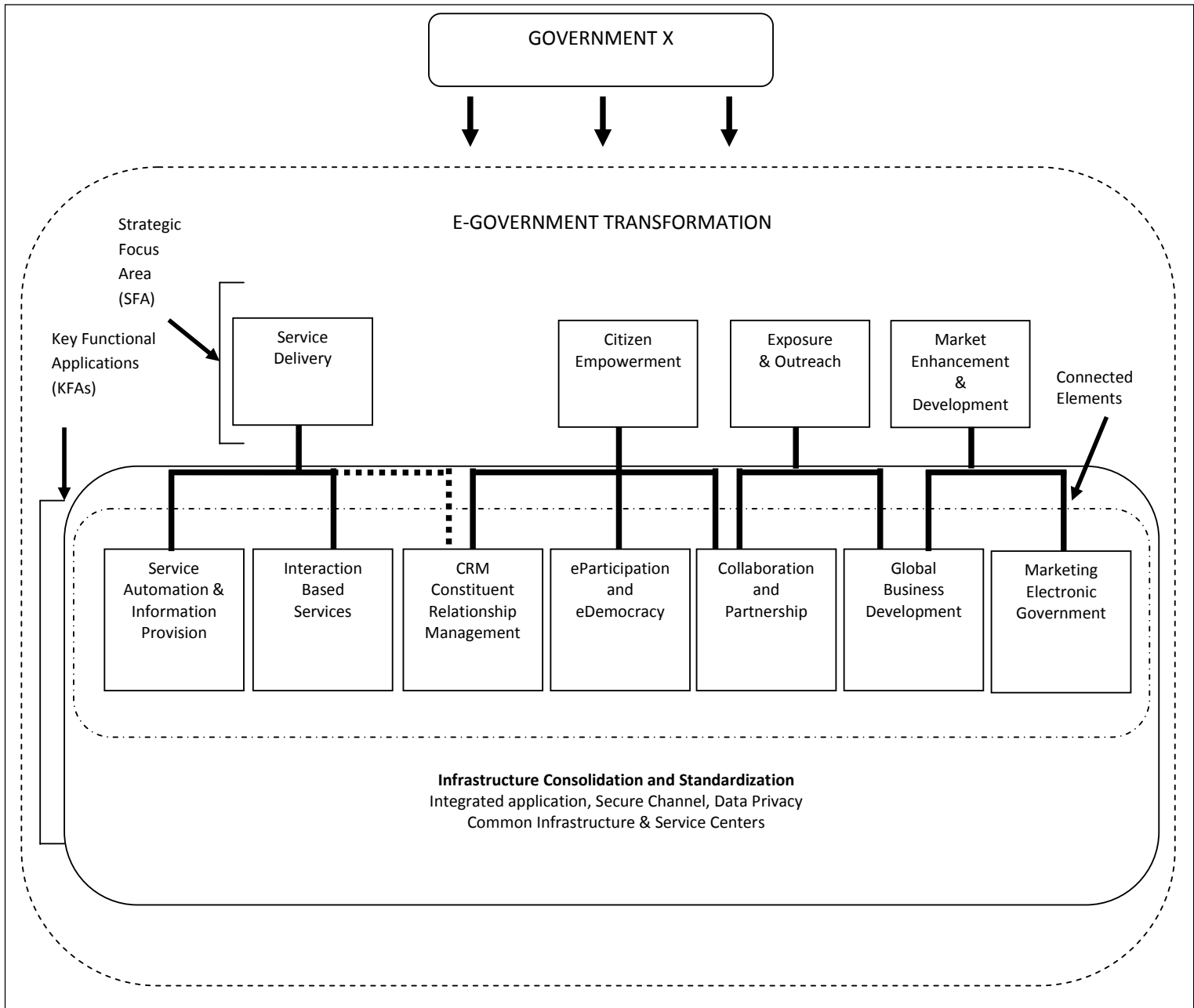


Figure 1: Generic for E-Government Framework (based on Grant & Chau, 2005)

The framework focuses on government agencies separately based on the department's needs and objectives. The inter-agencies relationships are important to develop the awareness and readiness of e-Government initiatives publicly.

