

# Social Issues in ICT Project Implementation in the Local Authorities of Selangor, Malaysia

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## ABSTRACT

*This paper seeks to provide insights of social issues in implementing ICT-based projects in twelve local authorities of Selangor, Malaysia. It also describes a framework of social inhibitors of ICT project implementation. In the study, this framework merged a number of sub-issues to construct a broader higher-level schema in information system planning, procurement and execution. Deploying a mixed method approach, the analyses highlighted eight sub-issues, which are, human resource, organizational environment, organizational culture, organizational directives, management process, interdepartmental coordination, organizational support and resistance to change. The identification of these social inhibitors would provide a better path to successful implementation of ICT projects by local authorities. As the ICT implementation framework is relatively new, guidelines and examples were also identified to manage the difficulties and profundities of executing ICT initiatives.*

**Keywords:** *social issues, organizational issues, inhibitors, ICT project implementation, local authority, municipality, e-government*

## Introduction

E-government services require information and communication technology (ICT) as the enabler. As such, a decade of e-government in Malaysia means proper ICT budget allocations to leverage the

knowledge economy and generate more income to the country. Furthermore, the development of the Internet offers increasing opportunity to the K-economy, productivity and performance of civil servants through e-services (Abdullah, 2004; Alhabshi, 2008). The offering of online services to the Malaysian public requires careful planning, procurement and implementation of ICT. These three management elements are crucial to reduce the costs of internal and external operational procedures and processes in information systems implementation particularly for government agencies in developing nations (Walsham, Robey & Sahay, 2007).

Yet, a good plan does not necessarily lead to the successful implementation of ICT projects. Heeks (2006) and Peszynski and Corbitt (2006) noted that political issues are usually the hindrance to the successful implementation of any e-government projects, but ironically, social issues were not mentioned as problematic (Garson, 2004; Gichoya, 2005a & 2005b; Gichoya *et al.*, 2006).

The ICT research conducted prior to this study focused on private sector systems and was based on what Ward (1995) termed as 'supply-side' issues. These issues are related to ICT-based systems so that certain processes and procedures can be effectively and economically executed. In this case, the issues were the cost to benefit ratios of specific ICTs or information systems, usually earmarked for singular applications or deployment (Fallon, 1995). While these issues are certainly very important, they are not the panacea for ICT implementation (Beaumaster, 1999 & 2002). Core components of project implementation must be analyzed to suit the environment (Fixsen *et al.*, 2009). Also, the efficacy of information systems in a public sector organization does affect other stakeholders such as government agencies, businesses and citizens (Hackney *et al.*, 1995; Hussein *et al.*, 2004; Kenny, 2005; Kerr, 1991).

For municipalities offering e-government or e-services, an in-depth understanding of specific issues that hinder successful planning and implementation of ICT must be identified as key performance indicators of a government agency (Kong, 2009; Naveh *et al.*, 2006; Steiner, 1979). The understanding is also essential to establish appropriate principals and effective approaches to manage ICTs in an organization (Steiner, 1979; Theiruf, 1994).

When implementing an e-government initiative, many issues and challenges were pre-established through brainstorming sessions with

experts from both industry and public sectors. Inter-related issues such as information security, establishment of a comprehensive, widespread and affordable telecommunications infrastructure, and adequate education and training were raised (Karim, 1999 & 2003; Karim & Khalid, 2003). Each issue is important in its own context as well as producing multiple impacts which affect the organization and implementation of ICTs (Rowlands, 2009; Seneviratne & Garson, 1999; Short *et al.*, 2008). Effective planning and management of ICT can take place when a more comprehensive understanding of the myriad of issues is achieved (Ward, 1995).

Henceforth, the objectives of this research were to identify issues that hinder the success of an ICT project, ICT development and deployment processes. The research focused on all the twelve local authorities in Selangor, Malaysia, which were:

1. Shah Alam City Council
2. Petaling Jaya City Council
3. Subang Jaya Municipal Council
4. Ampang Jaya Municipal Council
5. Klang Municipal Council
6. Kajang Municipal Council
7. Selayang Municipal Council
8. Sepang Municipal Council
9. Kuala Langat District Council
10. Hulu Selangor District Council
11. Kuala Selangor District Council
12. Sabak Bernam District Council

It is believed that by reviewing the existing spectrum of issues, greater success can be achieved by the Selangor local authorities and other local government organizations to develop the nation. 'Local authority' means 'any city council, municipal council or district council, as the case may be, and in relation to the Federal Territory means the Commissioner of the city of Kuala Lumpur appointed under section 3 of the Federal Capital Act, 1960' (ILBS, 2003: 12). This study hopes that the outcome of the research would aid the Selangor municipalities to reap a good return of investment and align their e-government offerings with that of the state and federal governments' online public service initiatives.

