STRATEGIC INFORMATION SYSTEMS PLANNING

In today's world of increasing globalization, and rapid technological change, organisations are becoming more proactive in devising strategies to re-design their business processes and continuously improve the quality of their products and services in order to survive (Lederer and Gardiner, 1992). As such, organisations seek to assess opportunities for IS, and to define steps to develop, and implement IS to execute successful business strategies.

SISP is therefore the means to accomplish these goals; as it is “the process of identifying a portfolio of computer-based applications that will assist an organisation in executing its business plans and realizing its business goals” (Lederer and Sethi, 1988). Furthermore, the primary objectives of SISP include aligning IS with the business, identifying strategic applications, forecasting IS resource requirements, allocating IS resources, developing an information architecture, and increasing the visibility of IS to gain competitive advantage (Lederer and Sethi, 1988).

2.1 Importance

In reference to the objectives, a successful SISP creates a close linkage of the IS strategy and business strategy for an organisation (Chan et al., 1997; Baets, 1992). This alignment facilitates the development of IS strategies that are congruent with the organisational competitive needs rather than existing patterns of usage within the organisation (Bowman et al., 1983). Organisations stand to benefit from improved managerial understanding of strategic IS opportunities and decision making (Spremic, M. & Strugar, I., 2002), and as such, use IS to devise innovative ways to build barriers against new entrants, change the basis of competition, generate new products, build in switching costs or change the balance of power in supplier relationships in their environment of competition (McFarlan, 1984).

In effect, SISP enables the focus of IS applications to move from efficiency towards achieving effectiveness and competitive advantage for organisations (Kannabiran and Vijayaraghavan, 2003).

On the other hand, Pvekumar and King (1991) further argue that, the changed role of IS and the IS function in recent years has further increased the importance of SISP in organisations. Apart from the use of IS for competitive advantage, mentioned above, the critical dependence of organisations on IS for their daily operations, the growth of inter-organisational systems and the integration of telecommunications within IS operations have increased the complexities in selecting, developing and using IS. In some organisations, the IS function has been transformed from a traditional role of a cost centre to a profit centre providing revenues to the company; Mellon Bank N.A. sells its expertise in IS to other smaller banks (ibid).

Other organisations are also getting increasingly involved in value-added partnerships through which inter-organisational systems are used to share information and join services, thus developing new marketing strategies that have a significant impact on their business; IVANS, a value-added network service for insurance companies provides price quotes and other services to insurance agents all over the United States (ibid).

All these recent opportunities makes the IS planning process becomes very complex since various factors in the internal and external business environment have an influence on them. Hence, the growth of concern and importance of SISP than it has previously been (ibid).
2.2 Best Practices

To perform an SISP, an organisation usually carries out a major, intensive study through a project team of business and IS managers and sometimes SISP consultants. The team then follows methodologies (IBM, 1975; Ernst & Young, 1991) to carry out the study, though which it defines new applications, estimates resource requirements, and develops a schedule for their development and implementation in a documented plan (Lederer & Sethi, 1996).

In a study to examine SISP experiences in 27 companies, Earl (1993) groups the most common concerns in SISP into three distinct categories: method, process and implementation. Relating this to the above, method concerns include the SISP techniques, or methodologies employed; organisations may adopt or customize methodologies in the SISP process. Process concerns centres on management participation, business and IS managers relationship, IS user awareness and education and the role of SISP consultants. Implementation concerns entails measures to ensure that plans are followed and implemented, avoid resistance, prioritise and schedule development (ibid). The study showed that these concerns tend to be necessary conditions for successful SISP.

As emphasised earlier, a successful SISP creates an alignment between the competitive needs and IS strategy of the organisation. Alignment in SISP objectives increases top management support for SISP and to implement SISP plans. Thus another necessary condition for SISP success is demonstrating business value in the plan; identifying IS strategies which enhance business functions for competitive advantage. Moreover, Newkirk et al. (2003) in another study further argue that SISP success is also based on the time spent on the SISP. During slow, meticulous planning, the business environment can change and top management can lose interest in the plan, whiles quick planning may result in insufficient understanding of the external competitive environment, the internal organisational environment, and emerging information technology (ibid).

Consequently, these five concerns; method, process, time, business value and implementation can be identified as necessary conditions for SISP success, shown in Figure 1.

Figure 1.0 Necessary Conditions for SISP Success  (Source: Modified from Earl (1993))
Achieving success in SISP then depends on adopting practices or guidelines within these conditions. Through descriptive surveys (Conrath et al., 1992), conceptual studies (Das et al., 1991) and cases studies (Goodhue, 1992), researchers and practitioners have recommended many practices for achieving success in SISP. Consequently, Lederer and Sethi (1998) further carried out a study on these SISP practices and identified seven major practices, Table 1.0, which can be categorised under the five conditions necessary for SISP success.

