E-GOVERNMENT IMPLEMENTATION CHALLENGES IN MALAYSIA AND SOUTH KOREA: A COMPARATIVE STUDY

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ABSTRACT

It is undeniable that the introduction of e-government has had a significant impact on developing countries, like Malaysia. This paper seeks to explore empirically the implementation of Malaysian e-government since the initiation of the policy in 1996. Therefore, identifying the characteristic challenges that the Malaysian government faces, which impede the progress of e-government is the overarching concern of this study. To gain experience from a developed country, South Korea will be a benchmark for this study. By using the Design-Reality Gap model introduced by Heeks, this study will be conducted to identify and compare issues pertaining to implementation of e-government in Malaysia, a developing country and South Korea, a developed country. The findings revealed six key factors that are vital in e-government implementation. At the end of this study, these factors will be encapsulated in a conceptual model for e-government implementation model.

Keywords: e-government; Malaysia; South Korea; Design-Reality Gap; challenges; issues

1. INTRODUCTION:

Since the explosion of Information Communication and Technology (ICT) in the last two decades, we can see that many governments around the world have seen this phenomenon as a great opportunity to enhance the quality of public service delivery. It can be achieved by exploiting the use of technology in the public sector whereby government can rejuvenate its management and services to be more efficient, fast and convenient to citizens (Weerakkody et al. 2012, Cordella & Willcocks 2010, Gupta et al. 2008). Thus, e-government lies at the heart of government’s agenda and operations including Malaysian government.

It has been almost twenty years since the launch of e-government flagship by Malaysian government, so rationally the e-government performance should be up to a certain standard. Therefore, expectations are high. In reality, Malaysian e-government has shown some significant improvements in its online services (Abdullah et al., 2013, Siddique, 2008). While government, citizens and business communities receive the widest array of benefits from e-government, evaluation records reveal inconsistent and disappointingly lacklustre performance (UN 2005, 2006, 2010, 2012, 2014). In other words, despite its positive development, the implementation of Malaysian e-government is still inadequate and the overall impact has remained limited. As a result, Malaysia has lagged behind other countries and has yet to catch up with other Asian countries including Singapore, Japan, Kazakhstan and South Korea.

To gain experience from a developed country, South Korea will be a benchmark in this study. A comparative study between South Korea and Malaysia will be carried out by employing Design-Reality Gap model (Heeks, 2001). Hence some lessons can be learnt from good practice scenarios along with knowledge-sharing opportunities (Weerakkody et al., 2012, Weerakkody et al. 2009). There are several reasons for selecting South Korea for this research. First, South Korea has had an outstanding and high-ranking e-government performance for a number of years (UN 2005, 2008, 2010, 2012) and is again the top performer in 2014 ahead of many other developed nations (UN 2014). In fact, it also has...
consistently been the global leader in broadband deployment and internet penetration surpassing other developed nations including United States, United Kingdom, Singapore and Japan (Ovum, 2009). Second, the fact that South Korea is located in the same Asian region as Malaysia was another primary factor in this preference. Third, the development of e-government has been growing rapidly in South Korea since the Asian financial crisis in 1997. This crises and other catastrophes such as Japanese colonisation, Korea War and poverty has awakened South Korea to be the most advanced country in the IT industry, hence recovering its overall economy successfully. Therefore, the South Korean experience, and its journey in facing these great challenges, has been spectacular and astonishing, and this motivates researcher to explore further.

This paper attempts to explore empirically the implementation of e-government in Malaysia and also to identify and compare issues pertaining to implementation of e-government in a developing country (Malaysia) and a developed country (South Korea). Thus, lesson can be learnt and experiences can be shared proficiently. This study used a qualitative approach by adopting the Heeks’s model as a theoretical framework. A multiple of case study of e-government initiatives were employed for Malaysian government, whereas due to time and financial constraints, only desk research was able to carried out through comprehensive literature to get information on South Korea. The findings should make a significant contribution towards the field of e-government that focus on the local and global context.

This paper has been divided into six sections. The first section begins with the introduction of this research. The next section outlines a brief literature of e-government challenges in developed and developing countries. Heeks’s model of Design-Reality Gap and its relevant to this research will be illustrated in this section too. Section 3 is concerned with the methodology used for this research and Section 4 presents the findings of e-government implementation in Malaysia and South Korea. This is followed by a comparative analysis of the research findings in Section 5. A conceptual model for e-government implementation is proposed in this section too. The final section draws upon the conclusion, limitations and presents future directions of this research.

2. CHALLENGES AND ISSUES IN E-GOVERNMENT IMPLEMENTATION: A LITERATURE PERSPECTIVE

E-government has become an international phenomenon that has given rise to many views and opinions as to how it that makes citizen’s and government’s life easier. The advancement of technology across the world has changed the way government works and raises citizens’ expectation of a better service from their governments. The explosion of technology has changed people’s lives, work and business, and even more, can stimulate good governance. But what exactly is e-government? Evans and Yen (2006) define e-government as means the communication between the government and its citizens via computers and a web-enabled presence. Meanwhile, Silcock (2001) states that “e-government is the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees.” Reddick and Frank (2007) define e-government “as the delivery of government information and services through the internet 24 hours a day, seven days per week.” In light of the above, as people have their own interpretation and understanding of the e-government definition, the meaning of e-government is still debatable (Halchin, 2004, Hu et al., 2009, Godse & Garg, 2007, Fang, 2002, Lim et al., 2007, Wimmer, 2002, Ndou, 2004). Ndou (2004) reveals that e-government means different things to different people. As Wimmer (2002) states, “Everybody talks about e-government, but all have different
interpretations.” In spite of various definitions of e-government, this study concludes that the majority of them produce similar themes and focus. E-government is defined as the utilisation of technology to enhance the quality of public service delivery.


