A FRAMEWORK FOR EVALUATION OF STRATEGIC INFORMATION SYSTEM PLANNING (SISP) TECHNIQUES

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Abstract
This research critically reviews the literature relating to the SISP in global organizations. It considers IS strategic benefits, requirements, and drivers as the evaluation criteria for the SISP process and its techniques. Classification of the IS strategic benefits will be developed from academic literature and published case studies as well as IS strategic requirements and drivers. With this in mind, the planning team must identify how it can group the requirements and drivers of an organization. One way of doing so may be achieved by understanding the benefits that can be obtained by IS for the organization, thereby leading to a categorization of requirements against benefits in order to understand which requirements are needed to obtain specific benefits. The results of this research are taxonomies of SISP benefits, requirements, drivers, and techniques for global organization. This classification can benefit the evaluation of IS strategic planning processes to support decision-makers through the planning process.

Introduction
Organizations look to obtain the maximum benefit from their resources and reduce risk as much as possible, so they try to use all of their resources efficiency, effectively, and competitively. In doing so, there appears to be a need to link all the resources in a way that allows them to be controlled, creative, flexible, and learning. Thus, there is a need to identify the important processes throughout the organization. They are not only important but they also share activities over more than one business unit. At the same time, these processes are not just routine but also sometimes
creative, so there is a need to consider these processes in the planning stage by analysing them and considering the role of IS\IT in supporting the integration of these processes (Robson, 1997; Tallon, 2007). In doing so, the importance of strategic planning techniques in IS\IT is accruing. These techniques may help to build the business model of the organization (Robson, 1997). This business model supports managers by simulating a situation or problem solution in many ways such experimentation at a cost that is lower than in real life, simulating time in seconds whereas real life may require years, or changing the variables of the model in experimentation more easily than in the real life. In addition, models may deal with uncertainty by using “what-if” roles or risk calculations (Turban et al., 2005).

There are many headings that can be used to categorise techniques that may be used to support strategic planning, as suggested by Robson (1997). These are techniques following the model of a planning or decision-making process, their nature of attention such as opportunities, their identifying origin, their perspective, or a current business problem. Another suggestion to group these techniques is to meet the goal of efficiency, effectiveness, competitiveness, business alignment, or business impact. They can also be grouped according to awareness, opportunity, or positioning framework, as Earl (1996) did. Generally, all these techniques are grouped according to how they are used because they have intermingling purposes that are applied in many ways, care so there should be taken in choosing them for applications. However, these applications could be different with regard to the strategic focus, such as competitiveness, alignment, or analysis, and perhaps a combination as this research considers.
Many researchers (Grant and King, 1982; Hax and Majluf, 1984; Haber and Schendel, 1978) have indicated that maximizing competitive advantage should be the focus of business strategy (Henderson and Venkatraman, 1999; Ambrosini and Bowman, 2003), and every activity should have a target period of time, mostly short-term periods. Activities may vary according to the factors affecting future business (Haberberg and Rieple, 2001). King in 1978 mentioned that IS/IT strategy is a functional strategy (Henderson and Venkatraman, 1999). Thus, the IS strategy can be a critical resource for competition and sustaining competitive advantage.

Competitive advantage can be obtained by IS through some key factors (Willcocks et al., 1997). The availability of technique applications to use IS strategically is an example of these factors. Another example is the knowledge of to what extent the business environment has been affected by the information revolution—understanding the IS strategic planning process as a way of generating, concreting, implementing, and planning. If the IS strategic planning is treated as a system that has input, process, and output, then the techniques are important as inputs and outputs in order to identify new planning approaches by the process applications (Robson, 1997; Willcocks et al., 1997, Magdaleno et al., 2008). This may be useful in an unstable environment requiring effective and efficient action to face any changes in the environment. With this in mind, this research considers the adaptability of applying strategic techniques in IS strategic planning to develop a framework for evaluating these techniques. This framework may be used as a tool to support the planning team through the IS planning process.
2.0 Strategic Planning Techniques

The details of planning are very important in building strategy. When organizations wish to create IS strategic planning, they should have frameworks for this type of planning. These frameworks contain the techniques of planning in flexible and adaptable ways to reach goals. The information systems strategy (ISS) is an outcome of IS process planning, and these frameworks organize the important analyses that should be done to produce the ISS. At the same time, they avoid deep details of data and specific systems because such details require tools that can combine the techniques of the ISS planning process. From this point of view, there are many planning approaches or methodologies. The methodology contains many tasks that required techniques to be completed in order to generate the deliverables. In order to create an effective methodology that can support the management in planning, reviewing, and controlling an IS strategic planning project, there should be a standard set of techniques and supportive tools to facilitate these projects (Robson, 1997, Ariyachandra et al., 2008).

