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Strategic Information Systems Planning: A Literature Review

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ABSTRACT
Strategic information systems planning (SISP) pertains to the process of creating plans for the deployment of information systems to fulfill corporate strategic objectives. Though practice of planning for Information Systems is in existence for more than four decades, SISP continues to be one of the major issues in the corporate environment with the increased focus on IS to gain competitive advantage. Numerous research articles have been written in the SISP area dealing with various issues involved therein. Research on SISP has evolved over a period of time with various themes dominating at different times. This research study will systematically examine the published research in the area of information systems planning to deduce the state of the art of the field and provides framework for future research.

Keywords (Required)
Strategic Information Systems Planning, SISP, alignment, SISP success

INTRODUCTION
Strategic Information Systems Planning (SISP) pertains to the process of creating plans for the deployment of information systems to fulfill corporate strategic objectives. SISP has been (Doherty et al. 1999), and still remains (Overby 2008) a major concern in the field of Information Systems (IS). Reasons for this continued interest are manifold. First, vast investments are made in the development of IS and this necessitates a formal method to plan for these systems and align with business objectives. Second, the continued evolution of IS, where the systems became more powerful, specialized, and omnipresent, has pushed the need to monitor and control its impact on the organization. Third, SISP can be used as a mechanism to derive competitive advantage in the marketplace.

Research on SISP and related concepts had its origin in the late 1960s. Over the last four decades, numerous studies have been published in this area. There are even few literature review studies available on SISP. Karanja and Patel (2012) recently surveyed the literature on SISP that appeared in Information Systems Research, MIS Quarterly, and Journal of Management Information Systems alone and the exclusion of other publication outlets is a major limitation of that study. Likewise, Amrollahi et al. (2013) reviewed only the SISP research published between 2002 and 2012 in their literature review on SISP. There is no systematic and comprehensive literature review in this area to understand the nature of published work. Webster and Watson (2002) exhort IS researchers to conduct literature reviews as they helps us in analyzing the past and in preparing for the future. Hence, systematic and comprehensive review of research in this area will not only allow us to gain a better understanding of the field of SISP, but also find gaps in the research in this area.

Findings of the study will be of importance for not only the researchers but also to the practitioner community. This study can help in visualizing the existing research in SISP and finding avenues for carrying out fruitful future research. Practitioners can benefit from this study also. Findings from the past research can help organizations to successfully implement SISP. Moreover, relevance of planning in the changed business context can also be inferred from the findings.

STRATEGIC INFORMATION SYSTEM PLANNING
Strategic information systems planning is one of the major issues faced by IS executives (Doherty et al. 1999). Like any other area in the IS field, information systems planning has evolved overtime. Information Systems Planning (ISP) to meet the strategic objectives of the organization had been envisaged way back in the late 1960s (Kriebel 1968). Most of the initial work on ISP pertained to the process of establishing objectives and identifying potential applications that the organization could implement (Raghunathan and Raghunathan 1994). With realization of IS to be of strategic importance to an organization, later researches focused on the SISP that incorporated the focus on finding IS applications that enhance competitive advantage (Lederer and Sethi 1992). Moreover, SISP also encompasses the task of directing efficient and effective management of IS resources and the task of developing technology policies and architectures (Earl 1993).

Lederer and Sethi (1988b) define SISP in the following terms:
“The process of identifying a portfolio of computer-based applications that will assist an organization in executing its business plans and realizing its business goals”.

With SISP becoming critical part in the management of IS in an organization, the focus then shifted to how well the IS plans are aligned with overall business plans. IS strategic alignment—which is defined as the degree to which the mission, objectives and plans contained in the business strategy are shared and supported by the IS strategy (Reich and Benbasat 1996). As the definition of IS alignment states, congruity of plans between IS strategy and business strategy has become an important determinant of IS alignment. In the recent times, planning under uncertainty in the environment has become a major focus. Changes in technologies and globalization have wrought a highly uncertain and dynamic environment (Mirchandani and Lederer 2012). Veracity of detailed and comprehensive plans under uncertainty is the object of these studies. Next section discusses the research method used in this study.