<table>
<thead>
<tr>
<th>History and Culture</th>
<th>Developed Countries</th>
<th>Developing Countries</th>
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</thead>
<tbody>
<tr>
<td>• Government and economy developed early, immediately after independence.</td>
<td>• Government usually not specifically defined; economy not increasing productivity.</td>
<td></td>
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<tr>
<td>• Economy growing at a constant rate, productivity increasing, high standard of living.</td>
<td>• Economy not growing or increasing productivity; low standard of living.</td>
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<tr>
<td>• Relatively long history of democracy and more transparent government policy and rule.</td>
<td>• Relatively short history of democracy and less transparent government policy and rule.</td>
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<tr>
<th>Technical staff</th>
<th>Developed Countries</th>
<th>Developing Countries</th>
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<tbody>
<tr>
<td>• Has a current staff, needs to increase technical abilities and hire younger professionals.</td>
<td>• Does not have a staff, or has a very limited in-house staff.</td>
<td></td>
</tr>
<tr>
<td>• Has outsourcing abilities and financial resources to outsource; current staff would be able to define requirements for development.</td>
<td>• Does not have local outsourcing capabilities and rarely has the financial ability to outsource, current staff may be unable to define specific requirements.</td>
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<tr>
<th>Infrastructure</th>
<th>Developed Countries</th>
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<tr>
<td>• Superior current infrastructure.</td>
<td>• Inferior current infrastructure.</td>
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<tr>
<td>• High internet access for employees and citizens.</td>
<td>• Low internet access for employees and citizens.</td>
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<th>Citizens</th>
<th>Developed Countries</th>
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<tr>
<td>• High internet access and computer literacy; still has digital divide and privacy issues.</td>
<td>• Low internet access and citizens are reluctant to use online services; few citizens have knowledge to operate computers.</td>
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<tr>
<td>• Relatively more experienced in democratic system and actively involve in policy-making process.</td>
<td>• Relatively less experienced in democratic system and less actively participates in</td>
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One major criticism of much of the literature on the context of e-government in developing countries is that it lacks strong empirical studies (e.g. Almarabeh & AbuAli 2010, Wang & Hou 2010, Chen et al. 2006, Harper et al. 2004, Wescott 2001, Dada 2006, Moulder 2001, Ahmad & Othman 2006, Raman et al. 2007). Besides that, it is important to note that the literature surveyed on e-government implementation in developed countries is to pinpoint good practices in e-government adoption and implementation (e.g. Basu 2004, Chen et al. 2006, Gilbert et al. 2004, Jorgensen & Cable 2002, Tan & Leewongcharoen 2005, Heeks 2002a). Furthermore, according to Averrou (2010), she emphasised the importance of the theoretical aspect of IT and it’s relevant to socioeconomic development by discussing the four discourses in the context of developing countries. In addition, the research highlighted that there is no one size fits all mantra as the culture in developing countries are different than in advanced or developed countries (Averrou 2010).

It is questionable for ICT innovation whether poverty in developing countries can be resolved, hence propositioning the significance of theoretical aspects for socioeconomic improvement. For Averrou’s point of views, she attempted to integrate theories on contextualist ICT innovation and the theories on ICT-enabled development. In contrast, Walsham and Sahay (2002) believed that with the ICT, it can combat poverty, inequality and marginalisation.

From their experience, some practical lessons may be learnt in aiding developing countries to manage and develop the suited e-government strategies, hence guiding them to achieve their own visions. Therefore, this study will help Malaysian government to identify good practices as well as problems and issues encountered during the implementation process of e-government in developed countries like South Korea. It is important to understand the issues and challenges from theoretical perspectives before boarding on practical implementation.

### 2.1 Design-Reality Gap Model

To identify progress of Malaysian e-government implementation, the Design-Reality Gap model, which introduced by Heeks (2003) will be exercised as a theoretical framework for this study. It will help to assess and evaluate e-government implementation in Malaysia and South Korea, despite its limitations. This can be done with the assistance of seven dimensions called ITPOSMO (Information, technology, process, objectives and values, staffing and skills, management and structures and outside world). These dimensions are beneficial to e-government implementers and evaluators in identifying areas that need to be focused and concentrated on. Thus, further changes will be required to close the gap. Figure 1 describes Heeks’s model.
In addition, this model has most frequently been used in assessing and evaluating gaps in developing countries’ e-government projects (Heeks 2002a, 2002b, Hawari & Heeks 2010, Bass & Heeks 2011, Syamsuddin 2011, Baqir et al. 2009) as failure rates in these countries are usually higher than those in industrialised countries. Heeks (2002a) acknowledges this situation as ‘stereotypical’, whereby problems and dilemmas amongst them are common. As far as the model is concerned, it will measure expectation-perception gap that exists between the reality and the design of the e-government initiatives. Hence, it will determine whether the e-government projects are success, total failure or partial failure (Heeks 2003). However, this study will not assess the extent of success and failure of the e-government projects, but aims to identify any flaws and shortcomings in particular areas that require further change in the future. As a result, it is able to reduce the expectation-perception gap and minimise e-government failure in the projects.

As far as Heeks is concerned, his model is believed to be able to reduce risk in terms of e-government failure in every e-government projects. It provides a sense of what makes the project fail instead of the factors that may make the project succeed. Moreover, Heeks (2003) conceded that his technique seems to be more practical and easier to implement, as it will match with individual e-government projects, rather than enforcing a ‘one size fits all’ concept. This fact can be proved through many case studies.

There are a number or government projects employing this design-reality gap model in their case studies, for instance, Jordanian and Indonesian governments. It has been proven by the former government that this model has worked successfully in explaining the failure of Enterprise Resource Planning (ERP) project implementation in Jordan (Hawari and Heeks 2010). In fact, the usage of this model has been recommended to use by other researchers and practitioners as a channel to understand the root cause of difficulties in implementing ERP system. In Asia countries like Indonesia, a case study on South Sulawesi also validates Heeks’s model as a comprehensive approach in revealing gaps between the design of e-
government systems and its actual implementation of e-government initiatives (Hwang & Syamsuddin, 2008).

Furthermore, this design-reality gap model is not only being used in manufacture firms and government sectors, but also widely applied in the area of medical informatics. The application of this model has demonstrably been useful to address and explain multiple cases of health information systems success and failure via the ITPOSMO dimensions (Heeks 2006a). In general, it seems that the ITPOSMO dimensions provide a sufficient and better understanding of the success or failure of information systems through this framework. The dimensions look very comprehensive and systematic. As Heeks concludes, both factors on technology and social approach along the evaluation process. In brief, a socio-technical approach is embedded in this model to emphasize the importance of human and social components of an information technology (Heeks, 2006b, 2006c; Kling & Lamb, 1999; Sorrentino & Virili, 2003). This plainly balances those two crucial factors in evaluating and assessing the gaps without concentrating merely on the technology and technical part in e-government projects.

