THE CONTRIBUTION OF IT GOVERNANCE ON INFORMATION SYSTEM IMPLEMENTATION SUCCESS IN MALAYSIAN GOVERNMENT AGENCIES

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1.0 ABSTRACT

This paper presents a preliminary study on the contribution of IT governance on information system implementation success. Literature review of the research, research methodology, and the research framework is outlined and discussed. In this study, an attempt is made to investigate the performance of governmental information systems and the contribution of IT governance to its success. This study need to be closely examined because they reveal solutions, weaknesses and limitations of implementing IS projects. Based on earlier studies, a proposed research framework was developed and required to be tested and hypotheses was developed. A quantitative approach to data collection was chosen using survey methods for the intended sample within the Malaysia Government Agencies that has implemented and use information technology and information systems.

Keywords: IT Governance, IT Governance Structure, Information System(IS), Information System Success

2.0 INTRODUCTION

The necessary infrastructure and environment for the development of information and communications technology (ICT) was in place during the Seventh Plan period to enable Malaysia to move rapidly into the Information Age. The National IT Agenda (NITA), formulated in 1996, provided the framework for the orderly development of the country into an information and knowledge-based society by 2020. As ICT presented the best opportunities to increase productivity and improve competitiveness, several programmes and projects were implemented to encourage a wider diffusion of ICT in the economy. The Malaysian Administration depends heavily on achieving improved efficiency and large savings from the use of information technologies such as electronic access to government. The startling rapidity with which government has taken advantage of the Internet to provide improved access to information appears to provide support for this optimism. However, this optimism is based more on assumptions and hope than empirical proof. In this research, an attempt is to investigate the performance of governmental information systems implementation and the impact of IT governance impact to its success. These study need to be closely examined because they reveal solutions, weaknesses and limitations of implementing IS projects. Also, it is by studying IS performance that the government can draw lessons on how to improve project success rate.

IT governance is integral to the success of business governance because proper governance can assure efficient and effective improvements in business processes. IT governance enables the business to take full advantage of its information, thereby maximizing
benefits, capitalizing on opportunities and gaining competitive advantage.

Various studies show that IT promises are rarely fulfilled. The issue is not how many projects or ideas succeed or fail - but the cost and benefits derived from the effort. IT governance structure is also considered a key issue for improvement of organizational performance through IT (Koch, 2002; LePree, 2002; Luftman, Papp, & Brier, 1999; Sambamurthy & Zmud, 1999). In fact, Weill and Woodham (2002) conducted a study in the USA and Europe concerning the use of IT in large multiple business units firms and found that IT governance structures were different among low performance and top performance firms. They suggested that top-performing firms governed IT differently - governance structures linked to the performance measurement of areas in which they excelled (e.g., growth). They also pointed out that the design of effective IT governance structures is associated with a better understanding of the competing political forces in a large organization and with the creation of harmony among business objectives, governance archetype, and business performance goals.

In order to understand governance and its influences on IS success, it is necessary to move beyond just looking at organizational structure of decision-making authority to look at the roles that business units and IT have in making decisions regarding IT projects. This requires broadening the view of governance to look at the roles that decision makers from both the business side and the IT side play in project decisions. This can be done by considering authority, responsibility, and participation (Ortiz 2003). The distribution and characteristics of knowledge, specifically technical knowledge and knowledge of the business processes being supported should have a direct impact on these roles. This is especially true considering that it has been widely stated that knowledge of both business processes and technology are needed to effectively integrate IT into strategic plans and business operations and support the underlying business processes (Rockart 1988; Sambamurthy and Zmud 1994; Silver, Markus and Beath 1995).

Although progress has been made since the mid 1980s to identify components of the IT governance processes, a model that identifies these constructs and their relationships with Information system performance is scarce. Therefore, this research 1) examines the literature concerning IT performance, and IT governance, 2) develops survey instruments to measure IT governance performance, IT governance structures, IT governance process, IT governance communication, IT value alignment and finally analyze this model in an attempt to define the relationship among these constructs. Finally, a framework of IT governance is developed within Malaysian context.