Table 1.0  
**Best Practices of SISP** (Lederer and Sethi, 1998)

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<th>Conditions</th>
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| **Process - Teamwork** | 1. Need to understand top management expectations, educate them, and create organisational support.  
2. Manage outside consultants carefully; should be used to supplement and not replace internal resources. |
| **Business Value** | 3. Examine internal and external environment, prioritise needed IS applications for business functions within allocated time and budget. |
| **Time - Alacrity** | 4. Keep the scope manageable and identify actions necessary to expedite adoption of the plan. |
| **Method** | 5. Does not guarantee success but offers a structured approach for carrying out the SISP process with maximum effectiveness (Min et al., 1999).  
6. Use of modelling can enhance communication and understanding of users (Curtis & Cobham, 2002). |
| **Implementation** | 7. Focus very intensely on actions that will facilitate the implementation of the plan; consider soft issues like resistance. |

This essay adopts these seven major practices as the best practices of SISP and forms the basis of all afterward discussions in SISP.
2.3 Applying The Best Practices
2.3.1 Case Description
2.3.2 Based on an SISP project in ABC Bank (ABC) by Li and Chen (2001) we would evaluate application of the SISP best practices.

ABC, a small commercial bank, opened its door in the south-western United States in the early 1990s with assets of $50 million. It was staffed by experienced professionals. The President had worked over 20 years at a bank that was the holding company of ABC. The Vice-President was equally experienced and worked as a cashier, personnel director, and marketing director in ABC. He was also responsible for the bank’s IS functions and overseeing one part-time programmer. As a newly established bank, its top management wished to attract and retain more customers through competitive pricing and friendly services. They were eager to use computers to increase operational efficiency and effectiveness and, in turn, improve customer services.

After five months of operation, the Executive invited consultants, Li and Chen, to develop an IS plan that would be consistent with the bank’s strategic direction. The two months study produced an organisational accepted plan from which identified IS applications was outsourced to an outside programming team to develop three months after. An analysis of the organisational context before the SISP is presented in Table 2.0, using SWOT Analysis (Robson, 1997).

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| Strength | 1. Clearly defined business functions and procedures.  
2. Overlap of roles of Vice-President. |
| Weakness | 1. All IS users had less exposure to IT, except part-time programmer. |
| Driving Factors | | |
2. Paper work increasing dramatically. |
| Threats | 1. Competitive interests rates from competitors. Being a small bank, they needed to be able to react quickly or go under. |

2.4 Discussion and Analysis
2.4.1 Business Value
Organisations face *business competency challenge* in identifying the IS opportunities which improve competitiveness (Gallieers, 1987). For ABC, the overlap of roles of the Vice-President gave him enough knowledge to align goals of the project with the bank’s strategic direction. Usually, IS managers have less understanding of the business functions and processes, hence are less prone to seek alignment (Ruohonen, 1991), and further, top management may have no IS representation, creating a gap between top management expectations and IS goals.

As such, active participation of key stakeholders, especially top management and user personnel is required in the SISP Team in order to demonstrate value in the project and the plan. The ABC SISP team consisted of an executive user; representing all IS users, the part-time programmer and the senior consultant, and supported by the Vice-President. Getting these different groups represented in the team enables a wider perspective in examining technological and industry trends that may affect the organisation, generating new insights about the business and customers and determining information needs of business functions (ibid).
managers then become knowledgeable about management and user expectations and management gain awareness of IS opportunities. Through this, alignment can be achieved.

### 2.4.2 Process and Time

On the other hand, carrying out an extensive study brings another challenge in project management; managing objectives, teamwork, people, budget and time (Lederer and Sethi, 1998). This is important since process issues; lack of cooperation, within the organisation and imbalance of allocated budget and time, can stall the project. This involves ensuring top management commitment and organisational support. For ABC, the formation of the SISP team was preceded with a memorandum from the Vice-President, announcing the project and its objectives. This facilitated organisational support for the project.

This emphasises the need to create IS awareness; as such a preliminary assessment by IS managers before the SISP project can identify IS opportunities for immediate and future business needs to create initiative and commitment within top management. This can then be transferred throughout the whole organisation. Commitment and knowledge further prevents organisations from falling into the trap of allowing consultants to control the whole project; consultants may lack commitment to SISP results and also seek their own interests (ibid).

Other restrictions to extensive study in SISP are time, budget and external pressures. ABC considered a shorter time, 2 months, because of pressing driving factors, Table 2.0. Thus, SISP project objectives and scope should be realistic to the time and budget available to avoid a rush in planning. It should be an ongoing process alongside current business functions and which fits into the organisational factors. This is noteworthy considering the competition and burgeoning user demands in today’s global business environment.

### 2.4.3 Method

A technical challenge is also faced by organisations in defining needed IT infrastructure and making technology investment decisions (Galliers, 1987). These critical decisions are made by the top management, who often have little or no technical knowledge and are mainly interested in the risks and financial gain in investments.