On the other hand, it has been understood that this model assumes to be more on qualitative approach followed by a quantitative rating. The identification of factors and issues that block the promises and benefits of e-government to citizens and users will show the size of gaps between the designs and realities of e-government projects. This identification step of identifying the factors represents the qualitative approach that comes from interviews, documentary evidence and researcher analysis that has been structured according to the ITPOSMO dimensions. Based on the analysis, rating scale will be given from 0 to 10. 0 will represent no gap or difference between design and reality, 5 will stand for some degree of difference and 10 will indicate complete and radical difference between design and reality. Besides that, the gaps also can be assessed and rated in three different conditions, namely large, medium and small. Large refers to a complete and radical difference between design and reality, medium refers to some degree of difference between design and reality and small indicates no difference between design and reality. By and large, it shows the degree of mismatch between the design and reality of seven dimensions.

In addition, this model has most frequently been used in assessing and evaluating gaps in developing countries’ e-government projects (Heeks 2002a, 2002b, Hawari & Heeks 2010, Bass & Heeks 2011, Syamsuddin 2011, Baqir et al. 2009, Hawari & Heeks 2010) as failure rates in these countries are usually higher than those in industrialised countries. Heeks (2002a) acknowledges this situation as ‘stereotypical’, whereby problems and dilemmas amongst them are common. Therefore, it is questionable by the researcher whether the adoption of this model can be generalised as a practical and workable idea or not to be applied to developed countries.

Moreover, it is believed that Heeks’ idea of the Design and Reality Gap model is based on the factorial analysis approach which was inspired by Flowers (1996). Flowers used this factor-based approach to identify his set of critical failure factors through seven e-government case studies in the United Kingdom. Taking the same diagnostic approach to understand the failure of e-government project, Heeks (2002a, 2006) came out with his seven dimensions of ITPOSMO acronym, to analyse and measure the gap that exists between current reality and the design concept of e-government applications. According to Stanforth (2010), this factor-based approach has commonly been used by researchers in project management literature during the evaluation process, in order to identify the crucial failure factors of e-government projects.
2.1.1 Previous Models for Assessing the Success or Failure of E-government Implementation

On the other hand, there are also other models of e-government that are considered to be relevant in this research, including Delone & Mclean model (2003) and Moon (2002) in assessing success and failure factors in implementing e-government. In Delone and McLean model (2003), the success or failure of ICT implementation is determined by six dimensions: system quality, information quality, service quality, usage, user satisfaction and net benefits. This model points out that the quality of the three dimensions (system, information and service) will determine and affect the “usage” and “user satisfaction”. As a consequence, the “user satisfaction”, certain “net benefit” will occur. In contrast, if the system is of poor quality, it may be associated with more dissatisfaction, people resistant and negative net benefits.

A conceptual framework model by Moon (2002) is also another model that can be considered in this study. In this model, it examined the effectiveness of e-government in municipal governments based on comprehensive survey data. This model observed that the evolution of municipal government in e-government implementation can be identified through five stages; one way communication/ information dissemination, two-way communication, service and financial transaction, integration and political participation. Next, Moon’s model pinpointed some institutional and resource barriers to e-government, such as lack of technology staff, security and privacy issues, lack of financial resources and lack of technical upgrade. Last but not least, this model also indicated the effectiveness of e-government by identifying benefits that e-government has offered.

Although the aforementioned models are commonly used in the e-government research, they were found not to be inappropriate in addressing our research questions. The Delone and McLean’s model (2003) is related and contribute to the theory of acceptance model (TAM). This model is used to determine factors influencing intention to use and actual usage behaviour at which technology is adopted. Nonetheless, the success or failure of e-government implementation is not mainly shaped by technology acceptance, but also other important factors, such as financial, legal, social and policy, and more factors as have been stated in the literature review. Furthermore, this aspect of user acceptance and satisfaction (user perspective) in the model has not become the main focus in this study.

Meanwhile, Moon’s model (2002) emphasized the e-government efforts of the local authorities and measured its perceptual efficiency. To achieve this, a large sample size of respondents was used through survey as the main instrument in the research. Since this study has only focussed on the e-government projects at the federal level, and involved only a small sample of respondent, therefore this model is not in line with the needs of this study.

Hence, due to these factors above, Heeks’s model on Design-Reality Gap model is selected for use in this study, as it will help to investigate and explain some of the reasons why implementation of e-government in Malaysia fails or successes. This will assist e-government implementer and government in focusing on areas of weaknesses in Malaysian e-government implementation.

3. Research Methodology

This study employs a qualitative research as one of the more practical ways of seeking and exploring the current system of Malaysian e-government experience. In order to allow for a deep exploration on the implementation of e-government in Malaysia, this study will undertake the case study method. By choosing the case study as a strategy to conduct this study, the researcher is able to investigate and study the phenomenon in its natural settings
(Cepeda & Martin 2005, Yin 1994). This approach may serve to provide richness, and assist in generating a more substantive framework (Irani et al. 2005). As a result, the researcher will understand the nature and complexity of the processes taking place.

In this research, however, multiple case studies are adopted instead of a single case study to overcome this generalising problem. Besides that, the evidence from the multiple case studies is more compelling and convincing, and thus can be regarded as more robust (Yin 2009, Herriot & Firestone 1983). In addition, the choice of multiple case studies avoids a direct replication of study and illustrates different and contrasting experiences of e-government implementation between three e-government projects, hence delivering a stronger effect (Yin 2009). Three mini case studies have been chosen, and remain the core for data collection for this study. The three case studies are:

1. E-land which is led by the Ministry of Natural Resources and Environment. It is an online mechanism of land registration, management and administration offer for public service delivery convenience.
2. E-syariah is initiated by Syariah Judiciary Department Malaysia. It assists Syariah courts to manage their administration in a more sophisticated way by maximising the use of ICT.
3. E-pemudah (e-business) is led by the PEMUDAH Secretariat Office under Ministry of International Trade and Industry. Pemudah is responsible to address areas related to the business environment and also to provide a catalyst for change in placing Malaysia in the top 10 of the World Bank Ease of Doing Business (EoDB) (PEMUDAH 2010).

The criterion for selection the three case studies above are:

1. The case studies are implemented over the past five years. In addition, the e-land case study is based in Penang as it was the first/pioneer state that implemented the initiative.
2. Constitutes of a relevance to a broad range of stakeholders such as Government to Citizens (e-land), Government to Government (E-syariah) and Government to Business (E-pemudah).
3. Were considered as the most successful e-government projects such as e-syariah and e-pemudah (Mohamed 2011, Tengku Mohammad 2007), therefore motivates the researcher to further investigate their success, abilities, maturity and diversity of the projects.