There has been a focus on SISP approaches, the use of Mintsberg’s models, and stage of growth analysis related to Nolan, along with organization theory, in order to obtain an organizational fit for IS (Burn, 1991). There are many techniques that can be used in strategic planning processes. From these, it can be seen that the business requires frameworks. These frameworks require understanding different methods, techniques, and tools. There is a difference in the Systems Development Life Cycle (SDLC) methods according to their processes, advantages, and disadvantages. In addition, there is a difference in IS planning tools depending on the basis of their dimensions, advantages, and disadvantages. Moreover, there is a classification of techniques
depending on their focus, benefits, advantages, and disadvantages as presented in the research. These techniques are the research focus as critical contributors in the IS strategic planning process.

3.0 Case Study Protocol

The case study protocol aims to increase the case research reliability and to control data collection from a single case study by the investigator, even if the case is part from multiple-cases. This protocol consists of: an overview of the case study project, field procedures, case study questions, and guidance for the case study report (Yin, 2003).

3.1 Overview of the Case Study Project

The purpose of this research is to contribute to the strategic planning process of IS by comprehensively understanding the SISP process with attention to its holders (benefits, requirements, drivers, techniques, SDLC methods, tools, and IS strategy). Consequently, it supports other researchers by adding more entities (holders) or attributes of these entities of the conceptual model or by exchanging their experience with proposed cases. From these points of view, the research subjects are considered in order to collect the required data to understand the implementation and evaluation of the SISP process through the data collection resources. These matters are:

- To classify the SISP techniques in the literature and the adopted ones in the organizations described in the case studies.
- To classify the benefits, requirements, and drivers that are considered in the SISP process.
3.2 Field Procedures of the Research

With the case study strategy, the real-life adoption results are important to compare with the research data. Hence, the action plan for data collection is crucial in case of change in the data collection environment. Such changes could affect the case quality. Interviewee behaviour and availability of documents from historical archives are examples of such changes. Therefore, this procedure is explicit in the action plan of multi-case studies (airline industry and bank industry). This action plan consists of:

- Identifying the interviewees. This research focuses on SISP, a high level of management, so the interviewees are executives, planners, and project managers. Therefore, IS/IT managers, IS planners, global project managers, integration project managers, operational managers, and marketing managers were interviewed as major stakeholders in the SISP process.

- Identifying data collection methods. As mentioned earlier, the interview is the primary data collection method. Nevertheless, archived documents, reports, and organization Web site are examples of other methods that have been used. The researcher was aware of any change in the data collection environment such as a change in the interview time or the cancellation of a meeting. The researcher prepared a timetable for data collection to organize the data collection process. This timetable contains dates, time, interview length, and location.

- Ethical issues. The researcher is aware of the agreement with the interviewees as they return to the organization itself to publish the information or not. At the same time, suitable and complete information obtained by the researcher to complete the research.
Different methods of data collection and similar questions asked of different interviewees increase the triangulation of data and avoiding bias in collecting data (Yin, 2003).

3.3 Questions of the Case Study

Four levels of questions were developed in order to keep focused on the data collection and explain the reasons for these questions. These questions work as prompts to the interviewer to be in the right data collection bath so that they do not relate to the interviewees. They also support the interviewer in preparing for the interviews. Figure 1 summarises these questions.

<table>
<thead>
<tr>
<th>Question level</th>
<th>Question</th>
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<tbody>
<tr>
<td>1</td>
<td>What are the factors applied by the case organizations that affect the decision-making process for evaluating the adoption of the SISP process?</td>
</tr>
<tr>
<td>2</td>
<td>What are the factors associated with the SISP process?</td>
</tr>
<tr>
<td>3</td>
<td>What are the benefits, requirements, and drivers in SISP process adoption?</td>
</tr>
<tr>
<td>4</td>
<td>What are the evaluation criteria used by the case organizations through the evaluation of SISP techniques?</td>
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*Figure 1: Questions of the research*
3.4 Output Format of the Research

The analysis and output format of empirical data will be presented in this section. Because enormous amounts of data are collected through the data collection process for case studies, consideration of the data output format and analysis would be helpful. The researcher collected data in parallel with the research questions in order to avoid the confusion of organizing the huge amount of data collected. This has been completed by connecting the interview questions with the research questions. This strategy increased the value of the research yield. The case study structure is as follows:

1.0 Background of the organization
1.1 Background of the strategic information systems planning problem
1.2 Motivation for SISP process adoption
   • Global business
   • Strategic alignment
   • Customer orientation
1.3 SISP process adoption
   • IS infrastructure
   • Planning team
   • IS impact
1.4 Evaluating SISP techniques
   1.4.1 The proposed framework for evaluation of SISP techniques
      • Requirements
      • Benefits
      • Drivers
      • Requirements vs. strategic focus
• Drivers vs. strategic focus
• Techniques vs. strategic focus

The analysis process is still in progress. After finishing the analysis stage, the re-conceptual model of the research will be considered.
References