For ABC, six methodologies were used by the consultants; portfolio approach was used to identify project risks, to allow management to select potential projects based on the trade-off between the risks and the benefits. The Executive were then in better position to make decisions on IS investments. Further, the documented plan was free of technical jargon and details, since the management had less exposure to IT. The document was easy to understand; enhancing learning within the organisation.

Hence, employing the right methods and measures to effectively communicate the SISP plan to the management and users becomes very necessary to overcome this challenge.

### 2.4.4 Implementation

Organisations stand to face lesser implementation challenges if they carefully manage the above challenges (Galliers, 1987). Usually the threat of redundancy, redeployment or loss of power is likely to lead to resistance to the implementation (Boateng, 2003). Moreover, lack of transparency on the whole SISP process and plan creates misconceptions in lower management and could lead to deliberate neglect and denial of the plan's value (Heeks, 2003).

For ABC, the Executive decided on the parts of the plan to make available to employees, thus keeping those that affected their competitive edge from them. Issues of training and reskilling were considered to encourage employee involvement. The plan was put into effect after 3 months, while organisational commitment was still high.

Consequently, deciding on what, how, who and when to implement, and addressing training is thus critical to enhance the continuity of the plan and overcome this challenge.
2.5 IS Management Actions

From the discussion, the enabling management actions for the success of SISP in ABC can be identified as: top management support and decision making, IS business alignment, organisational approach, joint control of SISP process, and IS organisational structure.

IS business alignment, top management support and decision making presuppose that management has knowledge or awareness of technical and soft issues in the SISP process. However, managers are often unaware of all the opportunities IS offers, or find the use of IS difficult to manage (Porter and Millar, 1985). Those aware, use approaches and frameworks, which are argued to be somewhat normative; failing to consider managerial and organisational problems in SISP (Ruohonen, 1991). Thus the first action is management needs information management education, especially managers involved in the SISP process (ibid). This entails the knowledge on the effective management and control of information resources; internal and external, of an organisation through the proper application of IT (Earl, 1989). Increased managerial learning would create initiative, commitment and efficient control in SISP, as seen in ABC. Further, management would be able to prevent unjustifiable IS investments which may be warranted by IS managers who seek to satisfy their technological curiosity, and also be able to handle human resources in a socially responsible way during the implementation process (ibid).

On the other hand, Ruohonen (1991) argues that SISP is too complex as a managerial job to be handled by one person; managerial groups are required. Lee and Bai (2003) also emphasise the importance of incorporating organisational mechanisms in SISP, explaining that stakeholder groups may not be satisfied when neglected and plans may fail to achieve internal organisational consistency (ibid). There are three critical stakeholder groups; top management, user management and IS management, which need to interact and collaborate in the SISP process. Top management have corporate strategy view but little IS knowledge. User management understand all the business functions and are quite knowledgeable on IS. IS management are more knowledgeable on IS but less knowledgeable corporate strategies and business functions it must support or enhance (Ruohonen, 1991). As such, group interaction would further enhance the knowledge and skills of members to handle the issues and challenges in SISP process (ibid).

Consequently, the second action is for management to increase the interaction and co-operation between these managerial groups; developing a holistic systems approach for the whole SISP process to be understood at all organisational levels (ibid).

The third action is, management has to adopt a fit mode approach to SISP (Lee and Bai, 2003), tailoring SISP to fit into the organisational context, Figure 2.0. Aligning business and IS strategy causes organisational changes in tasks and skills, organisational structure, shared values and interests; as such, regardless of the SISP methodologies chosen, SISP has to be adapted to suit the environment, culture, experience and skills of the organisation (Doherty et al., 1999; Duhan et al., 1999). This does not mean resisting or preventing change, but rather factoring these change issues, organisational factors, in the SISP process and the plan. Focus on only technology and alignment, is failing to recognize these pertinent issues and could lead to abandonment of the plan. For an SISP plan to function as a living document, it has fit into these organisational factors. Management then requires hybrid skills to manage a socio-technical perspective of SISP.
Finally, the case study has also shown how IS organisational structure; the overlap of roles of the Vice-President, helped facilitate SISP success. Hence, organisations should consider not restricting IS staff to their department alone, but rather integrating them into business functions regularly enough to understand current business needs, Figure 2.0.

2.6 Critique

It is important to realise from the above discussion, that the conditions for SISP success do not only have a direct impact on SISP success but also on each other, which was not shown in Figure 1.0. They interrelate to have a collective impact on SISP; as such all need careful consideration in the SISP process.

However, the case study has limitations; ABC is small company set in a developed country, collaboration of researchers and practitioners in research is needed to evaluate these best practises in developing countries, and also for multinational organisations in which IS is needed to support complex global operations. Considering the impact of culture in Arab Gulf States; where local IS managers have tendency to resist long range planning (Habdul-Gader, 1997), the SISP process then becomes debatable; requiring further research.
References


