

# EDUCATION INFORMATION SYSTEMS PLANNING PRACTICES AND PERFORMANCE OF GOVERNMENT AGENCIES IN MALAYSIA

Hisyam Harun  
Mohd Khairuddin Hashim  
College of Business  
Universiti Utara Malaysia  
Abdul Rahmat  
Gorontalo State University  
[abdulrahmat@ung.ac.id](mailto:abdulrahmat@ung.ac.id)

## Abstract

The relevance and applicability of Strategic information systems planning (SISP) to both private and public organizations have been emphasized in the literature. However, the literature review indicates that not many studies have attempted to examine 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.

## INTRODUCTION

Strategic information systems planning (SISP) has gained much recognition and acceptance as an important 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).

There is, therefore, a need for more empirical research that examines SISP in government agencies. Empirical studies in this area would not only provide insight into the adoption of SISP among government agencies, but would also be useful to government agencies striving to improve their performance. The purpose of this study is to examine 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.

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**

In Malaysia, the Malaysian Administrative, Modernization and Management Planning Unit (MAMPU) is responsible for coordinating the development of SISP in all government agencies. Given this, this. The listing consisted of 138 government agencies that have adopted the SISP. The data 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 government agency.

The questionnaire adopted in this study consisted of three sections. The first section consists of items that were used to obtain general information concerning the background of the respondents and the characteristics of their agencies. The 11 items in section two were designed to capture the SISP practices adopted by the government agencies. The respondents were asked to rate each item on a five-point scale ranging from (1) almost never to (5) almost always. The remaining 6 items in section three were used to measure the performance of the government agencies in the study. The performance was measured in terms of saving time, access to information, level of operations, delivery of services, forecasting and expenditure.

## **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

<b>SISP Practices</b>	<b>Mean</b>	<b>SD</b>
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 information system projects that has been planned in the SISP	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

<b>Performance Measures</b>	<b>Mean</b>	<b>SD</b>
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

### Relationships between SISP Practices and Performance

The following Tables 3 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.

### CONCLUSIONS

This study attempted to examine the relationships between SISP practices and performance of government agencies in the public sector in Malaysia. 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, Earl and Ross, (1996) Ross, Beath and Goodhue (1996), Bharadwaj (2000), Gold, Malhotra and Segars, (2001), Santhanam and Hartono (2003), and Kontoghiorghes and Hansen (2004) have shown positive relationship between the adoption of SISP and organizational performance.

Based on the results of this study, several findings can be concluded. First, the empirical results of this study provide the evidence that suggest SISP practices are positively associated to organizational performance. Second, in terms of the adoption of the SISP practices, the results of this study appear to indicate that the 54 government agencies followed the practices as discussed and emphasized in the literature. 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 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.

## REFERENCES

- Abu Bakar., Suhaimi., & Hussain. (2009). Conceptualization of Strategic Information Systems Planning (SISP) Success Model in Public Sector: An Absorptive Capacity Approach: *European and Mediterranean Conference on Information Systems 2009 (EMCIS2009)*, July 13-14 2009, Crowne Plaza Hotel, Izmir.
- Al-Aboud, F.N. (2011). Strategic information systems planning: A brief review. *International of Computer Science and Network Security*, 11 (5), 179-183.
- Bharadwaj, A. S. 2000. A resource-based perspective on information technology capability and firm performance: An empirical investigation, *MIS Quarterly*, 24(1), 169-196.
- Bechor, T., Neumann, S., Zuiran, M. & Glezer, M. (2010). A contingency model for estimating success of strategic information systems planning. *Information Management*, 47, 17-29.
- Gold, H. A., Malhotra, A., & Segars, H. A. (2001). Knowledge management: An Organizational Capabilities Perspective. *Journal of Management Information Systems*. 18(1), 185-214.
- Gufroni, A. I. (2011). Information systems strategic planning at the Siliwangi University Tasikmalaya. *International Journal of Advanced Engineering Sciences and Technologies*, 6 (1), 053-059.
- Ishak, I.S. & Alias, R.A (2005). Designing a strategic information systems planning methodology for Malaysian institutes of higher learning. *Issues in Information Systems*, 1, 325-331.
- Issa-Salwe, A.M.; Sharif, L. & Ahmed, M. (2011). Strategic information systems planning as the centre of information systems strategies. *International Journal of Research and Review in Computer Science*, 2 (1), 156-162.
- Khani, N.; Md Nor, K.; Samani, M.B. & Hakimpour, H. (2012). The status of strategic information systems planning in Iran: An organization perspective. *Research Journal of Information Technology*, 4 (2), 47-20.
- Khani, N.; Md Nor, K.; & Bahrami, M. (2011). Is/it capability and strategic information system planning (sisp) success. *International Management Review*, 7 (2), 75-83.
- Kontoghiorghes, C., & Hansen, C. (2004). Identification of key predictors of rapid change adaptation in a service organization - An exploratory study that also examines the link between rapid change adaptation and organizational capability. *The Organization Development Journal*, 22(1), 21-39.
- Md Basir, H. and Norzaidi, M.D. (2009). *International Journal of Scientific Research in Education*, 2(2), 76-97.
- Pollack, T.A. (2010). Strategic information systems planning. Proceedings of the 2010 ASCUE.
- Rockart, J. F., Earl, M. J., & Ross, J. (1996). Eight Imperatives for the New IY Organization. *Sloan Management Review*, 43-55
- Ross, J. W., Beath, C. M., & Goodhue, D. L., (1996). Develop Long-Term Competitiveness Through IT Assets. *Sloan Management Review*, 38(1), 31-42.
- Santhanam, R., & Hartono, E. (2003). Issues in Linking Information Technology Capability to Firm Performance. *MIS Quarterly*, 27(1) 2003, 125-153.
- Teubner, R.A. (2007). Strategic information systems planning: A case study from the financial services industry. *Journal of Strategic Information Systems*, 16, 105-125.