To gather information, in-depth interviews were conducted between 2012 to 2013 amongst 12 public officials from government agencies. These are Deputy Director of e-KL, Deputy Director of EG Division, Senior Officer in MAMPU, Deputy Director (Technical) of e-land Project Team, Technical Officer of e-land Project Team, Assistant Director of e-land Project Team in Penang, Director of Information Technology and Communication (Technical) in Syariah Judiciary Department Malaysia, Head Deputy Director of Information Technology and Communication in Syariah Judiciary Department Malaysia, Deputy Director of Information Technology and Communication in Syariah Judiciary Department Malaysia, Assistant officer in Communication and Corporate Division in Syariah Judiciary Department Malaysia, Principal Assistant Director of PEMUDAH Secretariat, Ministry of International Trade and Industry and Senior Assistant Director PEEMUDAH Secretariat, Ministry of International Trade and Industry.

These people represented from different government agencies, so it would reduce any bias during data collection. The samples were selected on the basis of their integral
involvement and active participation in the aforementioned e-government projects. They had a strong understanding of e-government policy in Malaysia and had a good and knowledgeable view of the projects. They were asked questions based on the OPTIMISM model in the interview session. The ratings will be classified into three different ratings (non-numerical), admittedly somewhat subjective; 1) Large – A complete and radical difference between design and reality; 2) Medium- Some degree of difference between design and reality; 3) Small- No difference between design and reality (of which assisted by any supportive factors). As Heeks (2003, p.3) states: “The larger this design-reality gap, the greater the risk of e-government failure. Equally, the smaller the gap, the greater the chance of success.” In addition, to have a clear picture and better understanding of the gap, the rates for each individual dimension are also presented using a diagram at the end of each case study’s findings. The diagram arranged to show the gaps from largest to smallest.

Access to the interviewees in the government agencies was gained through personal contacts by email. Moreover, all the interviews were set up in their respected government offices as requested by the personnel involved. However, two interviews had involved more than one officer as requested by the interviewees. Whilst the advantage of this arrangement was that the researcher could get various opinions and views at the same time, the time limits had become a constraint in this interview.

Each interview was taped with the permission of the interviewees with the tape recorder. Before the interviews were conducted, they were briefed about the nature and objective of the study, the expectations of their involvement and also the duration of the interview. Ultimately, they were reassured about issues of confidentiality. Moreover, it is important to note that the interviewees were notified and informed of the matter above to comply with ethical protocol during research. Since the sample size of the respondents is too small, survey method was eliminated to be used in this study. Otherwise, a questionnaire would have been used in the study as a data collection method, but the survey method is appropriate for larger respondents.

Each of the interviews lasted approximately one to two hours. The only exception to this was the interviewee from the Land Office in Penang who felt uncomfortable with the tape recorder; hence the researcher used only hand written notes to capture all the views and responses. Subsequently, there were some follow up interviews that were needed to clarify any unclear information and to get further explanations and these were arranged through email exchanges and telephone calls (Walsham 1995; Yin 2009). To reduce bias in the interview process, the researcher minimised the intrusion by being neutral and open minded while asking and listening to the interviewees’ responds. In addition, taking only the interviewees’ responds combined with knowledge from literature review can also avoid bias in this analysis section. Besides that, the respondents or the interviewees were not exposed to the same part of the e-government projects and they had had experienced on different roles and divisions, so this can minimise bias in this study too. Moreover, the interviews were combined with some important documents such as government documentation on e-government, blue print, policies and procedures, publications, budget report and other documents as additional information to supplement this research (Irani et al. 2008).

Meanwhile, due to time and financial constraints, a desk research was carried out through a comprehensive literature combined with a review of e-government documentation for gathering South Korea’s data collection. Statistical data were collected from several international reports and surveys. This was done for the purpose of comparative analysis with Malaysian e-government and used to verify and validate the empirical findings in both
countries (Yin 2009, Miles & Huberman 1994, Saunders et al. 2000, Flick 2007). Finally, a manual thematic analysis process was used in this research. A cross-case analysis was conducted, in which data from all cases were looked at together in this analysis process, with some common themes emerged and extrapolated from the case studies (Jones et al. 2006). Following this, the analysis continued by comparing and contrasting with South Korea’s data, to uncover whether there were any differences between cases.


The Malaysian government launched the Multimedia Super Corridor (MSC) in August 1996, in which e-government became one of its flagships (Rais & Nazariah 2003, Abdul Karim & Mohd Khalid 2003). This flagship includes another seven projects and initiatives lead by different government agencies. To spearhead e-government initiatives, the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU) has been entrusted to plan, implement and give guidelines on the e-government framework. In addition, MAMPU will also monitor progress and coordination of each project under the responsibility of the lead agencies, in order to ensure that the notion is executed in the most efficient manner possible (MAMPU 1997 a,b,c).

4.1 E-land

E-land is one of the e-government flagship projects which were initiated by the Ministry of Natural Resources and Environment (MAMPU 2009). It highlights the relations between Government to Government (G2G) relationship. It aims to develop an integrated, comprehensive and user-friendly land management and administration system to improve the speed and quality of public service. Until a few years ago land dealings were still done in a traditional manner which raised repetitive complaints and unhappiness from citizens, for instance red tape, rigid procedures, corruption and too much official procedures (The Star 2007).

In this case, the incompetence of the land management and administration has tarnished the government’s reputation amongst foreign investors, businesses communities and the public (ibid). Therefore, in order to eradicate these problems, the government has moved forward towards the application of ICT on land administration, hence e-land was initiated in 2005 (Mohd Ramli 2012). As the digital technology has been recognised by the law through the introduction of the Sixteen Schedule of the National Land Code (NLC) 1965; the Electronic Land Management System, e-land is believed can enhance transparency of the land administration and modernise the administration and management of land offices throughout Peninsular Malaysia (MAMPU 2011b).

4.1.1 Design-Reality Gap Model (E-land)

Here are some of the issues and challenges that influenced the implementation of e-government in Malaysia which revealed from the interviews with government officials. The finding reveals that e-land has major difficulties in the legal context due to each state has its own acts and laws procedures, low-quality of IT infrastructure, public officials’ resistance, and lack of expertise in land law. E-land also faces financial constraint that insufficient for the agency to bear the maintenance costs of the project. One of the respondents stated that “Internet connection in Malaysia is slow and there is low access. Malaysian Communications and Multimedia Commission (SKMM) should be responsible for looking further at this aspect. Even, Sabah and Sarawak is still lacking in basic amenities such as lack of electricity and clean water. Therefore, how can the universal service and access can be achieved?”