METHOD

For this review, all the published studies that appeared in the area of SISP was collected and examined. Major digital libraries/indexes such as EBSCO – Business Source Complete, ABI-Inform and ISI Web of Science, was searched using keywords such as “information systems planning” and variations of them. Results from these searches revealed 230 scholarly articles that appeared in 87 journal outlets till the end of 2012. These resulting articles were analyzed to find patterns in the research.

<table>
<thead>
<tr>
<th>Journal</th>
<th>Number of articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information &amp; Management</td>
<td>23</td>
</tr>
<tr>
<td>Journal of Management Information Systems</td>
<td>15</td>
</tr>
<tr>
<td>MIS Quarterly</td>
<td>11</td>
</tr>
<tr>
<td>Decision Sciences</td>
<td>11</td>
</tr>
<tr>
<td>Long Range Planning</td>
<td>11</td>
</tr>
<tr>
<td>Journal of Strategic Information Systems</td>
<td>10</td>
</tr>
<tr>
<td>European Journal of Information Systems</td>
<td>8</td>
</tr>
<tr>
<td>Journal of Information Technology</td>
<td>7</td>
</tr>
<tr>
<td>International Journal of Information Management</td>
<td>7</td>
</tr>
<tr>
<td>Omega-International Journal of Management Science</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 1. Leading Journals Publishing SISP Research

![Number of Articles](image.png)

Figure 1. SISP Research Trend over the Years
Table 1 provides details of journals that published leading number of SISP related papers. Though, *Information & Management* has published an overwhelming number of studies on SISP, there are five other outlets that have published more than 10 studies each on SISP. Moreover, the diversity of publication outlets for research on SISP highlights the need for a comprehensive literature review on this topic. Figure 1 presents a chart depicting the number of articles that appeared during each year under consideration for this study. As can be seen, late 1990s and early 2000s saw peak number of studies on SISP. It is interesting to note that the very first studies on SISP appeared in the late 1960s.

**FINDINGS AND FUTURE RESEARCH DIRECTIONS**

As a next step in this study, the author analyzed the studies in this sample methodically. Each article was evaluated for study context, research method, salient issues, sample (if applicable), country, etc. The preliminary finding of this work is presented in this section.

**EVOLUTION OF INFORMATION SYSTEMS PLANNING**

The concept of planning for information systems has grown over a period of time. King and Teo classified the evolution of Information Systems Planning into three stages. The following table summarizes their view on the evolution of Information Systems Planning (King and Teo 1997). Based on the preliminary analysis of the published works, two additional eras are proposed in this study to mirror the nature of work that has been published since then. Table 2 presents the various eras and provides description on the focus of these research studies.

<table>
<thead>
<tr>
<th>Era</th>
<th>Period</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pre-strategic ISP era</td>
<td>Early to mid-1970s</td>
<td>Assessment of future computing needs.</td>
</tr>
<tr>
<td>The early strategic ISP era</td>
<td>Late 1970s</td>
<td>Influenced by strategic planning, top management was involved.</td>
</tr>
<tr>
<td>The modern era</td>
<td>Late 1980s</td>
<td>Effectiveness consideration and ISP became part of business planning.</td>
</tr>
<tr>
<td>Alignment era</td>
<td>Late 1990s</td>
<td>ISP is part of the process to align business and IS strategy.</td>
</tr>
<tr>
<td>Uncertainty era</td>
<td>Late 2000s</td>
<td>ISP comprehensiveness under uncertain environmental conditions.</td>
</tr>
</tbody>
</table>

**Table 2. Evolution of SISP research based on preliminary analysis**

**RESEARCH STREAMS IN SISP RESEARCH**

Extensive research has been carried out in the past in regard to the various facets of strategic IS planning. Fitzgerald (1993) mentions that there are many definitional terms that describe the planning for IS. Some of the terms are: information systems planning, information systems strategic planning, strategic planning for information systems, and strategic information systems planning. He also notes that even though the terms are synonymous there are differences in the definitional aspect of it (Fitzgerald 1993). Boynton and Zmud have used the term information technology planning in their work on the directions for practice and research in the 1990’s (Boynton and Zmud 1987). Due to the very varied definition given to strategic planning, for this literature review, we have analyzed the studies that had some consideration of the strategic aspect of IS planning.