## **Literature Review**

There is no doubt that Malaysia has experienced and enjoyed a remarkable growth in her economy. This rapid growth raised the level of affluence of Malaysians, which in turn has created increasing demands for public goods and services (Abdullah, 2004; Alhabshi, 2008; Karim, 2003; Karim & Khalid, 2003). In tandem, the quality of the public goods and services has become a concern, particularly services discharged by local governments or municipalities. Malaysia practices a three-tier government, the local government plays a crucial role in providing public goods and services specific to the localities. However, the performance and governance of local governments have been criticized looking at the increasing number of complaints and dissatisfaction from the public regarding provision of public goods and the poor services rendered to the citizens. Complaints of this sort suggest the inefficiency of a local government (Beaumaster, 1999 and 2002).

This calls for the local government to be more responsive in meeting citizens' needs to deliver their functions effectively. This is particularly so in the Information Era, where e-government offerings are the norms for most governments of the world. ICT is the foundation for e-government, thus the implementation of ICT projects by the local government is an important issue to be addressed by the tiers of the government (Gichoya *et al.*, 2006).

The Malaysian local governments are classified into three groups: city council for city centers, municipality for large towns and district offices for small sub-urban areas. In 2007, there were 142 local government authorities in Malaysia (Zahri, 2007). They were formed and regulated by the respective state legislation and subordinate to the respective state governments (ILBS, 2003). The Local Government Act of 1976 provides local authorities in Malaysia a very comprehensive set of functions and responsibilities (ILBS, 2003). So, from the Local Government Act of 1976, it is understood that major function of the local governments is to provide public goods and services required by the citizens.

Local public services undertaken by them on behalf of the respective state governments are mandatory and discretionary functions (ILBS, 2003). The mandatory functions include refuse collection, maintenance of minor drainage, sewerage treatment, road maintenance, street lighting and activities pertaining to public health. While discretionary functions

include providing amenities, recreational parks, housing and commercial activities, markets, sports facilities and community centers (ILBS, 2003). The sources of revenue for local governments are mainly from the state specific grants that include road maintenance grant, economic development grant and property tax (ILBS, 2003).

In contrast, information and communication technologies (ICTs) in private organizations are crucial to assure competitiveness and eventual profit of the firm (Rowlands, 2009; Strassman, 1997). In a needs analysis or identification of the core components of ICT deployment, the users are the main social actors to implement a customized information system (Lamb & Kling, 2003; Lamb, 2005; Lamb, 2006; Lamb, 2003), which, in this case are the municipality staff. However, ICTs are important in the public sector, but for different reasons. At the local level, there is expectation that ICTs will help make the organization more responsive to the needs of the public other than being more efficient and productive. Similarly, private organizations are also interested in being responsive, efficient and productive, but their their ultimate goal is profit (Gichoya, 2005b; Beaumaster, 2002; Eisenhardt, 1989; Gichoya *et al.*, 2006; Peszynski & Orbitt, 2006). In addition, the value of information derived from a successful implementation improves the cost-effectiveness of the systems (Checchi *et al.*, 2002).

Consequently, the Malaysian government, like many other governments in developing countries realizes the importance of shaping the nation's ICT development, thus it embarked a number of measures to ensure that ICTs play a vital role in its society and economic environment. Though Malaysia is ranked 11<sup>th</sup> worldwide in the implementation of e-government (Bernama, 2009), high on the government's lists of priorities is the need to enhance the public service delivery systems (Abdullah, 2004). This is evidenced in the tabling of the Ninth Malaysia Plan (2005) where ICT will be leveraged to enhance access and delivery of government services. Based on Malaysia's Vision 2020, one key initiative aimed at fast tracking Malaysia into the Information Age is the Multimedia Super Corridor (MSC) (Ariff & Goh, 1999; Zahri, 2007).

Briefly, the MSC was conceptualized in 1996 and has since grown into a thriving dynamic ICT hub, hosting more than 900 multinationals, foreign-owned and home-grown Malaysian companies. These companies produce on multimedia and communications products, solutions, services and; research and development (Ariff & Goh, 1999).

With the establishment of this unique corridor, Malaysia has continued to attract leading ICT companies of the world to locate their industries in the MSC and undertake research, develop new products and technologies and export from this base (Ariff & Goh, 1999). Moreover, the MSC is also an ideal growth environment for Malaysian ICT small and medium enterprises (SMEs) to transform themselves into world-class companies. Furthermore, the MSC Malaysia welcomes countries to use its highly advanced infrastructural facilities as a global test-bed for ICT applications and a hub for their regional operations in Asia (Ariff & Goh, 1999). As a result, it is crucial to be familiar with the concerted efforts undertaken by Malaysia to provide a stronger platform for the country's transition towards a knowledge-based economy.