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In addition, another respondents stated that, “We need to change almost 85% of the National Land Code if we want everything to be implemented online.” As land and religion matters are considered as state matters, each state enacts its own acts and rules. As one of the government officer said, “It is hard for people to understand. It is not easy to use and apply other state’s application to another state, because it binds with the law. Therefore, this task is not as simple as that.”

A senior officer mentioned that, “The Malaysian government lacks expertise, so we need to outsource to other foreign and private companies.”

Furthermore, resistance and reluctance to adopt and adapt to the new digital management among public officials was also another main problem. According to a senior officer who involved directly in the project, most of them felt threatened with the new system that had reengineered element that might jeopardize their professions and careers because of ‘no function’ worries. He said that, “It is hard using the e-land, because my role would not be so important anymore”.

There was also no change management course provided by the government before adopting the system. As time goes by, the public officials started to accept and embrace the technology which makes them productive but at the same time they are still not happy yet due to the perceived threats and they also want more improvement in the system. The senior officer stated that, “….they prefer with the manual system and in Penang, the change management was done after the implementation, not at the early stage of e-land implementation”

Lack of expertise and skills in ICT and ignorance in land law amongst the contractor were the underlying problems for the government to manage them. According to the senior officer, “…in e-land, we lack of people who involve in the system who understanding and have knowledge about land law, and this becomes a huge problem when we want to implement it”

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<tr>
<th>Dimensions</th>
<th>Rating</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>Information</td>
<td>Medium</td>
<td>An integrated system of data flows but some problems exist due to different work culture.</td>
</tr>
<tr>
<td>Technology</td>
<td>Large</td>
<td>Particularly in technical infrastructure and network speed.</td>
</tr>
<tr>
<td>Process</td>
<td>Small</td>
<td>Huge changes of services and procedures to ease the activities of users and citizens.</td>
</tr>
<tr>
<td>Objectives/Values</td>
<td>Large</td>
<td>Public officials felt threaten about their jobs and consultants being so selfish.</td>
</tr>
<tr>
<td>Staffing and skills</td>
<td>Large</td>
<td>Mainly around public officials and consultants who do not have expertise in land law.</td>
</tr>
<tr>
<td>Management and Structures</td>
<td>Medium</td>
<td>Better coordination but have some power issues between federal and state governments.</td>
</tr>
<tr>
<td>Other resources</td>
<td>Large</td>
<td>Insufficient budget for maintenance and license renewal.</td>
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<tr>
<td>Outside World</td>
<td>Large</td>
<td>Legal context appears to be challenging to change.</td>
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### 4.2 E-syariah

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E-syariah was introduced in March 2002 as another flagship e-government initiative which aims to improve Malaysian Syariah Court’s image and quality of its services by maximising the use of ICT (MAMPU 2009). In addition, it constitutes a relation Government to Citizen (G2C).

In the past, the Syariah court was well-known as an out-dated institution bogged with red-tape and inefficient services to the public. The delay in disposition of Syariah court cases involving divorce and child custody caused the number of redundant/similar cases filed every year. In addition, the amount of time to receive the court's ground of judgment on any given case impedes the filing and case management process of the services. As a result, to uphold the Syariah court’s status and reputation, e-syariah is identified as an answer to all the problems.

### 4.2.1 Design-Reality Gap Model (e-syariah)

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Rating</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>Small</td>
<td>Database in every state has been standardised.</td>
</tr>
<tr>
<td>Technology</td>
<td>Large</td>
<td>Particularly in terms of access due to slow speed.</td>
</tr>
<tr>
<td>Process</td>
<td>Medium</td>
<td>Some changes to users’ activities but there is a slight problem regarding online payment.</td>
</tr>
<tr>
<td>Objectives/Values</td>
<td>Small</td>
<td>Most of the stakeholders are largely supportive to e-syariah. Leadership presence in the system.</td>
</tr>
<tr>
<td>Staffing and skills</td>
<td>Small</td>
<td>Mainly around public officials who competent at their work.</td>
</tr>
<tr>
<td>Management and Structures</td>
<td>Medium</td>
<td>Some changes in management and structures but uneven on a federal-state’s power issues.</td>
</tr>
<tr>
<td>Other resources</td>
<td>Small</td>
<td>Not much but sufficient.</td>
</tr>
<tr>
<td>Outside World</td>
<td>Small</td>
<td>Politics and legal context appear largely supportive.</td>
</tr>
</tbody>
</table>

In e-syariah, email has been a further new mechanism to communicate between the government and the citizens. However, the speed of the internet connection is slow, thus demonstrate a huge gap in technology dimension. According to e-government officer “The most challenging task in implementing e-syariah is to standardise and systematise work practices. This is due to the various and different work practices being implemented in every state. Public officials feel very comfortable in their comfort zones, thus resisting change in order to retain their own identity and working culture.”

Public officials are now more positive and confident in the system. Notwithstanding in the early implementation phase there was some resistance amongst them towards the system, but after providing them with adequate skills and training, ICT courses and awareness programmes they seem to be convinced and receptive with the new system.

Despite the limitations, e-syariah has been considered as a fruitful project that has improved the Syariah court’s image and reputation from outmoded working practices to a modern way of working that has had beneficial effects on the public service delivery (Ahmad & Othman 2006, The Star 2007). For example, the registration process has successfully reduced waiting time from 8 minutes to 3 minutes. The current challenge Syariah Judiciary Department Malaysia (JKSM) is facing now is online payment where they need to deal with a third party which is bank on management charges issue.
Overall, it is noted that e-syariah has had remarkable success in its implementation, albeit there were some difficulties in the early phase of its operation. As far as the system is concerned, the efficacy of e-syariah as an e-government application is hinged on several aspects, for instance leadership and environment factors. Most civil servants in the syariah court administration really agreed that the Chief Justice at that time was very committed and positive on the proposition of ICT development in the syariah court although there was some opposition to the proposed changes. Having a strong and determined leader has assisted the Malaysian government’s mission on reforming and revamping the syariah court administration and management in order to enhance the quality of public service delivery. Besides that, the idea of technology advancement was booming globally with governments adopting and embracing the idea of e-government.

4.3 Pemudah

While e-land and e-syariah are a Government to Government (G2G) and Government to Citizen (G2C) projects respectively, Pemudah highlights the relations with Government to Business (G2B). The Special Task Force to Facilitate Business or known as PEMUDAH comprises of representatives from both the public and private sector. The goal of PEMUDAH which was launched on 17 February 2007 aims to support Malaysia’s transition towards a knowledge driven economy (PEMUDAH 2008).