The primary purpose of this research is to investigate IT governance and its contribution on Information system success. The research focuses particular attention in determining IT governance and the results that these organizational have on project successes. This research, therefore, addresses the following research questions:

1. What factors influence the IT governance performance?
2. How does the relationship between IT governance impact IS success?
3. IT governance structure is significantly related to IS success
4. IT governance process is significantly related to IS success.
5. IT governance communication is significantly related to IS success.
6. IT value and alignment is significantly related to IS success.
7. There is significant relationship between IT governance and the Information system success.

2.0 LITERATURE REVIEW
2.1 IT Governance

Similar to corporate governance, IT governance is a topic that has recently been rediscovered. In line with the understanding of corporate governance and previous studies (Luftman and Brier, 1999; Sambamurthy and Zmud, 2000; Weill, 2004), IT governance is defined as: the distribution of IT decision-making rights and responsibilities among enterprise stakeholders, and the procedures and mechanisms for making and monitoring strategic decisions regarding IT. An important question relating to IT governance then is: Who is most capable of making specific -IT decisions? This question highlights two important points about IT decision-making: 1) successful IT requires an understanding of both the business processes that are being supported and the underlying technologies and 2) the context in which the decisions are made plays an important role. Although IT governance is an integral part of an organisation's enterprise or corporate governance, taking the compliance approach is incorrect, according to Pti Pramotedham (2006): "IT governance has often been interpreted as some sort of policing of IT, and hence, it must be a subject of compliance.” In another definition by IT Governance Institute, (ITIG, 2003) IT governance “is
an integral part of enterprise governance and consists of the leadership and organizational structures and processes that ensure that the organization’s IT sustains and extends the organization’s strategies and objectives.” It further describes the overall objective of IT governance thusly: “…to understand the issues of and strategic importance of IT, so that the enterprise can sustain its operations and implement the strategies required to extend its activities into the future” (p.7). Rau (2004) defines IT governance as the way senior management interacts and communicates with IT leaders to ensure that technology investments enable the achievement of business strategy in an effective and efficient manner (p. 35). According to (Weill and Ross, 2004) “IT governance is the decision rights and accountability framework for encouraging desirable behaviors in the use of IT”. IT governance reflects broader corporate governance principles while focusing on the management and use of IT to achieve corporate performance goals. Because IT outcomes are often hard to measure, organizations must assign responsibility for desired outcomes and assess how well they achieve them. Weil and Ross further stressed that IT governance shouldn’t be considered in isolation because IT is linked to other key enterprise assets (i.e. financial, human, intellectual property, physical and relationships). Thus, IT governance might share mechanisms (such as executive committees and budget processes) with other asset governance processes, thereby coordinating enterprise wide decision making processes. IT governance is thus the enterprise management system through which an organization’s portfolio of IT systems is directed and controlled.

Ultimately, IT governance concerns can be framed by two larger overarching goals: 1) the ability of IT to deliver value to the business, which is driven by the strategic alignment of IT with business, and 2) the mitigation of IT risks, which is driven by embedding accountability into the enterprise (ITGI, 2003, p. 19). Within these two larger goals, five domains (focus areas) of IT governance are identified, three of which are drivers and two are outcomes (ITGI, 2003, p. 19). Drivers include IT Strategic Alignment, IT Resource Management, and IT Performance Management. Outcomes include IT Risk Management and IT Value Delivery (ITGI, 2003).

2.2 Informations Systems Success Model

One of the most cited research and model on the information system measurement is the Information System Success Model presented by Delone and Mclean. (Delone and Mclean, 1992). The Information Success Model, which was based on an analysis of 180 papers relevant to the information system success model, introduced six major dependent variables of information system success: System Quality, Information Quality, Information System Use, User Satisfaction, Individual Impact and Organization Impact. Although information system measurement is to measure the extent to which the information system helps realize the objectives of the organization, researchers are keen on measuring this impact directly because it is difficult to separate the impact and contributions of the information system from many other factors. Thus, the dependent variables introduced in the model are preferred in measuring information system success (Figure 2). This model was later tested and enhanced by Seddon and Kiew [1997]. Seddon and Kiew (1997) extended Delone and Mclean’s model by replacing IS use into benefits of use, which is quite relevant in the current context. Seddon and Kiew (1997) used perceived usefulness to represent benefits of IS use. They claimed that systems failed not because they were not used but because they provided no benefits.