3.2 Three Pillars of e-Government

Georgescu's *Three pillars of e-Government* (Figure 2) illustrates how public management and leadership can impact the e-Government initiatives' effectiveness. According to this model, e-Government success is built upon three pillars of Leadership, Organizational Structure, and Process Management (Georgescu, 2007).

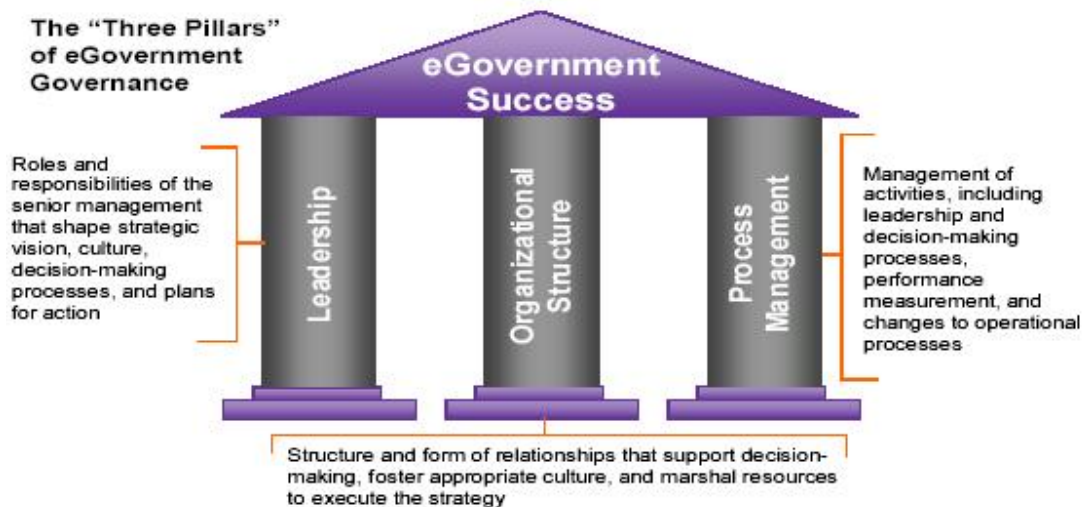


Figure 2: The Three Pillars of e-Government (Georgescu, 2007)

Studies have also revealed that lack of communication between public servants and citizens destroy e-Government initiatives (Siddiquee, 2005). Therefore, it is essential for the public administration to encourage public officials to engage with citizens. This can be achieved by motivating them through incentives, appreciation, and recognition that also reduces the effect of the bureaucratic and hierarchical system.

3.3 Douglas' Group-Grid Theory

The Douglas framework (Figure 3) outlines cultural influences that impact human behaviours and discusses cultural barriers and their impact on an individual's position within their social group (Douglas, 1996). It clearly situates an individual's rationality as within or outside of a bounded social group, and the grid indicates how clearly defined an individual's position is within these networks of social privileges, claims, and obligations.