Pemudah is responsible to address areas related to the business environment and provide a catalyst for change towards placing Malaysia in the top 10 of the World Bank Ease of Doing Business (EoDB) (PEMUDAH 2010, New Straits Times 2008). To achieve its target, government agencies or departments were challenged to improve processes and procedures to become faster, easier and at the same time cheaper. Initiatives like Business Licensing Electronic Support System (BLESS), Malaysia Corporate Identity Number (MyCoID), One Stop Centre (OSC) Online for Building Plans and e-Payment facilities (PEMUDAH 2008, 2009) are amongst online services initiated by PEMUDAH.

4.3.1 Design-Reality Gap Model (Pemudah)

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Rating</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>Medium</td>
<td>Some changes to data stores and flows but uneven work practices.</td>
</tr>
<tr>
<td>Technology</td>
<td>Large</td>
<td>Particularly lies on the technological infrastructure, the speed and the expensive software.</td>
</tr>
<tr>
<td>Process</td>
<td>Small</td>
<td>Many online applications are created and beneficial to the users.</td>
</tr>
<tr>
<td>Objectives/Values</td>
<td>Large</td>
<td>Resistant mainly caused by business community and public officials.</td>
</tr>
<tr>
<td>Staffing and skills</td>
<td>Medium</td>
<td>Training is provided to enhance skills, confidence and knowledge.</td>
</tr>
<tr>
<td>Management and Structures</td>
<td>Medium</td>
<td>Some changes in management structures and advocates public-private partnership, but problem lie in federal-state’s power.</td>
</tr>
<tr>
<td>Other resources</td>
<td>Large</td>
<td>Not adequate enough.</td>
</tr>
<tr>
<td>Outside World</td>
<td>Large</td>
<td>Legal context appears late in the implementation.</td>
</tr>
</tbody>
</table>

As for Pemudah, technology infrastructure becomes one of the main hurdles in implementing the project as well as resistance from the business community stakeholders and
low commitment from the public officials. As one of the senior officers commented that, “There is limited integration in implementing e-business in Pemudah, as there are still certain agencies that feel comfortable with their old system.” As one of the government officers stated that, “There is some resistance amongst public servants in the early phase of implementation. They feel threatened that the technology will replace their jobs and functions.” Additionally, a senior officer said, “It is really frustrating when we need to key in the data twice. This regards the negative mind-set of public servants who are very cynical with the technology.”

In addition, the budget is also an issue in this project as well as a slow adoption of the Electronic Government Activities Act (EGAA), which hampered the process. Other public officials were candid saying “In Pemudah, we do not have any specific budget because it depends on the ministry’s budget, thus it constrains us.”

4.4 E-government in South Korea

The South Korean government has emphasised that technological deployment may transform and modernize its public sector in meeting citizens and businesses’ needs without the limitation of time and space (Sprano & Zakak 2000). Its remarkable performance on e-government has been acknowledged and recognised around the world, through its success in harnessing ICTs for boosting its economic growth and building social transformation (Chadwick 2005). In other words, South Korea is one of the countries that maximises and emphasises the importance of Information Communication Technology (ICT) as an economic stimulus (Lau et al. 2005). This trend began when the 1997 financial crisis attacked South Korea and other Asian countries that make their economy downturn. Since then, the Korean government identified information technology as a potential resolution and field that worked to recover its economy (Lau et al. 2005, Lee 2003).

Given South Korea’s level of passion concerning technology, the government set up its own national vision to make South Korea into an advanced and leading country (Ministry of Security and Public Administration 2012). Meanwhile, the informatization vision is to achieve an advanced knowledge information society based on creativity and trust (NIA 2008). In supporting national vision of informatization, the South Korean government drew up five goals, which are (NIA 2008); (1) Efficient Knowledge Government’ to serve the people, (2) ‘People Prospering through Digitalisation’ to support a facilitated market economy, (3) ‘Trusted Information Society’ to actively support welfare system, (4) ‘Creative Soft Power’ to become a brain power nation, (5) ‘Cutting-Edge Infrastructure for Digital Convergence’ to become a mature country. Based on the comprehensive literature and a review of e-government documentation, the findings of e-government in South Korea can be illustrated below:

4.4.1 Design-Reality Gap Model (South Korea)

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Rating</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>Medium</td>
<td>An integrated system of data flows and database, but with some hiccups in the system.</td>
</tr>
<tr>
<td>Technology</td>
<td>Small</td>
<td>Provide a good and high-quality information infrastructure.</td>
</tr>
<tr>
<td>Process</td>
<td>Small</td>
<td>Many online services and applications are created to ease the activities of users and citizens.</td>
</tr>
<tr>
<td>Objectives/Values</td>
<td>Medium</td>
<td>Majority of the public officials are happy with e-government but have some concern on security</td>
</tr>
</tbody>
</table>
As for South Korea, the size of gap is relatively small and medium. It has a high-quality ICT infrastructure through Korea Information Infrastructure (KII) (Lee 2009) which provides a high-speed communication network (Lee 2003, Menon 2011, Kim et al. 2007). Furthermore, the Korean government keep upgrading its telecommunication infrastructure over time to ensure it can cope with the technology innovation.

Furthermore, the government initiated the National Basic Information System (NBIS) project as a foundation for e-government (Kim 2006). It functioned to compile database from other government sections including finances, vehicles registration and other data by using information system and technology. While there were some issues in using the database, owing to demand-pull in enterprise based (Jeong 2006) and the recognition of database and information technology was lowered (Kim 2006) at that time, the information system managed to support and increase the efficiency of the administrative processes.

South Korea creates a number of online applications (Kim et al. 2007), and there are many benefits for citizens, businesses and the government: for instance, e-Customs, Korean Online e-Procurement System, Home Tax Service and many more. All these services are selected as best practice, and have received many recognitions and awards from the United Nations, OECD and the rest of the world (National Information Society Agency 2010). Overall, the deployment of technology assists the government in boosting the productivity of its administration and meeting citizens’ needs by simplifying application procedures, especially for the registry documents.