![Figure 2 DeLone and McLean Information Systems Success Model](image)

3.0 RESEARCH MODEL AND HYPOTHESES

Figure 3 illustrates the research framework of this study. The framework includes the three antecedent factors, the IT value and alignment, IT governance structure, IT governance performance and IT governance communication as the independent variables; while IT governance performance and Information system performance identified as the dependent variables. The research framework of the study that incorporates the variables of the study and their relationship is illustrated in Figure 3.
3.5 Hypotheses Formulation

Based on the relationship illustrated in the research framework (see Figure 3), research hypotheses were formulated as follows:

Hypothesis 1: IT governance structure is significantly related to Information systems performance.

Hypothesis 2: IT governance process is significantly related to Information systems performance.

Hypothesis 3: IT governance communication is significantly related to Information systems performance.

Hypothesis 4: IT value and alignment is significantly related to Information systems performance.

Hypothesis 5: There is significant relationship between IT governance and the Information system performance.

4.0 Research Design and Method

4.1 Research Design

This research utilizes a quantitative approach using a field survey as the data collection. This method provides quantitative or numeric descriptions of the sample or the fractions of the population through a data collection process (Fowler, 1993). It involves obtaining information directly from participants by means of a questionnaire or interview. Normally, surveys are conducted for several purposes. Among the two most common purposes are, 1), to enhance the body of theoretical and conceptual knowledge of the discipline concerned based on the empirical data obtained (Alreck & Settle, 1985); and 2), the survey research design is able to generalize to a population based on the samples of the study, and where inferences can be made on the behaviour and characteristics of the population (Cresswell, 1994; Babbie, 2004).

The goal of this research is to examine the roles played by both business and IT units in the governance of IS projects, the impact of IT governance, and the IS project performance. The main purpose of this study is theory testing. The ability to test the hypotheses and achieve the stated objectives requires selecting a research design that allows inclusion of both the business unit and IT perspectives. It is also important to choose a design that allows the results to be generalized across organizations. For these reasons a field survey was considered the most appropriate approach.

In developing the IT Governance construct, we will utilize the instruments developed by Henry (1994) and Weill and Ross (2004). Both will be used to assess Information system governance structure (Henry 1994) and Governance performance (Weill and Ross, 2004). Henry’s (1994) construct is composed of three dimensions: participation, responsibility and authority. The items are measured using a 7-point Likert scale (1-none, 7-to a great extent).

4.2 Data Collection

Senior IS executives from a variety of industries will be the target of this survey. These executives will be asked to identify strategic or business application development projects and the lead IT and business unit executives or managers associated with those projects. Strategic or business application development projects is considered an important criterion. This excluded projects that were only technical upgrades or dealt only with infrastructure, where knowledge of the underlying business processes was not considered essential. Projects included in the research will have to meet three criteria. First, projects must have been completed within the last twenty four months or have been ongoing for at least 6 months with at least one major completed deliverable. Recent projects will be considered so that respondents could reliably respond to the constructs. The completion of at least one deliverable will be required to ensure that significant activities had occurred on the project. Second, projects must have been internally developed or joint developed or projects that require significant internal customization. Third, it is necessary to have access to the lead executive or manager from both the IT and primary business unit. This was required since some constructs were measured from the business unit perspective and others from the IT perspective. The primary business unit is defined as the business unit most effected by the system being developed. Once the appropriate respondents were identified, survey questionnaires will be sent.

5.0 Summary

This paper described the literature review, the methodology, the research design and the measures used for the constructs in the research framework. Items used to measure the constructs in the research framework were drawn from prior research. Whenever possible, items from previous instruments will be adapted for this research. The survey instruments will
be pre-tested by industry personnel, academician for readability and pilot tested through interviews with both IT and business unit executives in three organizations. The surveys will be sent to business unit and IT executives identified as key individuals on specific projects. Validation of the instruments to test the hypotheses will be made available from data collection activities upon response from participants.

### 6.0 REFERENCES


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