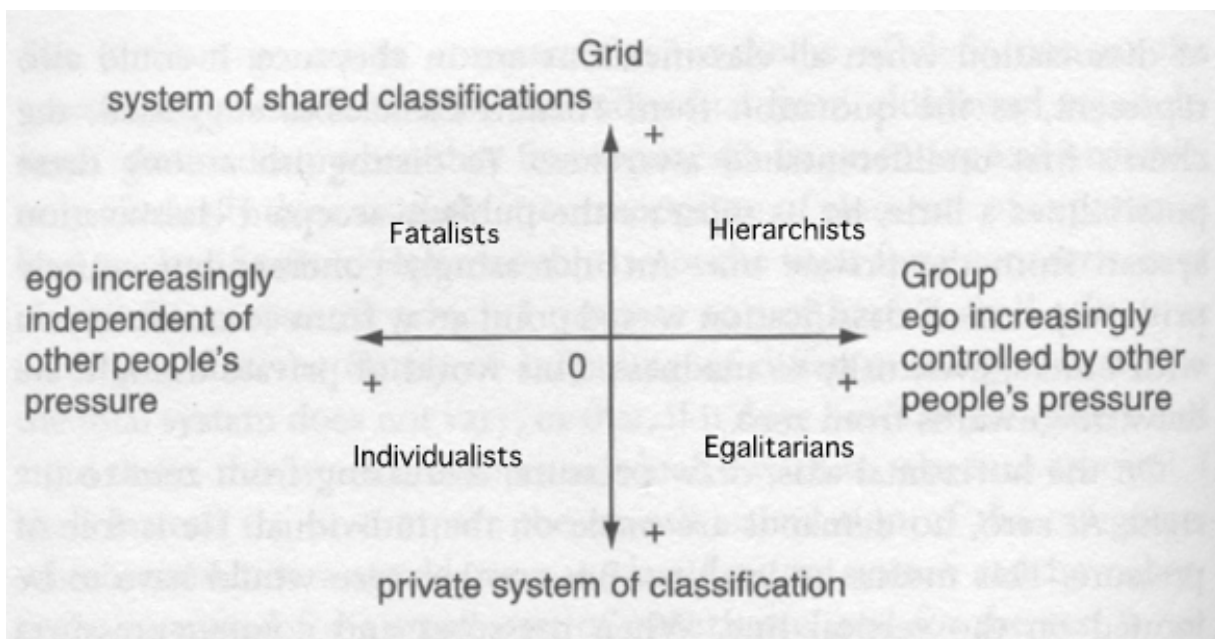


Figure 3: Grid-Group Theory (Douglas, 1996)

Malaysia is unique among democracies in that hierarchy is ingrained not only in the society but also within the Malaysian Government environment and is hard to change – there is even a very clear line of succession for leadership positions (Siddiquee, 2006). Nevertheless, such cultural issues in developing e-Government initiatives have occurred worldwide and the governments are responsible for building various strategic plans that meet stakeholders' needs as outlined in OECD (2001) and Rogers (2003). Thompson (2003) demonstrated that cultural issues dramatically influence the developing of e-Government initiatives environment in various facets of human behaviours worldwide. Drake et al. (2004) and Titah and Barki (2008) found that subcultures also impact the effectiveness of e-Government initiatives, and that scientific, political and bureaucratic subcultures can influence public administration to pursue e-Government services. Seng, Jackson, and Philip (2009) have also highlighted how the cultural barriers and the digital divide influence e-Government development in developed countries.

Technology is important in improving the e-Government initiatives in Malaysia and can help overcome fatalism and individualism, while also reducing the digital divide (Carter & Weerakkody, 2008; Seng, et al., 2010). Fostering subcultures like scientific and political cultures are key to successful e-Government initiatives that can overcome problems arising from cultural diversity, individualism, fatalism, hierarchy and egalitarianism

4 A PROPOSED E-GOVERNMENT FRAMEWORK FOR MALAYSIA

In this section, we propose a new framework to develop e-Government initiatives for the Malaysian Government. This framework demonstrates the four key elements that are important for improving e-Government initiatives and are informed by the theories behind the three frameworks discussed earlier.

The four elements identified in the literature review are cultural diversity, collaboration, control, and technology. These elements are vital in developing e-Government initiatives to ensure that e-services are valuable for citizens. Numerous researchers have revealed that transformational and situational leadership could reduce the gaps between governments and citizens worldwide (Thompson & Vecchio, 2009; Lee-Kelly, 2002; Bass, 1990). The

public officials' engagement and development of various communication channels for citizens significantly improves the e-Government initiatives. Information Technology (IT) acceptance is vital but its infusion must be societal from the grassroots level and not imposed from the top.