In addition, the vision and objectives are shared amongst stakeholders, including the Korean presidents, senior public officials and senior managers (Shin 2007). Korean president Dae-Jung Kim put the Information Promotion Committee under the Presidential Commission on Government Innovation, and this has demonstrated a strong commitment from the President in implementing e-government across the country (Im & Seo 2005). As for the senior public officials and managers, they are happy with the new system, except for some concerns about privacy and security issues. For public officials, although they had mixed perceptions toward e-government in the early stage of its implementation (Hwang et al 1999), they believe that e-government is valuable in improving government. The government provides training courses and workshops to equip them with necessary operational skills. Furthermore, the government promotes the practice of organisational learning to enhance stakeholders’ acceptance of the new system (Kim et al. 2007). As a result, they are well equipped with skills, and can be classified as fast learners and become more adaptive and accept the change to a modern form of government.

However, the coordination and collaboration among government ministries and agencies seemed to be a big hurdle in the early process of e-government implementation.
A jurisdictional conflict between ministries was a hindrance of this collaboration and information sharing. To overcome this problem, the South Korean government introduced a team system of ministries, for instance for economic team. The members will be ministry of finance and economy and ministry of budgeting and planning led by the Vice Prime Minister (Kim 2006). As a result, inter-governmental sharing and cooperation ease the public officials and citizens to access information through a single window e-government. This can be proven through residential registration, vehicle administration and real estate management, where information systems are now interconnected throughout the nation (National Computerization Agency 2002). As a result, data is made available for other functional departments. In addition, putting the special committee under the Presidential Commission on Government Innovation reveals a highly centralised government, with an overwhelming presidential power (Im & Seo 2005). This seems to be seen as fruitful, since as government will gain administrative, political and managerial cooperation across ministry agencies.

Meanwhile, there is sufficient financial resources to realise the idea of e-government throughout the nation. This includes the budget to develop a robust Korean information infrastructure. The government launched the Informatization Promotion Fund, which is a separate account from the annual government’s budget to fund the e-government projects (Suh 2006, Im & Seo 2005). In addition, the fibre optic backbone network between major cities is funded by the government, whereas the access networks linking users to the backbone network are funded by the private sector (Hwang et al 1999). In fact, the government also provided financial support for small IT business to set up and join in with the implementation of e-government (Kim et al 2004) and also sufficient funding are prepared for research and development (Frieden 2005).

To continue support for effective e-government, the South Korean government enacted several major acts, including the Management of Digital Contents Act, the Closing the Digital Divide Act, the Online Digital Contents Industry Promotion Act and so forth (NCA 2002). Furthermore, the government plans to undertake law enactment on protection of personal information owing to the security and privacy issues surrounding the e-government implementation process. It also expands the regulated targets from public organisations, and some providers to all legislative organisations and all providers, including non-profit organisations, provides along a stronger punishment and penalised schemes (National Information Society Agency (NIA) 2010, Frieden 2005). In short, a range of comprehensive legal frameworks that accommodate issues on public IT investment, security, market liberalisation, privatization, incentive regulation, digital signature and so forth are adopted to ease the e-government implementation.

Although the data from Korea is discussed at national level, the researcher believed that it is the epitome of state and local government’s good performance on e-government. In addition, due to financial and time constraints, the researcher was not able to do research in Korea. However, by doing a comprehensive literature review and document analysis it showed that Korean e-government has performed superbly, leaving UK and USA behind.

5. **DISCUSSIONS: COMPARISON OF RESEARCH FINDINGS**

The prime focus on deploying Heeks’s framework in this research is to analyse and identify issues and challenges in e-government implementation in Malaysia and South Korea. Following the results of both countries’ experiences, there are large gaps between the two countries in implementing e-government. There are six key factors that contribute to the success or failure in implementing e-government. Table 2 summarises the six factors identified by Malaysian e-government and South Korean e-government.
<table>
<thead>
<tr>
<th>Challenges</th>
<th>Malaysian Government</th>
<th>South Korean Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical infrastructure</td>
<td>Lack of a quality technical infrastructure, slow speed connection, unstable connectivity, lack of internet access in rural areas</td>
<td>have a robust high-speed internet infrastructure, high speed connection, ICT literacy is relatively high among South Korea</td>
</tr>
<tr>
<td>Legislative Structure</td>
<td>Out-dated regulations, restrictive laws and regulations, redundant act, privacy and security concern</td>
<td>comprehensive legal framework, privacy and security concern</td>
</tr>
<tr>
<td>Financial Constraints</td>
<td>insufficient fund, need to improve public-private partnership</td>
<td>adequate financial resources, initiated some capital for IT investment in the early phase of implementation, symbiotic relationship between government and private sectors (Chaebols, ), open market policy</td>
</tr>
<tr>
<td>Government’s role</td>
<td>great leader with a great vision but a lack of political will, Vague policy and strategy, government’s role as an indirect facilitator (strategist)</td>
<td>good leadership and political support, clear policy and strategy, strong enforcement from government, government’s role as a direct intervener (regulator) and indirect facilitator (integrator)</td>
</tr>
<tr>
<td>Human Infrastructure</td>
<td>individualistic culture, public officials and citizens slowed to adapt, public officials reluctant to change in the early phase of implementation, lack of skills and expertise, lack of motivation and change management training</td>
<td>fast leaners (pali-pali) and technic savvy, collectivistic culture, public officials and citizens willing to change, social issues</td>
</tr>
<tr>
<td>Conditions of Organisations</td>
<td>lack of coordination and integration, federal-state power issues slowing down the pace of implementation</td>
<td>Better coordination and integration but have some jurisdictional conflicts between ministries</td>
</tr>
</tbody>
</table>

Table 2: E-government Issues and Challenges in Malaysia and South Korea

It is apparent that the South Korean e-government is more advanced in its e-government development and has achieved tremendous accomplishments in its e-government performance. The success of South Korea provides a great chance for Malaysia to learn lessons in implementing e-government. As presented in Table 2, lacks of technical infrastructure and access in rural areas have been identified as a key issue hampering the progress in Malaysia owing to insufficient funding by the government. In contrast, South Korea invested heavily on building a robust technical infrastructure, so that any e-government application can easily be operated.

Legislative structure becomes the second factor that crucial to the implementation of e-government. South Korea provided a comprehensive legal framework that covers all related areas including business, whereas Malaysia needs to review all regulations, rules and policies to make them up-to-date, relevant and also attuned to the changing technologies and online
policies. Both countries also concern to the privacy and security issues that need to be a top priority and a prime component in implementing e-government.

Technical infrastructure issue pertaining to e-government in Malaysia are very much related and influenced by financial limitations in Malaysia. On the contrary, e-government efforts were made less problematic at South Korea through an adequate budget from the government and also private sector collaboration in the early phase of the implementation.

