STRATEGIC INFORMATION SYSTEMS PLANNING PRACTICES AND PERFORMANCE OF GOVERNMENT AGENCIES

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ABSTRACT

Despite the relevance and applicability of strategic information systems planning (SISP) to private and public organizations, the literature review indicates very few studies have attempted to investigate the relationships between SISP practices and performance of organizations in the public sector. In an attempt to address this issue, this study examined the relationships between SISP practices and performance of government agencies. The data for the study was data gathered from 54 government agencies in Malaysia that adopted the SISP. Based on the analysis of the data collected from the government agencies, the results of the study indicated significant positive relationships between SISP practices and performance of the agencies.

Keywords: strategic information, planning, government, public sector

INTRODUCTION

Strategic information systems planning (SISP) has gained much recognition and acceptance as good management practice as well as process for improving organizational performance in both private and public organizations. Since its introduction, SISP has received much attention among practitioners, consultants and scholars. The focus and emphasis on SISP resulted from the strong notion that as a practice and process, it can help organizations to improve not only their performance but also their competitiveness.

Although SISP has received much attention in recent years, minimal research emphasis has been given to investigate its relationship to organizational performance. The literature reveals limited empirical studies have attempted to investigate the relationship between SISP and organizational performance, especially among government agencies in the Malaysian context. In particular, the review of the literature indicates the scope and focus of past studies are not only limited but also that they tend to mainly concentrate on the adoption of SISP in business organizations.

More specifically, the review of previous studies appear to suggest that past research primarily addressed issues such as SISP practices, SISP process, SISP success, SISP methodologies, success factors in SISP, strategic alignment in SISP, SISP approaches and SISP implementation (Khani, Md Nor, Samani, and Hakimpoor, 2012; Gufroni, 2011; Khani, Md Noor, Bahrami, 2011; Issa-Salwe, Sharif and Ahmed, 2011; Al-Aboud, 2011; Pollack, 2010; Md Basir and Norzaidi, 2009; Abu Bakar, Suhaimi and Hussain, 2009; Pita, Cheong and Corbitt, 2008; Teubneur, 2007).

Despite the increased number of studies on SISP in recent years, research on the adoption of SISP in government agencies remained limited and neglected, particularly in the local context. In spite of the relevance and importance of SISP to government agencies, the literature review indicates that very few studies have attempted to investigate the adoption of SISP in these agencies. This in turn has resulted in little information and knowledge about the adoption of SISP among the government agencies.

Empirical research that examines SISP in government agencies would not only provide insights into the adoption of SISP among government agencies, but would also be useful to government agencies striving to improve their organizational performance. In view of the importance of SISP to government agencies and the various shortcomings identified in previous research, more focused studies are needed in this area. One interesting and important area of research would be to investigate the SISP practices adopted by government agencies in Malaysia. More specifically, the objective of this study is to investigate the relationships between SISP practices and performance of government agencies.

LITERATURE REVIEW

The literature indicates that there is no one universally accepted definition of strategic information systems planning (SISP). The review of literature reveals that different practitioners, consultants and scholars used different definitions to describe SISP. In general, however, many of the definitions presented in the literature tend to describe SISP as a management practice and process that helps organizations to identify as well as select suitable computer-based applications for the purpose of developing their strategic plan and for improving their organizational performance.

The study by Issa-Salwa, Sharif and Ahmed (2011) defined SISP as the process of identifying a portfolio of computer-based applications that can be put into practice and in which it can positively align with corporate strategy. In addition, the study indicated that the SISP process consists of three important activities. These three activities include; deciding the correct portfolio of information systems, determining the objectives for the organizational computing and identifying the potential computer applications for implementation.

In another study, Gufroni (2011) suggested that organizations used the SISP process to help them develop their information systems that can aligned with their organizational objectives, policies and strategic planning. However, in preparing for the SISP process, the author emphasized that organizations need to conduct internal and external business environment analysis.

By using the resource-based approach, the study Khani, Md Nor and Bahrami (2011) suggested the need for organizations to emphasized on information systems capabilities (IS capabilities) when developing their SISP. According to the study, IS capabilities such as financial, human resources, technical and business dimensions (which includes alignment, analysis, cooperation, improvement in capabilities and contribution) of information systems can influence SISP success.

Apart from IS capabilities, prior studies have also found other factors and requirements critical to the success of the SISP process. For instance, the study by Issa-Salwa et al. (2011) identified several factors and requirements associated with SISP success. Among these include; the alignment between corporate objectives and IS strategy, the underlying motivation for the initialization of the planning process, the maturity level of the organization, the methodology used in establishing the IT investment priorities, the measurement of effectiveness adopted for the IS department, and finally, the preparation of an implementation plan.