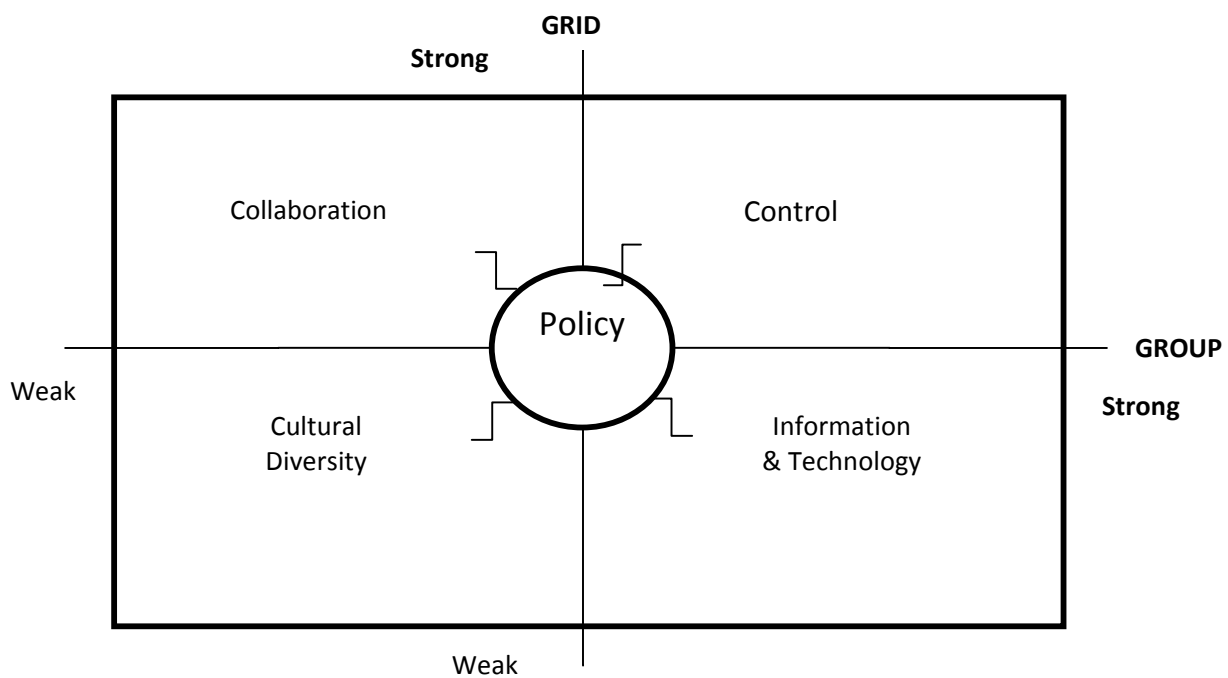


Figure 4: A Proposed Framework for e-Government initiative Development

E-government initiatives are an ongoing project for governments worldwide to provide better services and to compete globally and provide support for not just citizens, but also foreign investors,

researchers, and industry collaborators. This proposed framework (Figure 4) is divided into three categories. The grid highlights the four elements influencing the development of e-Government initiatives. It begins with defining the grid level from weak to strong that shows how cultural diversity and information technology can negatively impact the effectiveness of e-Government. It continues with demonstrating that engagement between the collaboration (public officials, interested stakeholders and citizens) and the control (the Malaysian Government and public administration) is highly influential in the development of e-Government services. The four elements are highlighted within the groups that the Malaysian Government must focus on to develop and enhance e-Government initiatives. The framework also demonstrates how control and information technology are classified in a strong group but control has more influence than IT. Additionally, collaboration and cultural diversity are categorised in a weak group but cultural diversity's influence is less than that of collaboration in e-Government development. The third section discusses the policy lifecycle that is a key connector to the four elements in developing e-Government initiatives in Malaysia. It continues by defining how e-Government policy development directly influences e-Government development.

The four elements are organised according to their impact on e-Government initiative development in Malaysia. Citizens and public officials' participation is weak yet they strongly influence the development of e-Government initiatives. Engagement of public officials, and public administration assessments are vital for ensuring the performance and productivity of e-Government initiatives. Cultural diversity is an influential factor in technological initiatives in developed and developing countries; it has been observed that a resistance to technology *per se* in Malaysia has impeded the success of e-Government in transforming conventional services to electronic services. Indeed, cultural diversity does have less of an influence; however, it can positively or negatively impact e-Government enhancement and consequently should be taken into account. It is vital for the Malaysian Government to ensure that its services meet the Malaysian community's needs by making sure they are used not just for monetary transactions, but provide useful and helpful information to its citizens. Transparency of Governmental technology is vital as it cultivates the trust of citizens. Policy development and life cycles are crucial in developing e-Government initiatives in Malaysia. Therefore, the

connection between policy and the four elements identified are important to avoid misuse of e-Government services.