Malaysia and South Korea both have great leaders who champion the idea of e-government. Unfortunately, Malaysia lacks of political support which counts as a vital factor along the e-government journey (Signore et al. 2005, Bhatnagar 2004, Kim & Mauborgne 2003). While the vague policy has slowed down the implementation in Malaysia, a clear and unambiguous policy has speed the South Korean e-government.

Meanwhile, unwillingness to change amongst public officials and citizens was acknowledged as a human infrastructure problem in Malaysia. They scared that their jobs will be supplanted by the technology. Moreover, lack of motivation and no change management course have exacerbated the situation. Therefore, Malaysian government has identified that this issue will be addressed through a proper series of training in ICT, change management course and exposure. It was the opposite in the South Korea where the public officials and citizens were fast leaners and adapted very easily to new environment. Their acceptance of the new technology is related to the cultural and social factors which represent their mentality of ‘pali-pali’, a term that illustrates their predisposition not to waste any second or not to left further behind (Lau et al. 2005). However, anti-social and internet addicts (Hwang & Park 2009) were downsides of e-government in South Korea.

The lack of coordination amongst government agencies was identified as a key factor that needs to be tackled in Malaysia. In South Korea, although there were some jurisdictional issues between ministries, they managed to streamline and integrate administration process and services across government agencies. For this reason, Malaysia can learn from South Korea’s strategy in resolving coordination issue.

5.1 A Conceptual Model for E-government Implementation

As a result of the findings of this study, there are six key factors that play a pivotal role in e-government implementation. Therefore, a conceptual model for understanding the six factors in e-government implementation is proposed in this study as Figure 2. This model is adapted from Heeks’s model on Design Reality gap that was taken from the empirical study in exploring e-government implementation in Malaysia and South Korea.

The conceptual model outlines the failure and success factors for e-government implementation which is categorised to six factors including technical infrastructure, legislative structure, financial condition, government’s role, human infrastructure and conditions of organisations. The aforementioned factors are related and similar with Heeks’s ITPOSMO dimensions but with some improvisation derived from the context of Malaysian e-government case studies. The direction of the arrows shows a positive and negative impact of each factor that plays significant roles in implementing e-government.
<table>
<thead>
<tr>
<th>E-government Failure</th>
<th>E-government Success</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical Infrastructure</strong></td>
<td><strong>Legislative structure</strong></td>
</tr>
<tr>
<td>- Inadequate infrastructure</td>
<td>- Out-dated regulations</td>
</tr>
<tr>
<td>- Slow speed connection</td>
<td>- Restrictive laws and regulations</td>
</tr>
<tr>
<td>- Technology incompatibilities</td>
<td>- Privacy concerns</td>
</tr>
<tr>
<td></td>
<td>- reviewing existing legal framework</td>
</tr>
<tr>
<td></td>
<td>- legislative support</td>
</tr>
<tr>
<td><strong>Financial conditions</strong></td>
<td><strong>Government’s role</strong></td>
</tr>
<tr>
<td>- Lack of funding/ insufficient fund</td>
<td>- Clear policy and strategy</td>
</tr>
<tr>
<td>- Lack of private involvement</td>
<td>- Realistic goals</td>
</tr>
<tr>
<td></td>
<td>- Good leadership &amp; political support</td>
</tr>
<tr>
<td></td>
<td>- Strong enforcement from federal level</td>
</tr>
<tr>
<td></td>
<td>- Consistent evaluation</td>
</tr>
<tr>
<td><strong>Human infrastructure</strong></td>
<td><strong>Conditions of Organisations</strong></td>
</tr>
<tr>
<td>- Lack of skills and expertise</td>
<td>- Lack of coordination</td>
</tr>
<tr>
<td>- Lack of motivation</td>
<td></td>
</tr>
<tr>
<td>- Negatives attitudes</td>
<td></td>
</tr>
<tr>
<td>- Resistance to change</td>
<td></td>
</tr>
<tr>
<td>- Lack of communication</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 2: A Conceptual Model for E-government Implementation (Adapted from Heeks's Model)**
Moreover, from the model, it demonstrates that those factors are related and affect one another, thus influencing the success or failure of the e-government implementation. For example, if there is a lack of funding in technical infrastructure establishment, it will affect the smoothness and easiness of e-government implementation. As a result of inadequate technical infrastructure, it will cause slow speed connection and lag behind with the advancement of technology which resulted in technology incompatibilities. Furthermore, the success of e-government implementation needs legal support to ease the implementation process so that it can resolve any issues pertaining to the e-government. By and large, success or failure may result from the consequences of one factor affecting another.

Overall, this research presents a number of technical infrastructures, legislative structure, financial condition, government’s role, human infrastructure and conditions of organisations of factors that are synthesised into the conceptual model in Figure 2. All these six factors are also identified as challenges in e-government planning and execution. The model can be used as a guidance to assist e-government implementers and improve the effectiveness of e-government implementation as well.

6. **Conclusion, Research Limitations and Future Directions**

This research aims to assess the progress of Malaysian e-government implementation as compared to South Korean e-government and also to identify factors that inhibit and hold back the development of e-government implementation in Malaysia. This research has shown that there are a number of factors that determine the success or failure in e-government implementation in Malaysia. In general, these factors are considered to be a pillar of e-government. One of the more significant findings to emerge from this study is that factors, such as inadequate technical infrastructure, lack of skills, insufficient financial resources, unclear ICT policy, poor leadership and lack of integration will fail the mission of e-government. Taken together, these results suggest that the factors will have a greater impact on one another. This research suggests that the Malaysian government should take a more proactive role in tackling some of the problems immediately. Prioritisation is a key means of doing this.

Although the Design-Reality Gap model is beneficial in identifying the challenges along the e-government initiatives in Malaysia, it has certain weaknesses. Although the model is quite straightforward and simple, the researcher found it was very challenging to allocate issues into certain particular dimensions as some issues can be categorised more than two dimensions. It would cram a lot of issues into one single dimension; therefore some confusion over the matter was generated during the evaluation process. Moreover, the rating scale (non-numerical) to measure the gap between design and reality was somewhat subjective. Despite its limitations, this research successfully presented interesting findings concerning a number of factors and principles in e-government. In the future, more cross-national comparative studies involving other Asian countries (developed) and less-developed countries can be of useful to developing countries in sharing experiences and challenges in e-government implementation. Finally, further research regarding the role of citizen would be useful in getting their experiences and perceptions towards e-government policy.

7. **References**


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