The Ninth Malaysia Plan (2006) promoted ICT and it is also hoped that the forthcoming Tenth Malaysia Plan 2011-2015 will also promote ICT as the strategic driver to support and contribute to the growth of the economy to enhance the quality of life of the people. Substantial investments have been made and will be made to provide for the communications infrastructure to increase accessibility and to improve the requisite institutional and legal environment (Karim & Khalid, 2003). Increasing emphasis will be placed on raising the level of ICT usage in the various sectors of the economy in urban and rural areas and, in all slices of the society. Moreover, advancements in the global digital environment are expected to have a significant impact to make Malaysia a competitive K-based economy (Abdullah, 2004; Alhabshi, 2008; Bernama, 2009). With ICT as key determinant in the development process to enhance economy, efforts will be intensified to normalize ubiquitous access to ICT services and facilities (Karim, 1999 & 2003; Karim & Khalid, 2003). The government will continue to target the pervasive ICT environment to enable Malaysians accessible to the emerging K-driven economic opportunities (Abdullah, 2004, Bernama, 2009). Furthermore, measures will be taken to enhance ICT-related skills and competencies as well as the infrastructure and info-structure expansion (Ninth Malaysia Plan, 2006).

With the above justifications, this research was to undertake a systematic study of ICT project implementation in a selected local government of Malaysia. This study was part of a bigger research on four variables, which will only highlight one of the four variables. That one variable is the social issues that hinder the implementation of ICT projects.

## **Methodology**

Triangulation method was employed in this multiple case study where qualitative method was utilized in the first part, then followed by a quantitative to verify the findings from the qualitative analyses; within-case and cross-case analyses. Another justification to adopt a qualitative research method in this study was the use of the perceptions of a distinct group of respondents. The respondents were the ICT officers who were to identify and establish a series of issues that impede the implementation of ICT in their respective local government (Eisenhardt, 1989; Neuman, 2003; Paré, 2002).

A qualitative study was undertaken as there was a need to identify the most problematic issues to the Selangor local government ICT managers when implementing their ICT projects. This problem was further aggravated by inadequate theory (local content) to explain the phenomenon surrounding the local governments' ICT implementation and a proper framework to act as a guide to counter the threats of implementation failure. Evidenced in the literature reviewed, this study was considered the first of its kind in Malaysia.

Strauss and Corbin (1990) claimed that qualitative methods can be used to understand more any phenomenon about which little is yet known, and this is particularly so in the context of the local governments of Selangor, Malaysia. Furthermore, qualitative research will allow descriptive and in-depth information to be gleaned from a study where such information may be difficult to convey quantitatively (Myers & Avison, 2002; Paré, 2002). Other considerations decided for the adoption of qualitative research were the use of natural setting as the source of data where the researcher was physically present at all the local government ICT departments to interview the ICT managers within the comfort of their 'home grounds'; and, the most crucial point is where the findings were reported descriptively in order to illustrate the emergent issues (Merriam & Associates, 2002; Myers & Avison, 2002; Stangor, 2004; Yin, 1994).

Nonetheless, the case-study method was determined to be especially appropriate for this research since the purpose was to gather pertinent information on issues in ICT implementation (Paré, 2002; Myers & Avison, 2002; Merriam & Associates, 2002; Gillham, 2000). Also, as postulated by Yin (1994), Neuman (2003) and, Myers and Avison (2002), a case-study research allows the researcher to examine many in-depth

features of a few cases over a duration of time. Or, according to Eisenhardt, “*the serendipitous findings in a theory-testing study suggest the need for a new perspective as case studies does not rely on previous literature or prior empirical evidence*”.

In addition, the methodological approach was proposed by Eisenhardt (1989) for building theories from case study research. Naturally, other concepts and key ideas from the work of Yin (1994) on case study research and, Miles and Huberman (1994) on qualitative data analysis, were also included. Yet, it is important to note here that Eisenhardt’s (1989) processes would provide the necessary rigor to justify the findings from each research. However, Paré (2002) cautioned that only appropriate processes from Eisenhardt’s (1989) roadmap should be followed, ignored or modified to suit a study.

Hence, the first phase of this study involved a pilot study on five local government entities. Structured interviews, replicated from a study by Beaumaster (1999), guided the initial gathering of data. The interviews were tape-recorded and immediately analyzed to determine common patterns and themes. This procedure also led to a revised and a more focused, unstructured interview guide which was used for the next phase of data gathering. Subsequently, the second phase involved interviewing all the local governments identified. Repeated interviews, telephone calls and e-mail were also conducted to verify the information given and also to ensure that rich, in-depth data were collected. Data gathering and analyses ended when marginal improvement became small, or in other words, data saturation had been reached.