Careful look at the published literature reveals different streams in the research on SISP and for our review we have classified the literature into the following taxonomies: methodological view, process view, factors view, organizational impact view, and evaluation view.

Methodological View: Considering the prominence of SISP in carrying out the alignment of business and information systems planning, there are various methodologies available to implement SISP. Methodologies are quite important in successfully implementing the SISP. Lederer and Sethi (1988a) classified the various methodologies available in SISP implementation. Some of the methodologies considered by them are, Business Systems Planning, Strategic Systems Planning, Information Engineering, Method1, Critical Success Factors, Customer Resource Life Cycle, and Value Chain Analysis. These methodologies help in the proper formulation and implementation of a SISP.
Process View: Earl (1993) in his work has taken a process oriented approach and analyzed the process of planning and implementing of SISP. Many others have also adopted this view citing that the methodological view has a very narrow focus in the implementation of SISP (Segars and Grover 1999). According to the Earl’s study there are five different SISP approaches namely; business-led, method-driven, administrative, technological and organizational approaches. They have found the organizational approach to be the most effective.

Factors View: Several studies have attempted to analyze the factors that influence successful implementation of SISP. Premkumar and King (1994) have studied the impact of organizational characteristics on the quality and effectiveness of IS Planning. The fit between the role of IS in an organization and the IS planning was studied by Premkumar and King (1992). Raghunathan and Raghunathan have explored the impact of top management support and the MIS steering committee on IS planning in two separate studies (Raghunathan and Raghunathan 1988; Raghunathan and Raghunathan 1989).

Organizational Impact View: As envisaged a successful implementation of SISP will have many favorable impacts on the organization. Raghunathan and King (1988) have considered the impact of SISP on user satisfaction. Ang et al. (1999, have modeled the benefits of an implemented plan using a nonlinear method called Alternative Conditional Expectations.

Evaluation View: SISP success is a major research theme and research in this area has persisted over the entire study period. Lack of clarity in the measurement of SISP success is holding back the process of determining whether the implemented SISP is fulfilling its intended objectives or not. To alleviate this problem, Segars and Grover (1998) have proposed the construct and measurement of SISP success. Measurement of SISP success helps to justify the adoption of SISP, improve the SISP process, monitor and control the SISP process and to motivate SISP stakeholders (Fitzgerald 1993).

![SISP Research Diagram](image)

**Figure 2. SISP Research – Dominant Streams**

Figure 2 presents these dominant themes of research in SISP. It should be noted that there are other focuses of SISP research at various points in time. For brevity of space, this paper did not discuss them in detail.

**FUTURE RESEARCH DIRECTIONS**

Though SISP research exists for more than four decades, still there are many promising areas for future research. Here are some prospective areas for future research on SISP that incorporates some of the broader themes of IS research in the recent times.

- SISP and ability to foster agility in organizations.
- Role of SISP in IT governance.
- Influence of continuous planning on SISP.
- Planning and monitoring through dashboards.
- SISP and globalization of organizations.
CONCLUSION

Strategic information systems planning is an important area in the IS research and it is evident from the number of research papers published over the years. This study reviewed the extant research in this area. Preliminary analysis of past research shows interesting patterns in the published work. In the recent times, research has focused on the environmental dynamism and uncertainty on role of SISP. Synthesis of past research on IS planning can greatly help in understanding the notion of SISP.

REFERENCES