Policy development is vital also to protect issues such as intellectual property, security, privacy, and copyright in developing e-Government initiatives worldwide. Numerous researchers have discussed that policy development (or e-Rulemaking) is important to develop and enhance e-Government initiatives (Finger, 2010; Bertot et al., 2010; Vathanophas et al., 2008).

To conclude, all four elements - collaboration, control, cultural diversity and information technology - are vital in developing e-Government initiatives. Policy lifecycle and e-Rulemaking are important to ensure the four elements are connected and encourage e-Participation the citizens. These four key factors will help the Malaysian Government successfully implement the e-Government 2.0 in the future.

Situational and transformational leadership styles can change conventional management and reduce the gap between the government, citizens and businesses. Balancing collaboration and control are vital in improving engagement between the Malaysian

Government and its citizens.

The frameworks also demonstrate that the life cycle of policy development is connected to four key factors – culture, collaboration, control, and IT – in developing e-Government initiatives to enhance the services. In fact, there is no evidence in the literature that any individual element on its own can significantly impact on the successful development of e-Government initiatives. However, lack of even one of the four elements can produce ineffective and wasted e-Government initiatives.

5 CONCLUSION

Numerous frameworks have been developed to improve e-Government initiatives. However, there is limited research on the success of these by governments worldwide who have adapted them. In fact, framework development has gradually increased but its effectiveness is arguable. It is vital for governments worldwide to ensure that they develop context-specific frameworks in developing e-Government initiatives. The Malaysian Government too must undertake research in e-Government to ensure that its e-

Government services meet Malaysian citizens' needs.

REFERENCES

- Australian Government. (2010). Standard Business Reporting Blog. Retrieved on August 16, 2010, from <http://blog.sbr.gov.au/>
- Bass, B. M. (1990). From Transactional to Transformational Leadership: Learning to Share the Vision. *Organizational Dynamics*, 3(18): 19.
- Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). Using ICTs to create a culture of transparency: E-Government and social media as openness and anti-corruption tools for societies. *Government Information Quarterly*. 27(3): 264-271.
- Boonruang, S. (2010). ICT 2020 initiatives to be drafted by end of year. *The Bangkok Post*. Accessed from <http://www.bangkokpost.com/tech/computer/186140/ict-2020-initiative-to-be-drafted-by-end-of-year>
- Carter, L., & Weerakkody, V. (2008). E-government adoption: A cultural comparison. *Information System Front*. 10(4): 473-482.
- Choudrie, J., & Weerrakody, V. (2007). Horizontal Process Integration in E-Government: the Perspective of a UK Local Authority. *International Journal of Electronic Government Research*. 3(3): 22–39.
- Coleman, N. (2010). Proactive vs. Reactive Transparency. Retrieved on March 10, 2011 from <http://blogs.worldbank.org/proactive-vs-reactive-transparency>
- Coleman, S., & Grotze, J. (2001). Online public engagement in policy deliberation. Edinburgh, UK: Hansard Society.
- Douglas, M. (1996). *Natural symbols explorations in cosmology*. New York: Vintage Books.
- Drake, D.B., Stecklem, N.A., & Koch, M.J. (2004). Information sharing in and across government agencies. The role and influence of scientist, politician and bureaucratic subcultures. *Social Science Computer Review*. 22(1): 67-84.
- Ergazakis, K., Metaxiotis, K., & Tsitsanis, T. (2011). A State-of-the-Art Review of Applied Forms and Areas, Tools and Technologies for e-Participation. *International Journal of Electronic Government Research*. 7(1): 1-19.
- Eynon, R. (2006). Breaking Barriers to e-Government. *Digest of Electronic Government Policy and Regulation*. 29: 205-217.