Past studies have also indicated that it is not appropriate for organizations to adopt a standard SISP process based on only a certain approach and methodology. Findings from the studies by Al-Aboud (2011), Pollack (2010) and Pita, Cheong and Corbitt (2008) have suggested that there is no one best way of adopting SISP in organizations. According to these studies, since organizations differ from each other in terms of their resources, capabilities and requirements, each organization should attempt to identify the approach and methodology that best suit its requirements and purpose of adopting SISP. Furthermore, given the rapid development of new technologies in information systems (IS) and information technology (IT), it would be difficult to develop a standard SISP process that can be used by all types of organizations.

Over the years, several studies have attempted to investigate the relationship between SISP and organizational performance. These studies have provided evidence that indicated positive relationship between the adoption of SISP and organizational performance (Rockart, Earl and Ross, 1996; Ross, Beath and Goodhue, 1996; and Santhanam and Hartono, 2003). The study by Gold, Malhotra and Segars, (2001) indicated that adequate IT infrastructure in the SISP can help to improve the performance of an organization. In another study, Bharadwaj (2000) found a direct positive relationship between the IT capabilities and organizational performance. Furthermore, the findings of the study by Kontoghiorghes and Hansen (2004) showed that the assimilation of IT in the SISP have resulted in improved organizational performance in areas such as productivity and competitiveness.

METHODOLOGY

The target population of this study involved government agencies that have adopted the strategic information systems planning (SISP). This study used the listing of the government agencies obtained from the Malaysian Administrative, Modernization and Management Planning Unit (MAMPU) as its sampling frame. The Malaysian Administrative, Modernization and Management Planning Unit, an agency under the Prime Minister Department, has been given the responsibility by the Malaysian Government to coordinate the development and implementation of SISP in all government agencies. However, the listing from MAMPU indicated that only 138 government agencies have adopted the SISP. Given the small number of government agencies, this study selected all the 138 agencies as its sample. The data for the study was collected by using a structured questionnaire. Questionnaires were sent to the 138 government agencies. However, of the 138 agencies, only 54 agencies completed and returned the questionnaires. The questionnaires were answered by the Director, Department Head and Information Technology Officer of each of the government agency.

The questionnaire used in this study comprised three sections. In the first section, 12 items were use to gather the general information concerning the background of the respondents and the characteristics of their agencies. The 11 items in section two were utilized to capture and measure the SISP practices adopted in the government agencies. The measurements of SISP practices were developed based on the literature review that identified the practices used in the implementation of SISP. The respondents were asked to rate each item on a five-point scale ranging from (1) almost never to (5) almost always.

In the third section, 22 items were used to measure the performance of the government agencies. The performance is measured in terms of; time saved, improved access to information, increased level of operations, improved delivery of services, improved forecasting, reduced expenditure, improved communication, availability of information, facilitated direct communication, increased cooperation, improved information exchange, facilitated execution of ICT projects, improved the work systems, improved procedures, improved counter services, less paperwork, improved ICT culture, assisted in training programs, reduced bureaucracy, strengthened human resources and strengthened organizational capacity. A five point scale ranging from (1) “poor” to (5) “excellent” was used to rate the performance measures. The questionnaire was tested for reliability prior to mailing to the respondents. The coefficient alpha score was 0.87 for the SISP practices measures and 0.93 for the performance measures.

THE RESULTS

SISP Practices

Table 1 presents the means and standard deviation scores of the eleven items that were used to measure the SISP practices adopted in this study. The 11 dimension of SISP practices serve as the basis for querying the SISP practices adopted by the 54 government agencies that participated in this study. As indicated in Table 1, the mean scores for the eleven items ranged from 3.05 to 3.95. The high mean values suggest that most of the government agencies in the study adopted the SISP practices as advocated in the literature.

Table 1 Mean and Standard Deviation (SD) Scores of SISP Practices

SISP Practices	Mean	SD
Implementation of SISP involves all departments in the organization	3.73	1.134
Department that defines information technology projects in the SISP has been given responsibility for implementation	3.71	1.110
Provides the necessary infrastructure for the implementation of SISP	3.58	1.101
Provides the necessary info-structure for the implementation of SISP	3.60	1.069
Monitors the implementation of projects in the SISP	3.70	1.072
Provides continuous training to staff in preparation for the execution of SISP	3.05	1.091
Practices the concept of knowledge sharing among staff	3.38	1.038
Adopts transparency in performing acquisition planned in the SISP	3.95	1.069
Makes amendments to the SISP according to the technological advances	3.29	1.038
Financial allocation given priority in executing SISP projects.	3.14	1.194
Changes in SISP involved top-down approach	3.16	1.082

Organizational Performance

The means and standard deviations scores of the six items that were used to measure the performance of the government agencies involved in this study are summarized in Table 2. As shown in Table 2, the mean scores for the six measures of performance ranged from 3.52 to 3.89. At the general level, these mean scores suggest that most of the government agencies in the study agreed that their agencies have achieved more than satisfactory level of performance after the adoption of SISP in their organizations.