Finally, the quantitative part was required as empirical evidence to verify the findings from the emergent framework. A questionnaire was constructed and sent to the local government ICT department personnel. The sub-themes (issues) were measured on a scale of one to seven where one is extremely ineffective and seven is extremely effective. The output, descriptive statistics verified the findings from the emergent framework.

## **Findings**

The analysis from the main research showed four key categories or themes, namely, social, technological, economic and political issues. Subsequently, the analyses of data collected from this study highlighted that social issues were ranked the highest among the four (Figure 1).



The sub-issues that hindered the successful implementation of IS projects in the Selangor local government were strategic planning, budgeting, timeframe and scheduling, contracts and, external consultants and outsourcing.

Strategic planning of ICT involves strategizing for various resources such as staffing, equipment and most of all, the allocated monies or budget. Budgeting for small local government organizations is usually small and the amount requested annually are approved – as deemed appropriate - by the Selangor State ICT Center. Time and scheduling is of essence and any ICT projects approved should be completed with the specified deadlines. For advanced information system projects where the local authorities do not have the adequate skills, external consultants are brought in on contracts. Besides temporarily hiring these experts, certain ICT peripherals are rented or leased and contracts have to be drawn up. As such, this issue affects budget allocations since outsourcing requires detailed reports which are usually attached to the formal strategic plans. All in all, the relationship of each issue is akin to lined dominoes where the ‘fall’ of one domino inherently affects the others. Further discussions on these issues will be continued in the next section.

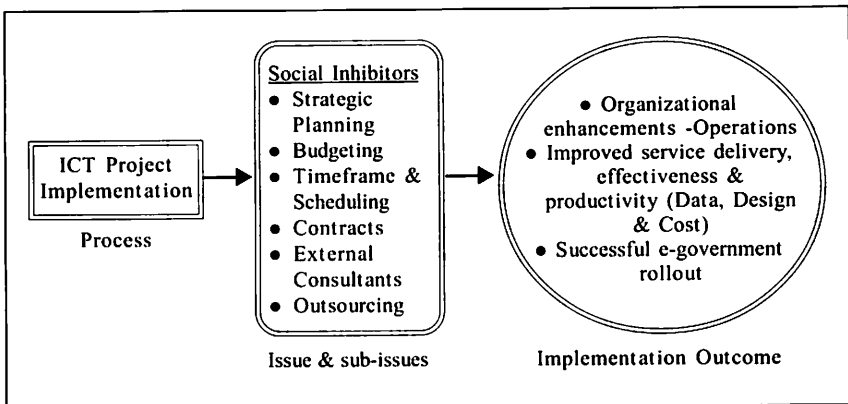


Figure 1: Framework on the Social Inhibitors in ICT Project Implementation

## Discussion and Conclusion

To reiterate, these social issues form one fourth of an emergent theme found in a bigger research conducted previously. In this study, the quantitative analysis and since mixed method was employed, social issues

were identified and ranked the first among the many issues. These social issues were also seen as a foremost hindrance to the effective implementation of ICT in the Selangor local authorities. As shown in Figure 1, the backlash from the non-identification of these issues had affected the organizational enhancement and operations of these local authorities. On the other hand, it is seen that highlighting these issues will help to ease the implementation of ICT, which in turn will cause a positive ripple effect on service delivery, effectiveness of workflow or process and, productivity. The service delivery will be faster, workflow is more effective and productivity higher.

The outlook for the e-government rollout for the local authority then, is maximizing resources and reducing costs. To move on, strategic planning was listed first among the eight sub-issues. Again, the ranking of the sub-issues was realized through the survey method. The first sub-issue was planning strategically for the entity's ICT projects. Limited staffing and expertise had resulted poor planning by these local authorities than in turn causing mandates from the state and federal governments not executed properly. For example, the e-procurement system was delayed more than five years because the local authorities were not ready to implement such a sophisticated and advanced system.

Likewise, in the case of municipalities, although an elaborate and justified strategic plan was drawn annually, the actual implementation of those plans were statistically minimal. The interference of an external factor, usually political in nature, such as comments or provocations from opposition parties, derailed the whole plan almost naturally. This failure affected the budget that was drawn up earlier.

In this study it was also found that the ripple effect of this problem encroached into the other seven issues of timeframe and scheduling of the projects. This eventually affected contracts from the vendors and external consultants. Unfortunately, other outsourcing matters were drawn into this whirlpool of failures. To put it in laymen's terms, the domino effect is such that a minor interference from say, the state or federal government, greatly affecting the implementation process which creates problems beyond a small municipality's control. At the end of the day, the users in the municipality would be affected by this political play and ultimately, the citizens would not be able to exploit the e-services promised by the local authorities.

To summarize, the realization of an ICT plan requires proper execution by the project leader. The ICT blueprint will remain on paper

if the social issues such as strategic planning, budgeting, timeframe and scheduling, contracts, external consultants and outsourcing are not properly handled.

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