- Falivene, G. M., & Silva, G. M. (2008). Reflections and Proposals on Public Official Training and Promotion of E-Government. *International Journal of Electronic Government Research*. 4 (2): 43 – 58.
- Finger, M. (2010). e-Government and Public Sector Reform: What Role for Government in e-Government? *The Innovative CIO and e-Participation in e-Government Initiatives*. 43-48.
- Georgescu, M. (2007). Challenges for E-Government Strategy. *Revista Informatica Economica*. 3(43):60-63.
- Grant, G., & Chau, D. (2005). Developing a Generic Framework for E-Government. *Journal of Global Information Management*. 13(1):1-30.
- Gruen, N. (2010). Government 2.0 Taskforce. *The last post: now for the main event – you!* Retrieved November 6, 2010, from <http://gov2.net.au/>
- Gupta, T. (2010). Social Media for Good Governance: The Quality Challenge. <http://blogs.worldbank.org/publicsphere/social-media-good-governance-quality-challenge>
- Hassan, M. S. (2010). Inovasi ICT Menjana Pertumbuhan Ekonomi [Innovation of ICT can help an economy growth] (translated by the author). Retrieved August 16, 2010, from <http://www.pmo.gov.my/ksn/?frontpage/speech/detail/1617>
- Hochberg, E. (2010). Gov 2.0, Federal Use of Social Media and the Law. Retrieved November 13, 2010, from <http://www.gov2summit.com/gov2010/public/schedule/detail/16111>
- Jansen, J., Vries, S. d., & Schaik, P. v. (2010). The Contextual Benchmark Method: Benchmarking e-Government services. *Government Information Quarterly*. 27(3) : 213-219.
- Kumar, R., & Best, M. L. (2006). Impact and Sustainability of E-Government Services in Developing Countries : Lessons Learned from Tamil Nadu, India. *The Information Society*. 22 (1) : 1-12.
- Kuscu, M. H., Kushchu, I., & Yu, B. (2007). Introducing Mobile Government. In Kushchu (Ed.), *Mobile Government : An Emerging Direction in E-Government* (pp. 7-8). New York: IGI Publishing.
- Kuzma, J. M. (2009). Accessibility design issues with UK e-government sites. *Government Information Quarterly*. 27(2): 141-146.
- Lee-Kelly, L. (2002). Situational Leadership: Managing the virtual project team. *Management Development*. 21(6): 461-476.

- Liddy, M. (2010). Australia's hung Parliament explained. Retrieved November 11, 2010, from <http://www.abc.net.au/news/stories/2010/08/23/2990782.htm>
- Lim, E. T. K., Tan, C.-W., & Pan, S.-L. (2007). E-Government Implementation: Balancing Collaboration and Control in Stakeholder Management. *International Journal of Electronic Government Research*. 3(2): 1-28.
- Lundy, K. (2010). Public Sphere 2: Government 2.0. Retrieved November 6, 2010, from <http://www.katelundy.com.au/category/campaigns/publicsphere/open-gov/>
- Malaysian Government. (2010). Malaysia Government's Official Portal. Retrieved November 11, 2010, from <http://www.malaysia.gov.my/BM/Pages/default.aspx>
- MAMPU: Malaysian Administrative Modernisation and Management Planning Units. (2010). *Profile*. Retrieved November 10, 2010, from http://www.mampu.gov.my/web/bi_mampu/profile
- Marques, F. P. J. A. (2010). Government and e-participation programs: A study of the challenges faced by institutional projects. *Peer-Reviewed Journal on the Internet*. 15(8).
- Organisation for Economic Co-operation and Development (OECD). (2001). Developing Public Sector Leadership for the 21st century. In D.-S. Shim (Ed.), *Public Leadership for the 21st Century*.
- PMO Office of the Prime Minister of Malaysia (2010a). All Villages, Small Towns to Have Internet Access. *Press Release 5 March 2010*. Accessed from <http://www.pmo.gov.my/>
- PMO Office of the Prime Minister of Malaysia. (2010b). Najib Announces Broadband Initiatives. *Press Release 25 March 2010*. Accessed from <http://www.pmo.gov.my/>
- PMO Office of the Prime Minister of Malaysia. (2010 c). Peoples' Support, Involvement Important To Ensure Success Of NKRA. *Press release 28 January 2010*. Accessed from <http://www.pmo.gov.my/>
- QUT Queensland University of Technology (2011). Social Media Vital to Modern Emergency Response. *Press Release, 24 January 2011*. Accessed from <http://www.creativeindustries.qut.edu.au/news/news-event.jsp?news-event-id=34647>
- Rahardjo, E., Mirchandani, D., & Joshi, K. (2007). E-Government Functionality and Website Features: A Case Study of Indonesia. *Journal of Global Information Technology Management*. 10(1):31-50.