Table 2 Mean and Standard Deviation (SD) Scores of Performance

Performance Measures	Mean	SD
Saved time	3.86	.910
Improved access to information	3.89	.873
Increased the level of operations	3.78	.822
Improved delivery of services	3.86	.886
Improved forecasting	3.55	.875
Reduced expenditure	3.52	.938

Table 3 Relationships between SISP Practices, Time Saved, Access to Information and Level of Operation

SISP Practices	Save Time	Improved Access to Information	Increase Level of Operation
Implementation of SISP involves all departments	.396**	.444**	.460**
Department that defines IT projects is responsible for execution	.546**	.560**	.571**
Provides the infrastructure for the implementation of SISP	.426**	.446**	.480**
Provides the info-structure for the implementation of SISP	.420**	.431**	.466**
Monitors the implementation of projects in the SISP	.594**	.601**	.577**
Provides continuous training in the execution of SISP	.396**	.344**	.363**
Practices knowledge sharing among staff	.449**	.502**	.544**
Adopts transparency in performing acquisition in the SISP	.507**	.496**	.532**
Upgrade SISP according to technological advances	.494**	.454**	.491**
Financial allocation given priority IT projects in the SISP	.440**	.402**	.451**
Changes in SISP involved top-down approach	.436**	.477**	.472**

Relationships between SISP Practices and Performance

The following Tables 3 and 4 present the results of the correlation analyses between the 11 dimensions of SISP practices and the performance of the 54 government agencies that were involved in this study. The results in Table 3 show positive relationships between

the 11 practices and performance as measured in terms of time saved, improved accessed to information and increased level of operation.

The results in Table 4 also indicate positive relationships between the 11 SISP practices and the performance of the 54 government agencies as measured in terms of improved delivery, improved forecasting and reduced expenditure.

Table 4 Relationships between SISP Practices, Delivery, Forecasting and Expenditure

SISP Practices	Improve Delivery	Improved Forecasting	Reduced Expenditure
Implementation of SISP involves all departments	.388**	.270**	.274**
Department that defines IT projects is responsible for execution	.599**	.490**	.440**
Provides the infrastructure for the implementation of SISP	.442**	.341**	.234**
Provides the info-structure for the implementation of SISP	.445**	.328**	.277**
Monitors the implementation of projects in the SISP	.573**	.447**	.327**
Provides continuous training in the execution of SISP	.382**	.209**	.235**
Practices knowledge sharing among staff	.569**	.324**	.365**
Adopts transparency in performing acquisition in the SISP	.503**	.373**	.371**
Upgrade SISP according to technological advances	.449**	.463**	.449**
Financial allocation given priority IT projects in the SISP	.423**	.445**	.390**
Changes in SISP involved top-down approach	.441**	.416**	.365**

DISCUSSION AND CONCLUSION

This study focused on SISP practices and performance of government agencies in the public sector in Malaysia. The empirical information resulted from this study suggests that Malaysian government agencies adopt SISP practices. More significantly, the results of the correlation analyses of the data collected from the 54 government agencies that participated in this study indicate statistically positive relationships between the SISP practices and the performance of these agencies. These results add support to previous studies that suggest relationships exist between SISP practices and organizational performance. Findings of the earlier studies by Rockart et al. (1996), Ross et al. (1996),

Bharadwaj (2000), Gold et al. (2001), Santhanam and Hartono (2003), and Kontoghiorghes and Hansen (2004) have shown positive relationship between the adoption of SISP and organizational performance.

The following findings can be concluded from the results of this study. First, the findings of this study provide some empirical insights that suggest government agencies in Malaysia to a certain extent adopt SISP practices. The findings of the study indicate that the government agencies that participated in the study have the capabilities to adopt rational SISP practices as documented and promoted in the SISP literature. Second, the empirical results of this study provide the evidence that suggest SISP practices adopted by the government agencies are significantly positively associated to their organizational performance. Third, at the general, the findings of the study show that the 54 agencies focused on SISP practices that have resulted in the improvement of their organizational performance.

Finally, these findings offer the following managerial implications to government agencies in Malaysia. The findings of this study indicate positive relationships exist between the adoption of SISP practices and organizational performance. More importantly, the positive relationships between SISP practices and organizational performance suggest that in order for the government agencies to improve their performance, these agencies need to not only adopt SISP but also be able to identify and use the right SISP practices. In addition, the linkage between SISP practices and organizational performance imply not only the importance of SISP to government agencies but also the need for the agencies to emphasize on the SISP practices that can help improve their performance, particularly in terms of their efficiency and productivity. Moreover, the government service providers such as the Malaysian Administrative, Modernization and Management Planning Unit (MAMPU) could use this information to formulate and implement more appropriate, focused and effective assistance programmes, particularly those relating to the various training programs in planning and implementing SISP among government agencies. Finally, since the study primarily examined the relationships between SISP practices and organizational performance, future research could attempt to move toward investigating the specific SISP best practices, organizational as well as environmental factors that can influence SISP adoption among agencies in the public sector.

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