- Rogers, J. (2003). Councils rise to e-government challenge. *Computer Weekly*, 12. Retrieved from <http://www.computerweekly.com/Articles/2003/09/02/196873/Councils-rise-to-e-government-challenge.htm>
- Roggenkamp, K. (2007). "It's the Mobility Stupid". In I. Kushchu (Ed.), *Mobile Government: An Emerging Direction in E-Government* (pp. 60-83). New York: IGI Publishing.
- Seng, W. M., Jackson, S., & Philip, G. (2009). Cultural Issues in Developing E-Government in Malaysia. *Behaviour & Information Technology*. 29(4):423-432.
- Siddiquee, N. A. (2005). Public Accountability in Malaysia: Challenges and Critical Concerns. *Journal of Public Administration*. 28 (1): 107-129.
- Siddiquee, N. A. (2006). Public management reform in Malaysia. *The International journal of public sector management*. 19 (4): 339.
- Siddiquee, N. A. (2008). E-Government and Innovations in Service Delivery: The Malaysian Experience. *International journal of public administration*. 31(7): 797.
- Tanner, L. (2010). Response to the Government 2.0 Report. Retrieved November 11, 2010, from <http://gov2.net.au/>
- Tavani, H. T. (2004). Social Issue I: Equity and Access, Employment and Work. In P. Crockett (Ed.), *Ethics & Technology: Ethical Issues in an Age of Information and Communication Technology* (pp. 259-264). The United States of America: John Wiley & Sons, Inc.
- Taylor, D., Hamid, F. A., & Sanusi, Z. M. (2008). The Factors Impacting Managerial Performance in Local Government Authorities within an Islamic Cultural Setting. *Journal of Applied Management Accounting Research*. 6(2): 73.
- Thompson, G., & Vecchio, R. P. (2009). Situational leadership theory: A test of three versions. *The Leadership Quarterly*. 20(5): 837-848.
- Thompson, M. (2003). Time's Square: Deriving Cultural Theory from Rubbish Theory. *Innovation: The European Journal of Social Science Research*. 16(4): 319 - 330.
- Titah, R., & Barki, H. (2008). E-Government Research : Policy and Management In N. Donald (Eds.), *E-Government Adoption and Acceptance: A Literature Review and Research Framework*. Hershey, PA: IGI Global.
- Tripathi, R., Gupta, M. P., & Bhattacharya, J. (2011) Identifying Factors of Integration for an Interoperable Government Portal: A Study in Indian

- Context. *International Journal of Electronic Government Research*. 7(1): 64-88.
- USA Government. (2010). USA.gov. *Government Made Easy* Retrieved November 11, 2010, from <http://www.usa.gov/>
- UserVoice. (2009). HUD Ideas in Action: How we can invest in quality, affordable homes and build strong, safe, healthy communities for all? Retrieved August 16, 2010, from <http://hudideasinaction.uservoice.com/forums/55040-feedback-on-hud-s-final-strategic-plan>
- Vathanophas, V., Krittayaphongphun, N., & Klomsiri, C. (2008). Technology acceptance toward e-government initiative in Royal Thai Navy. *Transforming Government: People, Process and Policy*. 2(4): 256-282.
- Wang, F. (2011). Social media and the jasmine revolution. *IEEE Intelligent Systems*, 26(2), 2-4.
- Web accessibility evaluation tool. (2010). WAVE - Web accessibility evaluation tool. Retrieved November 11, 2010, from <http://wave.webaim.org/>
- Web Content Accessibility Guidelines. (1999). Web Content Accessibility Guidelines 1.0. *Guideline 11. Use W3C technologies and guidelines*. Retrieved September 5, 2010, from <http://www.w3.org/TR/WAI-WEBCONTENT/#gl-use-w3c>
- Wright, B. (2009). The Effects of Twitter on Politics – It's Not Just for Profits. Retrieved September 5, 2010, from <http://www.corporate-eye.com/blog/2009/03/the-effects-of-twitter-on-politics-its-not-just-for-profits/>